

Mines, Olives and Monasteries
Aspects of Halkidiki's Environmental History

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Aspects of Halkidiki's Enviromental History

Edited by
Basil C. Gounaris



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Ευρωπαϊκή Ένωση
Ευρωπαϊκό Κοινωνικό Ταμείο



ΥΠΟΥΡΓΕΙΟ ΠΑΙΔΕΙΑΣ ΚΑΙ ΘΡΗΣΚΕΥΜΑΤΩΝ
ΕΙΔΙΚΗ ΥΠΗΡΕΣΙΑ ΔΙΑΧΕΙΡΙΣΗΣ
Με τη συγχρηματοδότηση της Ελλάδας και της Ευρωπαϊκής Ένωσης



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PREFACE

The importance of the environment as a factor of the historical process was acknowledged both by the French school of the *Annales* and British landscape history. As a distinctive field however, environmental history was shaped in the USA in the early 1970s, as the threat of an environmental crisis spread and environmental activism came into being. Forty years afterwards it has grown into a vibrant multidisciplinary field that draws widely on both the Humanities and Natural Science. Environmental History looks at nature itself, its changes over time, and the impact human activity has had on it. It enquires into how humans use nature. It focuses on the environmental consequences of demographic changes, the growing usage of effective technology, and on changing patterns of production and consumption. Naturally, environmental historians also study how people think about nature in terms of culture and science.

With few exceptions, hitherto in Greece nature has neither been perceived nor studied as an integral part of the national past. The importance of geography, climate and landscape in general has been recognised, while plagues and natural disasters have also drawn some limited interest. Yet, the thorough study of nature has so far comprised an insignificant part of modern Greek historiography. This is due to the scarcity of sources and perhaps, to some extent, to ideological reluctance. Byzantine official documents are in short supply and Ottoman archives hard to penetrate without elaborate skills. Reluctance is the outcome of a legitimate question: If history is a human science, then why should historians bother about nature – especially if the study of nature is bound to reduce the importance of the human factor, the Greek human factor in particular? To answer this question properly it must be pointed out that the environment is not an analytical historical category but a *habitat* where power relations are built. Therefore Environmental History is about power; about who will set the standards of exploitation and control access to natural resources. This is a very human question for any historian to raise.

Given the problem with official sources in this part of the world and the need for comprehensive diachronic data in order to generate arguments about the *longue durée*, few Greek regions can have an elaborate environmental history. Halkidiki is one of these. It has been inhabited uninterruptedly since prehistoric times. It was an epicentre of ancient Greek history, indeed a war theatre between the Macedonian

kingdom and the Euboean colonies. In the Middle Ages it developed into the rich economic hinterland of the flourishing monastic community of Mt Athos. Because of this relation, unlike other Greek regions, its medieval economic history is extremely well documented. The same is true for the period of Ottoman rule, especially with regard to the highland villages that were highly involved in mining since the sixth century BC. Mining and coinage created a special bond between Halkidiki and the Ottoman administration and, later on, a remunerative relationship with the industrial world. The agricultural output of the region was no less important for Thessaloniki. Thus, large estates were given to cereal growing but were also advantageous for pastoralists and transhumant shepherds who appreciated the mild winter climate of the pegs.

Because of its natural resources and diversified economy, over time Halkidiki has attracted waves of peaceful settlers and barbaric invaders: Thracians, Macedonians, southern Greeks, Romans, Huns, Slavs, Catalans, Yürüks, Jews and, in the 1920s, destitute Asia Minor refugees. Yet it was post WWII tourism that transformed the region beyond recognition. The beautiful Mediterranean landscape, the calmness of the monastic community, the sallow and warm waters and, most of all, the widespread luxury of summer vacations turned Halkidiki into a popular international touristic destination and the primary summer resort for the middle classes of Thessaloniki.

It was only natural that the unprecedented and rapid change of coastal Halkidiki, which should not necessarily be equated with development, brought to the surface some pressing questions for the locals: If the natural beauty of the coastal line was its most precious asset, then how should the environment be defined and handled? Is there a definite line between the environment as the appropriate scenery for summer vacation and the environment as a site of natural resources? Who draws this line? Is sustainable development a feasible policy when individual prosperity is at stake?

This is exactly the kind of questions that Environmental History raises and this research project studies. The social side-effects of the recently initiated gold-mining enterprise in western Halkidiki form an integral part of these questions but not the reason for this project. In fact the environmental threat in Halkidiki, though of a different kind, was acknowledged in the 1970s but was conveniently shelved. To explain the present “outburst” one should look back and investigate the making and the shortcomings of a diversified economy in the vicinity of a major urban centre and in connection to the changing patterns of settlement. This is exactly what our interdisciplinary research team undertook to do (among other deliverables for dissemination and the production of Digital Humanities tools), when we applied on behalf of the International Hellenic University for financing to the European sponsored operational programme “Aristeia II” (Excellence), run by the Greek General Secretariat of Research and Technology.

In a period of eighteen months, the official duration of the project, it proved impossible to prepare a global environmental history of the whole region. Instead, our academic team produced case studies that cover as many topics as possible over time; from antiquity to modernity, from Geobotanology and Art History to Social Anthropology and Historical Linguistics. Assistant Professor Sampson Panayiotidis prepared a pollen analysis that supplements and strengthens historical data on cultivations. Dr Bettina Tsigarida and Assistant Professor Yannis Xydopoulos investigated how the environment affected the ancient colonisation and settlement patterns with special reference to the ethnographic map. Their research is based on archaeological findings as well as literary sources. Through the use of maps and literary sources, Assistant Professor Manolis Manoledakis studied water flow in antiquity. Associate Professor Kostis Smyrlis produced a review of settlement patterns and the environment in medieval Halkidiki. Assistant Professors Phokion Kotzageorgis and Elias Kolovos joined forces to study environmental changes related to demography, mining, and pastoralism in the Ottoman era. Associate Professor Katerina Gardikas's research focused on the interaction between the diversified small-scale rural economy of the interwar period and the fragmented environment. Through interviews and a variety of sources, Assistant Professors Giorgos Agelopoulos and Eleftheria Deltsoú looked at the commoditisation of natural beauty and the making of the tourist industry uphill and along the coastal line of Halkidiki. Making effective use of the written and the spoken word, Dr Giorgos Antoniou unearthed the "secrets" in the making and maintenance of a utopia designed and inhabited by university professors. Dr Glafki Gotsi studied a variety of modern and contemporary drawings inspired by the landscape of Halkidiki and traced its reflections on the changing relations between humans and nature. With his meticulous etymologies of place names, Dr Kosmas Kyranoudis described instances where ethnographic changes interacted with the local nature in the long run.

This scholarly work was made possible by an extremely efficient team of young researchers, MA or PhD candidates, who delved into the archives, the documents and the Press, and produced the necessary string of data. Geobotanologist Maria Papadopoulou assisted Sampson Panajiotidis; Giorgos Tsolakis supported the antiquity team; Getso Banev and Giorgos Konstantinidis assisted Kostis Smyrlis; Christos Kyriakopoulos transcribed Ottoman sources; Thanasis Loupas, Sakis Dimitriadis and Eleni Stoikou dealt with modern history sources (archives, memoirs and newspapers); Dimitris Drenos assisted in the literature review of the Social Anthropology team. The introductory chapter is my own attempt to bring together some of the arguments put forward in this volume and, with the employment of twentieth-century sources, produce an overall narrative of how humans have used nature in Halkidiki and why this mutually beneficial relationship seems to have failed. It is a story of an

unforeseeable catastrophic success but not of a premeditated successful catastrophe. This has always been the case with humans and nature.

My work as an editor and scientific supervisor has been benefited a lot by Assistant Professor Vasso Seirinidou, the only Greek specialist in Environmental History; Dr Ioakeim Papaggelos, my wise counsellor and mentor in this project, the best *connoisseur* of Halkidiki in all aspects; and my old friend Dr Philip Carabott, a formidable historian and a most experienced editor of historical studies. Yet it proved impossible to bring this interdisciplinary volume to perfection and homogeneity, since various forms of place names and practices of transliteration are in use simultaneously by different disciplines. The form “Halkidiki” was preferred to that of “Chalkidiki”, though I can not argue that the former is more correct or more well-known than the latter. Frankly speaking, I used it when I drafted the project proposal and stuck to it simply for reasons of consistency. Not all of my colleagues were happy with my choice, but I hope they have all enjoyed the four thousand year long ride. No matter how often most of us travel to Halkidiki, it will never be the same in our eyes.

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INTRODUCTION

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1. The Homeland of Beauty

The corner stone of the annual campaign to attract tourists to Halkidiki is its seducing environment: A hidden earthly paradise blessed by God. In a recent interview (summer 2014), the chair of the Halkidiki Hotel Association Grigoris Tassios stressed that tourism in the region should not depend exclusively on its natural beauty. He put it rather bluntly: The number of visitors has not increased at the same pace as in the southern Aegean because for the past thirty years there has not been serious concern either for investing in the local tourist industry or for substructures. Management, he pointed, is needed both in terms of public and business administration.¹ What Mr Tassios specifically had in mind was the careful planning of tourist operations in order to secure the steady flow of better-off visitors from all around Europe. Yet it is his comment on “natural beauty” – as an asset or commodity in need of management– that lies at the heart of Halkidiki’s modern problem of identity: Is beauty indeed the most important and remunerative wealth that nature has gifted to the inhabitants of that peninsula with the peculiar shape of a trident?²

If nature is a social construct, then environmental history is about who will set the standards of exploitation and who will control access to natural resources. For hotel managers, tour operators and the local authorities the ideal natural beauty of Halkidiki comprises the ideal mixture of thick vegetation (“the impeccable Mediterranean pines”) with accessible bays with sandy beaches and shallow waters. The beauty of the middle prong, Sithonia, is classified as “virgin”, compared to the easily accessible and “cosmopolitan” Kassandra. Nature in the third prong is ranked as “impressive” or “breathtaking”, an adjective appropriate in describing the “austere” beauty of Mount Athos. This “Holy Mountain” (*Agion Oros*) has been for a thousand years the home of a monastic community, accessible only to men, yet not without a serious touristic potential. Descriptions of this kind are common clichés, easily found

¹ <http://www.halkidikifocus.gr/2014/τοπικα/15-τοπικα/1908-halk.html#.VFS6djSsXTo> (last accessed on 1 Nov. 2014).

² See the chapter by Eleftheria Delsou in this volume.

in any brochure or website. They all share one common feature: They refer to the coastal, thin, sky-blue front line of the Mediterranean tourist industry.

This blue front line is a conventional geographical frontier which was crossed *en masse* rather recently by summer visitors tempted by the spoils of the seaside. But this does not imply that the local natural beauty was not appreciated in the past. Almost all European travellers crossing Halkidiki in modern times were impressed by its thick forests, even more so in the nineteenth century, when the region's unspoiled nature was compared to the molested urban environment and woodland was romantically upgraded to the home of the brave defiant of state rapacity. In the 1870s the Ottoman Porte issued detailed legislation to control the exploitation of public forest wealth. Although a considerable part of the legislation referred to forest protection, the apparent concern of the state was to increase its revenue rather than to protect nature.³ Some locals, however, seem to have had more refined views. In mid summer 1888, for example, a Greek newspaper of Thessaloniki mentioned that the cold waters, the nearby woods and the natural products of Liarigovi (today's Arnaia), a town at the heart of the peninsula, attracted visitors from nearby villages.⁴ It is risky to describe this interest for nature as early touristic. Halkidiki was still haunted by vociferous brigands. But the importance of water quality, vegetation and altitude should be noted. Living conditions uphill were always better. Since antiquity the malaria factor defined demographic and settlement patterns throughout the Mediterranean. Coastal salt marshlands in the vicinity of torrents and lagoons housed the notorious kingdom of mosquitoes. They had expanded over centuries following deforestation⁵ and the rise of the sea level. North-west summer winds, sweeping the marshes of central Macedonia, were considered the reason for malaria in Thessaloniki. Better-off families, especially those of European origin, spent their summer in the healthy, wooded neighbouring slopes, such as Urendjick or small Eden (present Pefka).⁶ In this respect, mountainous central Halkidiki was privileged by nature while the marshy coastal area of the prongs, even when pirates had disappeared, could not and did not attract anyone – especially during the summer – other than fishermen and collectors of salt.

³ Dim. Nikolaidis (ed.), *Othomanikoi Kodikes* [Ottoman Corpus], vol. 4, Constantinople: Eptalofos, 1891, pp. 3416-74.

⁴ *Pharos tis Makedonias*, 9 July 1888.

⁵ J.R. McNeil, *The Mountains of the Mediterranean World*, Cambridge: Cambridge University Press, 1992), pp. 86-7, 343-6.

⁶ G.K. Moraitopoulos, *I Thessaloniki* [Salonica], Athens: Ai Mousai, 1882, p. 47. Urendjick was visited among other travellers by Herman Melville; Ekaterini Georgoudaki, "Herman Melville in Thessaloniki: Following the Steps of European Travellers", in Sanford E. Marovitz & A. C. Christodoulou (eds), *Melville Among the Nations: Proceedings of an International Conference, Volos, Greece, July 2-6, 1997*, Ohio: Kent State University Press, 2001, pp. 85-107.

In 1911, one year before the collapse of Ottoman rule in Macedonia, another Greek newspaper of Thessaloniki extolled the attractions of the populous and mountainous village of Vavdos some fifty kilometres away. Readers, living in “mouldy Thessaloniki”, should and would have visited Vavdos in order to “rejuvenate their declining cells and prevent them from aging”, had it not been for the near-total absence of bearable transport means.⁷ The author of the article lamented the fact that his beautiful homeland, Halkidiki, favoured by fresh breezes, virgin forests, green pastures and enchanting bays, could have been a suburb of Thessaloniki, if only there existed the means to visit it.⁸ Meanwhile, a growing number of Salonician families, in need of a healthy climate, spent summertime not only in Urendjick but also in nearby Arsakli (present Panorama) and Kireç-köy (Asvestochori), the latter destined to host a permanent sanatorium. All three of these were dry sites with pine trees, almost within walking distance from the old town centre. This is not to say that sea-bathing was unpopular. Especially in a coastal city like Thessaloniki there was a long tradition of daily excursions by boat, mostly inside the homonymous gulf, and longer one of swimming in the outskirts, both to the south-west and to the north-east. Such habits, however, were not a matter of health and hygiene but of recreation and amusement for children, matters for which families neither travelled nor spent money on. After all, the sea-side was next to their houses and their gardens.⁹

It was only in the late 1920s and early 1930s, after the war decade and the exchange of populations between Greece and Turkey that signs of interest for summer vacations involving more distant travelling can be traced in the Press of Thessaloniki. Livadi, another mountainous village with “cold waters and thick woods”, somehow closer than Vavdos, was proposed as a summer resort even for the lower classes of Thessaloniki, since everyday life there was very inexpensive. In 1931 Vavdos attracted 130 families and by that time such summer visits were already an annual phenomenon. Perhaps the Press had a role in this early success. Most likely it was geography that really mattered. All these early destinations could be reached within a day by primitive coaches or trucks. The old village of Stavros is another example. With its *platanus orientalis* woods impenetrable by the sun and virgin foliage it was praised as a “true landscape of Switzerland”, by then a famous international resort.¹⁰ Situated at the Orfanos bay, on the eastern coast of Halkidiki, it could be reached

⁷ This piece was written by a native of Polygyros, the capital of the *Kassandra kaza* and seat of the bishop, on the slopes of Mount Cholomondas. The present day Greek prefecture of Halkidiki overlaps with the Ottoman *kaza* of *Kassandra*, a name used for the peninsula as a whole and not only for the “first” prong. Some suspected, wrongly though, that the etymology of Polygyros (or rather Polygeros), was due to its beneficial healthy climate (*poly geros*=very strong).

⁸ *Makedonia*, 2 August 1911.

⁹ *Ephimeris ton Valkanion*, 10 June 1935; 11 April 1936.

¹⁰ Cf. Susan Barton, *Healthy Living in the Alps: The Origins of Winter Tourism in Switzerland, 1860-1914*, Manchester: Manchester University Press, 2008.

from the north, and was already a popular summer resort and a youth camping site.¹¹ The communal spa of Nea Apollonia, close to Lake Volvi and famous since ancient times, was free from malaria and was recommended for elderly people suffering from rheumatoid arthritis. A hotel had been built there with bathing facilities to assist their treatment. No mountain crossing was involved to reach the lake.¹² Megali Panagia (in south-central Halkidiki) was also coined in 1930 as a summer destination on the same grounds, water and forest, although it was a distant place. The nearby beautiful Vrastama resembled nothing less than another “colourful part in Switzerland”. Summer visitors would have treasured its healthy climate, its only asset, but this poor village was not accessible either.¹³

Unlike Vavdos and Livadi, both Panagia and Vrastama were fifteen kilometres away from the coast. Stavros was within walking distance. On neither occasion was swimming ever mentioned as a possible summer activity. In the interwar years, the reinvention of coastal Greece and its incorporation in the national image (seen from an urban spectre) was still under construction.¹⁴ The essence of summer vacation, to the extent that it existed, was the restoration of one’s health, its invigoration, of children’s especially. The term *allagi* (change), used then instead of vacation, referred to the change of climate, as an empirical and widely acceptable measure to assist lung function and to improve appetite in order to fight back various forms of adenopathy, more often than not the result of tuberculosis. Life on the mountains was by then the worldwide standard recipe to strengthen children’s health and character. The popular novel of the time, Zacharias Papandoniou’s *On the High Mountains* (1919), had made this clear to all Greeks, when it was introduced as a textbook in the third grade of primary school.¹⁵ Mountaineering was also a significant aspect of the rising boy-scout culture. The Greek Mountaineering Association was founded in 1929. The dry climate of central Halkidiki could cure those who could not afford travelling to Switzerland. Meanwhile, in the lowlands and the malaria stricken coastal zone, the refugees, recently settled on monastic property, were still struggling hard to keep body and soul together.

¹¹ *Makedonia*, 22 June and 9 August 1928; 30 August 1931; 4 July 1932.

¹² In 1938 there were official complaints, because the modern hotel had failed to catch the interest of the old clients, who still preferred the medieval bath and the surrounding huts. Spa tourism was a state priority in interwar Greece; see Aggelos Vlachos, “Touristiki anaptyxi kai dimosies politikies sti synchroni Ellada (1914-1950): I anadysi enos neoterikou phainomenou” [Tourism Development and Public Policies in Contemporary Greece (1914-1950): The Emergence of a Modern Phenomenon], unpublished PhD thesis, University of Athens, 2013, pp. 49-81 (see especially 50-1 for Nea Apollonia).

¹³ *Makedonia*, 11 July and 8 August 1930; 19 June, 5 July and 6 August 1931.

¹⁴ Vlachos, *op.cit.*, pp. 44-8.

¹⁵ Papandoniou was among the illustrious founders of the Association of Wayfarers, which was founded in 1921 with the aim of promoting interest on the Greek countryside; Vlachos, *op.cit.*, pp. 41-3.

Encouraging summer vacation was a project on the agenda of the Prefect of Halkidiki Evangelos Chatzopoulos in 1930. He was a Venizelist lawyer who had studied law and political science both in Athens and in Berlin.¹⁶ In a prefecture that practically lived in the Stone Age and was frequently raided by brigands and locusts obviously this project did not exactly top the list of his priorities. Yet he knew that the construction of summer houses in Halkidiki could and should attract foreign investment.¹⁷ It is hard to say whether he or other officials had a clearly shaped vision on this matter. Most likely they did not. Perhaps Switzerland, France, Italy and Austria, which by 1929 counted millions of foreign visitors per year, were an inspiration, even more so for people who had lived abroad like Chatzopoulos.¹⁸ Some years before, in 1920, the Directorate for "Foreigners and Exhibitions" (established in 1914 and upgraded in 1918) had asked an experienced local forest police officer, who had served in Halkidiki, to provide them with information on natural attractions on the mountains, the availability of nearby hotels and drinkable water, as well as suggestions on the proper itinerary to be followed from Athens. All this information was expected to facilitate foreign visitors.¹⁹

Travelling to Greece was a very old story but summer vacation for the indigenous was a different issue. Vacation in any place other than one's home-village was a luxury that few people knew about and even fewer could afford. Working ethics and summer leave regulations were almost prohibitive for all classes. Rest days for healthy working individuals were still determined by religious festivals. The argument, however, of supporting travel for pleasure was helpful in the context of the interwar endless debate on road construction. In the early 1930s cars could hardly cross Halkidiki either eastwards or southwards, although the necessary capital had been promised and public works had been inaugurated many times. Local pressure so far had not been very successful. Therefore, to become more convincing, the argument had to be reversed. Roads were needed not only to export the products of the peninsula but were also essential so that the urban classes of Thessaloniki visit an exceptionally beautiful landscape. During the flourishing last term of Venizelos in office (1928-32) such views were not totally irrelevant. As a matter of fact the establishment of the National Organisation of Tourism (EOT), in 1929, had been one of Venizelos' initiatives, and domestic tourism was one of the issues he had in mind to secure the viability of hotels.²⁰

¹⁶ Giannis D. Kanatas, "Ypodiokites, Nomarches Halkidikis" [Deputy Governors and Prefects of Halkidiki], *Polygyros*, 15.76 (2014), 19-20.

¹⁷ *Makedonia*, 4 April 1930.

¹⁸ Victor T.C. Middleton & Leonard J. Lickorish, *British Tourism: The Remarkable Story of Growth*, Burlington: Elsevier, 2005, p. 7.

¹⁹ Historical Archive of Macedonia (HAM), Fylaktos Papers, box 1, file 7: Spyridis to Fylaktos, Athens, 27 August 1920; Vlachos, *op.cit.*, pp. 88-92.

²⁰ Vlachos, *op.cit.*, pp. 165-75, 181 (n. 641), 229-31.

On 26 September 1932, a few months after Greece had gone bankrupt, a seven point on the Richter scale earthquake devastated south-east and central Halkidiki. Two summer earthquakes in 1931 had shaken and panicked locals and visitors alike, but the 1932 catastrophe was unprecedented.²¹ The epicentre was at the south-east of the peninsula. More than 4,000 houses were destroyed and another 3,000 were seriously damaged in ninety villages. Hundreds of people were killed and injured.²² Aftershocks and new earthquakes went on for more than two years.²³ The chapter of interwar tourism and summer vacation had an abrupt end and was not reopened for almost twenty years. The slow process of reconstruction in the absence of roads was not the only impediment.²⁴ In the 1940s, during war, occupation and civil fighting, the mountains and the forests of Halkidiki were not appreciated for the beauty and climate but for the secure hide-outs, treasured by partisans, runways and irregular fighters. Communist partisan units survived there as late as January 1950, six months after they had been strategically defeated in western Macedonia.

The Halkidiki summer vacation project was gradually revived in the 1950s. Until then the region, as well as Macedonia as a whole, had been left outside any official planning on tourism. After the Civil War, however, it became a matter of national urgency.²⁵ It was related to public works, such as road construction, disinfection, draining of marshes, and the growing financial ability of the urban classes of Thessaloniki to claim and enjoy leisure time. Biodiversity was not the concern of a generation that had marginally escaped death from hunger and sickness. If roads were improved, then nearby Halkidiki was ideal as a family summer resort or for weekend breaks. After all, this had been predicted more than sixty years before. What had not been foretold was that the extinction of malaria and the disenchantment of forests after a decade of mountain warfare would direct modern visitors to the lowlands, where road construction was progressing somewhat faster. As tuberculosis was becoming a bad dream, visitors were ready to appreciate the many pleasures of the sea. The rise of Halkidiki as a famous seaside resort did not happen overnight. Yet this was not because Mount Cholomondas competed successfully with the nearby sea attractions. Few of the aforementioned mountain villages seem to have retained their importance as resort centres for the Salonicians. The factor which determined the pace of mass sea-oriented tourism was the construction of a new artery covered with tar and suitable for coaches, running from the south-east outskirts of the Thessaloniki bay to

²¹ *Makedonia*, 16 July and 19 August 1931.

²² For a detailed presentation of the 1932 earthquake, see Pelagia Koltouki, "I Halkidiki sto Mesopolemo. I alli opsi enos xechasmenou nomou" [Interwar Halkidiki: The Other Side of a Forgotten Prefecture], unpublished MA thesis, Aristotle University of Thessaloniki, 1996, pp. 64-76.

²³ *Makedonia*, 8 October 1932, 22 November 1932; *Makedonika Nea*, 31 January 1934; *Ephimeris ton Valkanion*, 8 January and 18 February 1935.

²⁴ *Ephimeris ton Valkanion*, 22 January 1935.

²⁵ Vlachos, *op.cit.*, p. 185 (n. 663).

Nea Moudania, the rising southern semi-urban centre of Halkidiki, and further on, towards the prongs of Kassandra and Sithonia.²⁶

Access to the two “secular” prongs was more difficult in the case of Kassandra. In 1952 Prefect George Tselikas pointed out that a peripheral artery leading to Nea Moudania would familiarise everybody with the local sea beauties and turn this spa-reach prong into a centre for tourism.²⁷ But this grand future would have to wait for a decade because access to Kassandra over the canal of Potidaia, which had been reopened in the mid-1930s,²⁸ rested on a mouldy wooden barge, attached to a cable connecting the two banks. Until the late 1950s, the crossing of cars onboard this barge was considered by professional drivers a “deadly venture”. A movable iron bridge was built by the army but not before the summer of 1962.²⁹ Meanwhile access to Sithonia, the middle prong, was improving. In 1953 daily excursions by coach reached as south as Nea Moudania.³⁰ Three years later, the refugee settlement of Neos Marmaras, established in 1924 inside the Toronaios gulf and situated sixty kilometres south-east of Nea Moudania, was advertised in the Press as most suitable for summer vacation: Overland and overseas access was available, rents were low, the sea food was fresh and plentiful. This beautiful prong, it was claimed, could easily compete with the Cote d’Azur, the absolute measure of coastal touristic success.³¹ Awaiting future grandeur, camping for the benefit of poverty-stricken school- and working-teenagers of both sexes, sponsored by various institutions, was spreading as far as coach-safe arteries could reach.³² Among these places was the aforementioned Stavros, on the eastern coast, with a population of 1,500, which by 1961 had grown so popular that, despite the absence of electricity, could attract during a single summer weekend as many as 6,000 visitors.³³

In the meantime, two years earlier Prime Minister Konstantinos Karamanlis had launched his ambitious five-year-plan for development. On 26 July 1959 he announced in Thessaloniki a project for hotel constructions in Halkidiki and the following day he flew over Kassandra on board a helicopter. Priority was given to a hotel at Ouranoupolis, next to the gateway to Mount Athos, to serve pilgrims.³⁴ Further planning provided for the construction of refuelling stations for the use of yachts.³⁵ Moreover, in the summer of 1960 the Prefect of Halkidiki banned the crossing and farming

²⁶ *Makedonia*, 21 May 1949; 28 July and 9 October 1954

²⁷ *Makedonia*, 29 May 1952.

²⁸ *Ephimeris ton Valkanion*, 19 May 1935.

²⁹ *Makedonia*, 24 and 26 May 1957; 25 August 1962.

³⁰ *Makedonia*, 26 June 1953.

³¹ *Makedonia*, 6 June 1956 and 5 September 1957.

³² *Makedonia*, 10 July, 9 August 1956; 7 July 1959.

³³ *Makedonia*, 26 July 1960 and 18 July 1961.

³⁴ *Makedonia*, 28 July and 25 December 1959.

³⁵ *Makedonia*, 27 January 1960, 19 March and 1 April 1960.

of animals anywhere within a zone stretching one km from the coastline for the protection of sea-bathers.³⁶ It was a sign of change.

Painters could see it clearly. In the following decade they were increasingly attracted and inspired by picturesque Halkidiki, struggling between undesirable tradition and advancing modernity. With the notable exception of Mount Athos, the rest of the region had scarcely caught artists' attention until then. Athytos (in Kassandra) was one of the first villages to be depicted by Polykleitos Regos in the 1930s and by Giorgos Paralís in the 1940s. The former was an early tourist and the latter a native of Polygyros. In the 1960s their repertoire expanded to multiple aspects of the natural environment. Painters were not the only ones to appreciate Halkidiki's beauty.³⁷ In 1962 a former prefect of the region, Dimosthenis Goulas, delivered a public lecture that was well attended and received by the local elite of Thessaloniki. His topic was "Halkidiki, the homeland of beauty" and his focus the development of tourism, the new source of wealth next to agriculture and mining.³⁸ The 1960s in general was a decade of great expectations for Greek tourism. In the state budget for 1965, prepared by the government of Georgios Papandreou, Halkidiki –Mount Athos included– was designated as a region of the "new integrated sector of touristic development". This was a national priority in order to divert the flow of central European tourism to Bulgaria but also a due reward for a region that had supported intensely Papandreou's party.³⁹ The Minister for Public Works, Angelos Angelousis, expressed his will to turn Kassandra and Sithonia into bathing centres of European standards, despite the marshy coastal grounds, with the funding assistance of the country's private sector. In fact the whole prefecture was classified as a border region – although it was not—to neutralise any purchase of land by foreign investors. Angelousis also blocked the construction of houses inside the coastal zone until proper country planning was completed and norms were set to maintain architectural tradition.⁴⁰ Aware that the value of land was rising rapidly, other officials sought to enforce the law and stop the irregular occupation and exploitation of public beaches by tavern and hotel owners.⁴¹ That same year, 1965, a detailed master plan for the development of Halkidiki was produced by a young professor of the Polytechnic School of Aristotle University, Thalís Argyropoulos. He estimated that the region's coastal capacity was sufficient for 675,000 summer visitors, and suggested that equal shares of land should be allocated to private sparse housing, to hotel construction, to camp-sites,

³⁶ *Makedonia*, 23 July 1960.

³⁷ See the chapter by Glafki Gotsi in this volume.

³⁸ *Makedonia*, 15 March 1962.

³⁹ *Makedonia*, 24 December 1964.

⁴⁰ *Makedonia*, 14 and 16 February, 29 June, 23 October, 28 November, 19 December 1965.

⁴¹ HAM/Archeio Koinotitas Krinis [Archive of the Krini Community] (AKC), file 35b: Circular of Deputy Prefect Chrysanthou (Polygyros, 17 June 1965).

and to dense house construction. He coined the idea of an airport in Ormylia, a canal through the isthmus of Sithonia, port facilities that would welcome cruisers, and the construction of spa towns. It was a work of vision by all means, which had been accomplished after fieldwork with the assistance of his students.⁴² In the same period, the very early 1960s, Argyropoulos contributed with his ideas for sustainable development to the creation of a summer settlement for his colleagues amidst the yet unspoiled nature of Sithonia (Vourvourou). This small-scale utopist experiment, under the guidance of influential and moderate professors untouched by pecuniary temptations, flourished. Protected by a strict policy of social accountability it is still a model settlement.⁴³

However, Argyropoulos' grand plan for Halkidiki was soon forgotten. During the Colonels' dictatorship, he pursued a new career in London while Halkidiki experienced an unprecedented change, which included the rapid construction of a dense tarred road network surrounding the two prongs and crisscrossing the mainland, impressive hotel installations that spread like mushrooms, and complete electrification. The mapping and escalation of these three developments is hard to describe in writing. The most impressive construction was the luxurious resort of Porto-Carras, at Sithonia, that was announced in the summer of 1964, agreed in 1968 but opened its doors only in 1976.⁴⁴ By that time numerous other hotels and campsites, either privately-owned or state-run, were already in full operation all around Halkidiki. In 1969 the region alone attracted almost one third of the total private tourist investment in northern Greece.⁴⁵ In 1970, after a couple of major accidents, the Kassandra canal was eventually bridged with a viaduct. In 1971 public works for the construction or for the improvement of a 300 kilometres long road network were in progress at a cost of 1.5 billion drachmas.⁴⁶ The number of hotel and room-to-let beds jumped from 4,800 in 1972 to 7,700 in 1973, and it was expected that it would cross the twenty thousand mark by 1975. Yet the eventual increase exceeded any expectation, since there were as many as 56,000 beds in 1977. Less than 6,000 of these were hotel beds.⁴⁷ Tourists were arriving in increasing numbers from central Europe and Yugoslavia. But it was more than that. By the end of the dictatorship in 1974 Halkidiki had already been turned into the most popular summer resort for middle class families

⁴² *Makedonia*, 21 December 1965; HAM/AKC, 35a: Circular of Deputy Prefect Papagiannopoulos (Polygyros, 17 June 1964).

⁴³ See the chapter by Giorgos Antoniou in this volume.

⁴⁴ *Makedonia*, 31 July 1964 and 24 September 1968.

⁴⁵ *Makedonia*, 6 May 1970.

⁴⁶ *Makedonia*, 23 July 1971.

⁴⁷ *Makedonia*, 11 February 1973; Benaki Museum, Archives of Modern Greek Architecture, Kostis Gartzos Papers (080): Halkidiki, Land Planning Study No. 8, 3rd stage, chapter v, p. 3. I am grateful to Mr Kostis Gartzos for facilitating my access to his papers. His early considerations helped me a lot to build my arguments

from Thessaloniki. The demand for rooms and apartments to let grew stronger summer after summer; the same was true of the monthly rents paid to greedy villagers. Halkidikiots now faced a serious challenge: Was tourism indeed the ultimate recipe for eternal welfare?

2. In the Lands of Mount Athos and beyond

Halkidiki is more than a thin strap of land along the precious coastal blue line. It never was. I am not referring to the spiritual wealth of Mount Athos, treasured by generations of pilgrims for more than one thousand years, or to the famous archaeological sites, ancient and medieval, frequented by educated western European travellers. Not unlike other Mediterranean regions, behind the coastal zone there is a hinterland with natural resources, cereals, vineyards, olive plantations and mills, beekeeping and a mine industry. It is a zone less glamorous, less popular, and less remunerative – considering the labour required. In general it is a *habitat* less suitable for a modern nation of entrepreneurs fit only for services and commerce. Yet it was this wealth combined with particular patterns of landscape that stimulated the dense colonisation of Halkidiki in prehistoric and ancient times.⁴⁸ The hinterland, Mount Cholomondas and the adjacent plains to the south and north of it, had been the driving force of the local economy, long before tourism and summer vacation became widespread, long before beauty became a national asset for sale and rent. The medieval and early modern society of Halkidiki was shaped there, far from the sea but close to the Holy Mountain. It was not a case of exceptional economic success, yet the locals always had some viable options.

Two major factors determined the local economy and the environment in Halkidiki throughout its medieval and modern history: Mount Athos in the coastal plains and the mining industry in the mountainous hinterland. The monasteries were – and to a certain extent still are – the bigger landlords, as they owned the best lands. Their properties grew larger during the centuries of Ottoman rule. They included fields of wheat spreading to the outskirts of Thessaloniki, pastures to the extreme south of the prongs, and forests climbing up the slopes of Mount Cholomondas. Their possessions amounted to some forty per cent of the present prefecture's land area. Inside the Athos peninsula there was a world of heavenly harmony. Travellers were impressed by the unspoiled nature, comparable to that of Mount Olympus, but also by the variety of cultivations. The proper exploitation of water resources and the common work of the industrious monks secured a fair production of fruit, olives and vegetables, sufficient to feed thousands of them and, in the case of dried nuts, leaving a considerable surplus for exports. For cereals and for cash to pay their taxes monasteries depended on their

⁴⁸ See the chapter by Tsigarida and Xydopoulos in this volume.

fertile possessions outside the Holy Mountain, supervised by monks and cultivated by seasonal farm labourers and tenants. The surplus was easily transferred by boat or cart to Thessaloniki, always in need of grain. The creation of large agricultural estates by lay or ecclesiastic landlords increased both security and employment and affected demography, as it facilitated the growth of settlements.⁴⁹ Yet monasteries as a rule preferred day labourers to tenants to safeguard their properties, especially those in the south-western plain of Kalamaria, by any kind of hereditary claims. This policy and the numerous coastal marshes determined the spread and demographic strength of new villages. Kalamaria, where Ottoman *beys* also owned extensive plots of land, and the two “secular” prongs were thinly populated. Forests were another apple of discord for villages and monasteries. They constituted an asset that was easily and daily cashed, one that monks had to protect from all kinds of trespassers, pastoralists, charcoalers, lumber jacks, ship-builders, miners and pitch-makers. Pine and oak woods were most vulnerable, especially those easily accessed from the sea side. Some oak woods were lost for ever. As in other parts of Europe, the shrinking of forests – even the shortage of wood for the making of charcoals – was noticeable in the eighteenth century all around the mining zone; it was to be followed by natural regeneration.⁵⁰ In the Mount Athos peninsula, however, deforestation was unknown as an issue of concern even in the early twentieth century. No tree was cut unless it was to be replaced.

The refugee settlement that began shortly after the Great War and peaked in the early 1920s changed the demography of Halkidiki entirely. Almost 250,000 acres of monastic land were expropriated in favour of the Asia Minor refugees.⁵¹ It was by no means a smooth process.⁵² The numerous disputes between locals and newcomers, peasants and pastoralists were only a small part of the problem. The most important were the primitive condition of agriculture, the small size of the farms and their vicinity to pastures, the low fertility of the southern plains due to erosion, lack of plough animals, insufficient communication, malaria and frequent locust and rat raids.⁵³ Following political pressure exercised already in the 1940s, after the end of civil warfare, in the 1950s additional monastic property (Athonite and other) was purchased by the

⁴⁹ See the chapter by Kostis Smyrlis in this volume.

⁵⁰ See the chapter by Kotzageorgis and Kolovos in this volume; Paul Warde, “Fear of Wood Shortage and the Reality of the Woodland in Europe, c. 1450-1850”, *History Workshop Journal*, 62 (2006), 29-57.

⁵¹ *Makedonia*, 24 April 1924.

⁵² See for example the report of the Deputy Commander of Gendarmerie Kakoutis to his superiors, Thessaloniki, 24 October 1924, and that of the Vice-Governor of Halkidiki to the Governor General of Macedonia, Polygyros, 27 December 1923, in HAM/Geniki Dioikisi Makedonias [General Governorate of Macedonia] (GGM), file 67, ff. 32-3, 71-2.

⁵³ See for example Gennadius Library, Konstantinos Karavidas Papers (KKP), file 6.1: Confidential report by Karavidas to the Governor General, Thessaloniki, 17 May 1919; file 6.2.: Malouchos to the legal advisor of the Governor General, Thessaloniki, 31 January 1919; file 7.1: “Study on the monastic property at Kalamaria”, 15 June 1924; *Makedonia*, 15 June 1924, 12 April, 15 and 31 July 1925, 16 November 1926, 20 March 1927, 3 May 1928, 1 April and 19 July 1929, 29 December 1930, 3 March 1932.

state and allocated to landless peasants of the region.⁵⁴ This practice was repeated in the 1960s. Local deputies claimed that this was a necessity; otherwise monastic land would be sold by the “ignorant monks” to local and foreign entrepreneurs, who by then knew all too well how promising this investment was. Appeals for more land distribution were submitted even in the 1980s.⁵⁵

Historical records and newspapers emphasise the difficulties that settlers and lowland peasants experienced not only before and during but also after WWII. It is in the nature of local state officials to maximise the sufferings of the people in order to catch the attention and receive the assistance of their superiors. Yet if one reads between the lines, it becomes obvious that the lowland economy of old and new smallholders was improving even before the challenge of tourism became apparent. Certain sectors should be mentioned in particular: viticulture and wine production, beekeeping, olive groves. By the time Halkidiki became a Greek prefecture all these sectors were evaluated as “highly developed”, compared to the primitive state of cereal growing.⁵⁶ None of these was an innovation. All had constituted integral parts of the local economy since ancient times. Olive trees – even wild ones – dispersed in the fields were always treasured and oil mills were in use throughout the ages. But an olive grove anywhere outside Mount Athos was not a common sight until the late nineteenth century, when Ottoman laws provided for a three-year tax exemption following the first harvest of newly planted olive trees.⁵⁷ In 1912 the annual olive production in the vilayet of Thessaloniki amounted to 213,000 okes compared to 20.5 million in the Aegean islands. Most likely the shift towards intensive olive-tree cultivation was related to the growth of olive-oil consumption in emerging urban centres, regular grain imports from the world market, and the proliferation of steam-powered olive mills. In the post 1912 period other factors came into play. The industrious and politically active newly settled refugees and other landless peasants who benefitted greatly from the appropriation of precious monastic land, the improvement of credit facilities, and

⁵⁴ HAM/Geniki Dioikisi Voreiou Ellados [General Governorate of Northern Greece] (GANG), file D25.2a: Tziridis (Governor General of Central Macedonia) to the prefect of Halkidiki, Thessaloniki 13 September 1946, f. 53. See also: Memo of MP Vasilikos attached to Korozos (Minister of Northern Greece) to the Directorate of Settlement, Thessaloniki, 10 August 1949, f. 81; *Makedonia*, 8 and 16 July 1951; 15 July, 28 December 1952; 18, 20 and 28 February 1953; 6 May 1955; 18 October 1957.

⁵⁵ *Makedonia*, 23 December 1962; 10 April, 13 June, 19 December 1964; 18 November 1965; 28 January 1966; 29 December 1967.

⁵⁶ See the report on the condition of agriculture, livestock and the finances of the Halkidiki prefecture (3 December 1914) in HAM/GGM, file 20.2, ff. 40-1.

⁵⁷ Nikolaos Th. Schinas, *Odoiporikai simeioseis* [Travelling Notes], third issue, Athens: Messenger d’Athènes, 1887, pp. 507-9, 566, 580; Nikolaidis, *Othomanikoi Kodikes*, pp. 3261-2. See also the chapter by Panajiotidis in this volume.

the determination of the Greek state to introduce modern technologies, such as the spraying of the olive-trees and the use of more effective presses for olive milling.⁵⁸

Similar remarks are valid in the case of viticulture. All nineteenth-century travellers agree that wine for home or for local consumption was produced throughout Halkidiki, and all were impressed by the quality of the well attended vineyards inside the Athonite peninsula.⁵⁹ Vineyards remained an integral part of the local economy throughout the twentieth century, and benefited from state policies and the aforementioned distribution of landed property.⁶⁰ From the 1970s onwards high quality and export oriented wineries were established, pioneered by Carras and Tsantalís. Even the Holy Community of Athos was tempted by such profitable ventures and joined in, drawing from its thousand year old tradition of wine production. Benefiting by the mild climate, beekeeping was another traditional local occupation in the southern pine forests. It was a profitable option even on the slopes of Cholomondas, where earth was not fertile enough.⁶¹ Wax for candles and honey as a sweetener, in a world where colonial sugar was a luxury, were always in demand, thus giving peasants an opportunity for additional income. Beekeeping retained its importance in the following decades. It was acknowledged by all developers as an excellent financial practice and was supported officially by the state. Halkidiki was recognised as the *par excellence* honey producing prefecture of Greece. Beekeepers, on the other hand, supported actively the integrity of the forests against trespassers of all kinds and dared to clash with local political interests that on occasion supported illegal logging.⁶²

To sum up, the climate of Halkidiki always favoured olive trees, viticulture and beekeeping. The extent and the intensity of these and other cultivations depended on

⁵⁸ *Makedonia*, 17 January 1912; 30-31 August 1920; 15 July 1925; 17 October 1928; 19 July 1929; 23 April 1931; 15 February 1948; 13 January, 11 February, 7 May 1949; 3 June 1954; 9 February 1966; 9 June and 7 July 1974. KKP, file 6.1: Confidential report by Karavidas to the Governor General, (Thessaloniki, 17 May 1919); file 6.2.: Malouchos to the legal advisor of the Governor General (Thessaloniki, 31 January 1919); file 7.1: "Study of the monastic property at Kalamaria", 15 June 1924. HAM, Fylachtos Papers, box 1, file 7: Ministry of Agriculture to agricultural authorities etc. (Athens, 28 September 1919). HAM/AKC, file 41a: The Moudania Branch Office of the Agricultural Bank of Greece to Communities and Agricultural Credit Cooperatives (Nea Moudania, 26 February 1972).

⁵⁹ Henry Fanshawe Tozer, *Researches in the Highlands of Turkey*, London: John Murray, 1869, vol. 1, p. 97; D. Urquhart, *The Spirit of the East*, London: Henry Colburn, 1838, vol. 2, pp. 59-60; M. E. M. Cousinéry, *Voyage dans la Macédoine*, Paris: Imprimerie Royale, 1831, vol. 2, pp. 136-7; Robert Walpole (ed.), *Memoirs Relating to European and Asiatic Turkey*, London: Longman, 1817, pp. 199-200.

⁶⁰ See for example *Makedonia*, 3 May 1927, 4 and 9 April 1930, 7 July 1974; HAM/GANG, file D25.1a: Circular of the Minister of Agriculture (27 April 1945), ff.117-9. HAM/AKC, file 49.a: Circular by Director of Agriculture on the definition of zones for the improvement and development of viticulture (Polygyros, 25 August 1973).

⁶¹ *Ermis*, 20 February 1876; Urquhart, *op.cit.*, vol. 2, pp. 77, 79, 135-6; Schinas, *op.cit.*, pp. 507-9, 517-8, 536-7, 552, 564-5.

⁶² *Makedonia*, 10 and 14 September 1948; 13 May 1949; 28 May 1953; 26 November 1981. HAM/GGNG, file D25.6a: Prefect of Halkidiki to Prime Minister (Polygyros, 19 October 1950), f.63. HAM/AKC, file 49a: Circular of Director of Agriculture on measures and motives for the development of stock-breeding and beekeeping (14 April 1973).

market conditions. The colony of Mendi was famous in antiquity for its top quality wine exports but early nineteenth-century monasteries had to import grapes to meet their needs in wine. Yet all three sectors combined played an important part in the local economy and more specifically in household maintenance. For ages and ages, under Byzantine and Ottoman rule, they kept the peasantry's body and soul together. In the twentieth century they were also favoured by the policies of the Agrarian Bank of Greece and state support, which also included the gradual redistribution of land and the improvement of communications. Such policies matched perfectly with the new world of smallholders.⁶³ The importance of the traditional economic pattern of polyvalency was re-established and acquired additional value in a rapidly changing post war world, as the environment was coming under threat. The best example of such an approach is the Carras investment in the late 1960s. The seven million dollar complex he undertook to create was to include, apart from various hotel installations, an oil mill, a winery, an apiary, 35,000 olive trees, 3,000 almond trees, 10,000 citrus trees, and 865 acres of vineyards. Yannis Carras also agreed to reclaim 120 acres of marshy land. Obviously sustainable development could not be attained without serious concern for traditional productions. Olives, wine, almonds and honey could easily fit into such a touristic project not only as the "natural background" or the appropriate décor for the luxurious bungalows but also as remunerative investments.

Matching agriculture with tourism in the 1960s was easy. It still is. But the economic tradition of Halkidiki was more complicated since mining, uphill and beyond the monastic properties in the plains, was also an integral part of the local economy since ancient times. It played a significant role in the politics of ancient colonisation, of medieval Slav settlement and early modern resettlement, as extant linguistic evidence suggests.⁶⁴ This long tradition affected the environment centuries before our time. In the mid sixteenth century Pierre Belon witnessed around the flourishing town of Siderokapsa (very close to modern Stageira) a landscape with hundreds of furnaces in operation and immense quantities of scoria piling up for centuries.⁶⁵ The water of a nearby torrent was reddish in the very early nineteenth century, most likely even earlier. Siderokapsa was not the only mining centre. In the following centuries the social and fiscal life of central Halkidiki was shaped by a network of twelve thriving mining villages which comprised a legal entity under common administration. Their mining activity caused substantial environmental harm, considering not only the infertile piles of scoria but also the size of charcoal producing zone assigned to the mining industry. In the early nineteenth century the mineral deposits seemed to have been exhausted.

⁶³ See the chapter by Katerina Gardikas in this volume.

⁶⁴ See the chapter by Kosmas Kyranoudis in this volume.

⁶⁵ Pierre Belon du Mans, *Les observations de plusieurs singularitez & choses mémorables, trouvées en Grèce, Asie, Judée, Egypte, Arabie, & autres pays étranges, rédigées en trois livres*, Anvers : Imprimerie de Christoffe Plantin, 1555, pp. 79v-80r, 81v-83r, 89v, 90r-91r.

Siderokapsa declined and was gradually engulfed by surrounding forests but the left-overs of the mining activities and the infertile piles of the burnt ore were still visible.⁶⁶ The interest for mining in the region (Isvoros, present Stratoniki) was revived in the 1890s. The task was assigned to a French-Ottoman Company and specialists were appointed to investigate, as a Greek newspaper put it, if “our ancestors” had exhausted completely those mines or had left something “for us”.⁶⁷

Before the end of the Great War, Venizelos had expressed his will to nationalise all mines in Greek Macedonia. In the spring of 1919 nationalisation seemed imminent but it was never realised.⁶⁸ In the 1920 private interest was encouraged anew. In the early 1920s the magnesite mine of Gerakini passed from the Allatini brothers to a Dutch and later on to a British company. In 1927 a Greek company took over the mine of Isvoros, called Madem-lakkos (or cast-iron pit), close to the old mines of Siderokapsa.⁶⁹ Yet, due to the absence of a road network, only these two enterprises at Isvoros and Gerakini, both relatively close to the coast, were of some importance and interest; and to lesser extent that of Vavdos, the ore from there being transported to the port of Thessaloniki on lorries.⁷⁰ The operation of all three enterprises was interrupted during World War II but was resumed in the 1950s. Of the three only Vavdos was acquired by a non-Greek firm, one from Austria, and only after an angry political debate had taken place.⁷¹ Yet all three flourished and expanded, though not without occasional tensions with the syndicates. It was during these post war decades, until the mid 1970s, that a strong professional tradition of mining was re-established in central and eastern Halkidiki. Searches for new deposits of ore were encouraged in the 1960s, permissions for exploitation were granted, ore enrichments factories were built, and mining education was improved.⁷² Gold-mining, even in the twentieth century, was in the hands of illegal specialists, known as *malamatades*, who frequented the half-dry torrents and sifted the sand until the interwar decades. But in 1962 it became clear that assets of gold were also available, mixed with copper, at the Skouries region close to the eastern coast. In 1964 a survey was assigned to a Vancouver based Canadian company on condition that it imported capital for the mine's exploitation. In 1966 permission was granted by the Ministry of Industry to exploit the gold

⁶⁶ Walpole, *op.cit.*, pp. 227-8; William Martin Leake, *Travels in Northern Greece*, London: J. Rodwell 1835, vol. 3, p. 159. See also the chapter by Kotzageorgis and Kolovos in this volume.

⁶⁷ *Pharos tis Makedonias*, 9 February 1891.

⁶⁸ *Makedonia*, 18 November 1918; 25-26 April 1919.

⁶⁹ *Makedonia*, 27 June 1923 and 31 August 1930; Alexandros Dagkas, *Recherches sur l'histoire sociale de la Grèce du nord: le mouvement des ouvriers du tabac, 1918-1928*, Paris: Association Pierre Belon, 2003, vol. 1, pp. 218-9.

⁷⁰ *Makedonia*, 20 November 1926.

⁷¹ *Makedonia*, 25 December 1955; 4 March 1956; 20 June 1957.

⁷² *Makedonia*, 23 May 1952; 24 December 1955; 4 March 1956; 10 March 1960; 23 May and 3 August 1961; 14 February, 29 April and 10 May 1962; 27 January 1963; 6 September 1964; 17 and 24 June, 14 October 1965; 10 June 1966; 14 July 1968.

deposits as well but it was annulled by the Council of State in 1968, following a petition filed by the firm Gold Mines of Northern Greece Ltd.⁷³

In September 1975, a year after democracy had been restored in the country, Prime Minister Karamanlis visited Halkidiki. He paid equal attention to the development of mining and tourism.⁷⁴ Soon, however, it became clear that mining was dying out of exhaustion while the threat of pollution undermined the on-going touristic development. Although the interest for surveying the underground did not stop and expanded into the Thermaic Gulf, the conflict of interests in specific areas was growing and social tension was evident.⁷⁵ A serious crisis was mounting up, also fed by party politics and scientific controversies, which will be described later on. Was this process reversible?

3. In Search of Sustainable Development

All the above evidence demonstrates that by the 1960s it was already clear that nature – natural beauty included – was an asset that could and should be utilised in many different ways. The challenge was first and foremost political. Development and reconstruction was the post WWII “great idea” of Greece. In this respect “underprivileged and neglected Halkidiki” was held hostage outside the “margins of civilisation”, between monks and rapacious Greek and foreign entrepreneurs; in other words, a hostage between a backward tradition and a hollow modernity. It was the duty of the state to intervene and to secure a prosperous future, which was feasible given the region’s mineral, agricultural and touristic potential.⁷⁶ The standard measure of successful state intervention was road construction. In devastated post war Greece dependence from the central government was absolute in every single sector of the economy. The state also regulated electrification, irrigation, land reclamation, appropriation, amortisation and deforestation for the benefit of the landless, permissions for surveys and mining, the planning of touristic infrastructures, urban planning, compensations and technical support for agriculturalists and pastoralists alike.⁷⁷ Obviously central detailed planning and coordination was of paramount importance in order to prioritise. Yet there were signs that a common remedy for all the short-comings would not be feasible.

We have already traced evidence of early concern for the uneasy coexistence of mining and tourism. The case of the pastoralists is another good example of problematic symbiosis. For centuries Yürüks, Vlachs and Sarakatsans wintered in the southern

⁷³ *Makedonia*, 29 April 1962 and 18 February 1968.

⁷⁴ *Makedonia*, 3-4 September 1975.

⁷⁵ *Makedonia*, 14 January 1982; 5 May 1983; 30 May 1984; 10 July and 5 September 1985; 23 July 1987; 25 February, 7 June, 1 and 29 November 1988; 14 January 1989. HAM/Limeniko [Coast Guard Police], Dept. B, file 11: Mayor of Nea Moudania to mining firms (3 October 1988).

⁷⁶ *Makedonia*, 15 March and 23 December 1962.

⁷⁷ *Makedonia*, 9 and 13 February 1966.

parts of Halkidiki, Kalamaria, Kassandra and Sithonia, in the maquis zone, particularly in the two prongs, which had been almost completely deserted between the fourteenth and the seventeenth century and turned into monastic property.⁷⁸ The designation and the allocation of communal lands for pasturage, the goat factor in deforestation, the ill-defined margins between pastures, forests and cultivations are some of the issues that tormented twentieth-century authorities for decades, as spare land was in short supply.⁷⁹ In the late 1960s and 1970s, stock breeding was a kind of embarrassment or threat that had to be isolated in an attempt to protect tourists from dirty and smelly animals. In the same vein, the importance of forests as “national capital” outweighed the long tradition of pastoralism and led to the launching of reforestation projects. Even the recording and “registration” of age-old and “historical” trees was undertaken.⁸⁰ A comparison of data covering the period between 1927 and 2013 reveals a less than ten percent rise in the number of goats, and a thirty per cent fall of sheep and sixty-per cent of cows. If we consider veterinary improvement over time, the population growth and the demand for meat we may safely conclude that stock-breeding has not been much of a success story in this part of Greece.⁸¹ Tourism was more promising, yet support and regulations were required.

Planning the future was a challenge for both politicians and scientists. For a leader like Karamanlis and for all ministers in the 1960s Halkidiki was a promising prefecture in the bigger Greek puzzle of development. Local politicians could not envisage a future wherein their constituencies would cancel out or disregard current necessities. It would be detrimental for their political careers. In this respect, their vision of Halkidiki encompassed all local economic activities in an ideal future where all sectors would harmonically promote prosperity by exploiting natural resources – the beauty of the environment and local history included. In the process of time they realised that tourism targeted at the beaches was not an ordinary factor but *the* driving force of development. The circulars dispatched by prefects and other officials during the seven-year dictatorship (1967-74) are good examples of the growing sensitivities and the rising sources of tension. Thus, stone sculptors were called in to construct touristic installations in a “traditional manner”. Villagers had to keep beaches clean, the fields free of garbage, the wells covered, the houses and yards whitewashed and tidy. Tourists had

⁷⁸ See the chapter by Kotzageorgis and Kolovos as well as the supporting evidence of pollen analysis by Panajiotidis in this volume.

⁷⁹ *Makedonia*, 4 October 1918; 13 May 1921; 16 April 1929; 28 May 1953; 28 March 1962; 13 March 1964; 30 July 1981.

⁸⁰ HAM/AKC, file 38: Circular of Prefect Sivetidis on the removal of pens from villages (Polygyros, 13 May 1967; circular of Prefect Voliotis on measures for the protection of nature (Polygyros, 3 Apr 1970). On reforestation, see *Makedonia*, 11 February 1973, and HAM/AKC, file 49a: Circular of Deputy Prefect Anagnostou (Polygyros, 8 May 1973); circular of the Head Forester (Polygyros, 24 June 1972).

⁸¹ *Makedonia*, 25 September 1927; <http://www.newsbeast.gr/financial/arthro/578993/ta-kleidia-gia-tin-anaptuxitis-ktinotrofi-as/> (last accessed on 17 February 2015).

to be satisfied in order to return.⁸² Scientists did not disregard the interests of the hinterland either. In his 1965 plans, Argyropoulos had a place both for industry and for mining. He suggested the gradual – not intensive – exploitation of mineral wealth as well as follow-up works of reforestation. Yet in his touristic vision of the region, the important thing was to achieve a balance between the different types of accommodation that would serve summer visitors. Houses, hotels and camping places should fit in the specific environment. They should be scattered along the coastal line in a rational manner. The basis of his calculation was that no less than ten square metres of beach should be allocated for each swimmer.⁸³

The invasion of summer visitors was so rapid and massive that state and society were both caught by surprise. In 1975 travel agents warned EOT that there were not enough beds in Halkidiki to cover foreign demand for the summer of 1976.⁸⁴ But foreign tourism was not the burning issue. Since the mid 1960s the building of summer cottages, apartments and villas had commenced, promoted by various professional associations and to a lesser extent by individuals.⁸⁵ The rush to possess landed property with access to the beaches of Halkidiki assumed considerable proportions. In mid 1972 a well-known journalist of Thessaloniki and advisor of the military regime, Nikolaos Mertzos, warned that the on-going building of people's blocks of flats (*laikes polykatoikies*) in Halkidiki was contributing to the cruel destruction of an outstanding environment.⁸⁶ Even before the fall of the dictatorship, early massive acquisition of monastic land had been questioned.⁸⁷ In its wake, the debate continued. At stake was not only the "statelet" that Carras had built in Sithonia and the property bought by the Vardinogiannis consortium, both of which were "targeted" by the rising socialist party.⁸⁸ The legal definition of both the seashore and the beach was of far greater importance. Was there a definite line between land and sea? Was it possible to measure the exact distance from the sea? On such delicate measurements depended the size and value of coastal properties, as well as the legal status of various constructions, whether they had been completed or not. Yet, in 1976 the Ministry of Public Works admitted frankly that "anarchy" prevailed in Halkidiki for there were neither planning regulations nor any other relevant provisions in place. Ministers argued that cunning entrepreneurs had

⁸² HAMI/AKC, file 48c: Circular of Prefect Kanellopoulos (Polygyros, 16 December 1972); file 38: Circulars of Prefect Dermitzakis (Polygyros, 14 September and 26 October 1967); circular of Prefect Voliotis (Polygyros, 24 January, 3 and 16 April, 5 August 1970); circular of Prefectural Doctor Kalandonis (Polygyros, 28 February 1970); Deputy Prefect Dervisis (Polygyros, 15 April and 3 May 1969).

⁸³ *Makedonia*, 21 December 1965.

⁸⁴ *Makedonia*, 11 October 1975.

⁸⁵ HAMI/AKC, file 35b: Circular of the Special Housing Association of Public Servants (Polygyros, 3 December 1965).

⁸⁶ *Makedonia*, 9 June and 24 August 1972.

⁸⁷ *Makedonia*, 16 November and 12 December 1973; 24-26 January and 5 April 1974.

⁸⁸ *Makedonia*, 12 October 1979; 29 January 1980; 18 February 1983.

bought vast plots of land from naive peasants for “a dish of lentils” or had trespassed public property and sold it to construction firms, which had marred the environment through a variety of illegal technical choices. The destruction of the “enchanted beauty” was almost complete, they lamented. In the spring of the same year Halkidiki was described as a contemporary Pompeii, with grey graceless unfinished complexes of condominiums. Conveniently the blame was put mostly on the imprisoned dictators. Still, permits were revoked, constructions stopped and orders for demolitions and fines were given.⁸⁹ A year later (1977), the Ministry of Coordination authorised a group of specialists in Athens to undertake a study on the suitable development of the region. They produced a thorough review of the situation, accompanied by a number of sombre proposals for action. They remarked that agriculture and forests in particular had already been harmed by summer house construction, especially in Kassandra, which by then was judged to have exceeded the point of saturation. They argued that tourism was not supporting growth and development since it was not connected with any other sector of the agrarian economy and was restricted to the coastal zone. They recommended reducing drastically the percentage of summer house beds over the total number of available beds from 50% to 37% in favour of rooms-to-let, which were to be located outside the two prongs and restricted to special zones. They also recommended mountain and forest tourism.⁹⁰

We now know that the rush for a summer house in Halkidiki could not be contained by any regime or government. The region was already a potential suburb of Thessaloniki, and should not have been treated as an undeveloped province of the periphery struggling for “emancipation”. The prevalent assumption of the 1970s that through the self-management of natural resources local authorities could achieve a balance between the development of space and the region’s demography proved wrong. Essentially the state was against self-management, while local society, in view of the immense profits at stake, was unwilling to support collective solutions. Consequently, few houses were demolished, fines were not paid, while constructing firms exercised great pressure in order to restart construction, if it ever had been stopped, and sued the state for the delays they had incurred. By early 1978 new legislation had been enacted and implemented allowing the “legalisation” of past illegal constructions.⁹¹

During the following twenty years this somewhat bizarre debate continued. On one hand, the Press continued to lament the on-going destruction, while the authorities threatened trespassers. On the other hand, the state sought to regulate and facilitate the inevitable and profitable expansion of the existing villages and the creation of new

⁸⁹ *Makedonia*, 30 March and 11 November 1975; 10 January, 13 February, 4, 6-7 and 16 April 1976.

⁹⁰ Gartzos Papers, Halkidiki, Land Planning Study No. 8, 3rd stage, chapter I, pp. 21, 25-6; chapter II, pp. 10-2; chapter V, pp. 2, 5-11.

⁹¹ *Makedonia*, 15 February, 16 April, 26 June, 26 August, 27 November 1976; 20 February and 19 May 1977; 20 January 1978.

summer resorts. As the price of coastal land was rising, the border between official “facilitation” and loose implementation of the law became obscure. The state policy of decentralisation was perceived by local societies as an opportunity to maximise their building potential in coastal areas. The aforementioned 1977 study was shelved by the state and ignored by local communities. Acquiring wealth by selling landed property was wrongly interpreted as a process of touristic development.⁹² In the early 1980s the introduction of a five-day working week for public servants and a four week paid summer leave for all working people increased the desire for a summer house within driving distance. In 1988 as many as 11,000 houses were officially registered as illegal. Many more had neither been located nor registered. Arbitrary construction had become endemic; a situation that worsened after 1995, when credit facilities made possible the acquisition of a second house and multiple cars for every single family with an average income.⁹³

More than twenty years of uninterrupted building activity (until the late 1990s) and immense waves of tourists and other summer sojourners had serious repercussions. The beach sand was covered by bath towels. Free camping and huge crowds of swimmers polluted the beaches with tons of litter, to the dismay of locals. The sewage system and the mechanisms of garbage collection and disposal were insufficient to accommodate the hordes of summer visitors. Noise pollution was the result of numerous discos, beach-bars and night-clubs operating without police control. Endless traffic-jams and car-accidents followed the mass weekly exodus from nearby urban centres, chiefly from Thessaloniki. Extremely annoying summer black-outs became frequent. Forest fires multiplied and became the primary reason that Halkidiki hit the headlines year after year.⁹⁴

Watering hotels and a growing number of summer houses became an acute and permanent problem, perhaps the most acute. To the best of our knowledge, even in ancient times, Halkidiki was never a water world. Unlike the image we get from early modern maps, influenced by Ptolemy, local rivers were never more substantial than seasonal torrents.⁹⁵ In the past the hinterland was admired by travellers for its numerous streams and the quality of water, but its southern dry parts, even the green Athonite prong, depended on rainfalls, torrents and wells, each one with its name. A huge amount of official Greek local documents refers to water management in southern Halkidiki, to the securing of supplies, to irrigation and draining. In recent times, in

⁹² Gartzos Papers, Halkidiki, Special Land Planning Study Envireg (EOC), Stage C1, pp. 33, 41.

⁹³ *Makedonia*, 17 September 1978; 16-17 February, 15 April, 6 June, 14 September 1979; 29 January, 12 October 1980; 2 June, 25 August 1981; 16 March, 29 May, 30 July 1982; 26 April, 14 December 1983; 6 June 1984; 29 May, 7 and 20 November 1985; 12 August 1987; 3 February 1988; 15 May 1990; 24-25 May, 27 and 30 July 1994; 7 and 9 June 1995; 14 June 1996.

⁹⁴ *Makedonia*, 16 April and 5 May 1983; 22 May 1984; 23 August 1987; 23 and 26 July, 9 October 1988; 15 May 1990; 18 May 1993; 5 and 26 July, 24 August 1994.

⁹⁵ See the chapter by Manolis Manoledakis in this volume.

addition to seasonal population growth, the shift from cereal growing to water consuming vegetables and fruit plantations have also contributed to the shortage. Balancing the needs of the permanent and the seasonal population was not an easy task. Irrigation and regular water supply required the construction of costly dams and drilling, but funds were not available locally. In 1988 the prefecture of Halkidiki was classified as the most problematic of the Greek *terraferma* in terms of water sufficiency.⁹⁶

Along with nature, people also changed in the era of mass tourism. In a student research project another side-effect was exposed. Touristic development and the accumulation of wealth had alienated the locals of Kassandra from their material and professional culture, tradition and morals.⁹⁷ To this one could add that privileged access to the nature of Halkidiki became a measure of success for the middle class families of Thessaloniki. Social relations and stratification were recast accordingly. Exposure to the sun, the "purity" of the surrounding nature, easy access to and/or the open view of the sea determined the rent or price of villas, apartments, even of tents within camping sites. Thus, summer visitors knew with whom they were bound to side, and could choose what suited their real or imagined social status best.⁹⁸

The repercussions of tourism and summer vacations were also discussed in conferences and official meetings or commented upon by local deputies and other eloquent lecturers.⁹⁹ The common denominator of all this public discourse was the demand for the development of the prefecture. The usual rhetoric involved the "untapped or underexploited" resources of the region, without ever setting the upper limit of touristic exploitation, even when (limited) concern for the despoliation of nature was expressed. In the absence of a policy for land planning, the new EEC funded environmental studies of the 1990s could not produce but mere suggestions for regulations and prohibitions, which were soon either rejected or neutralised. Land was a precious commodity that unfortunately "overlapped" with the natural environment. Agriculture of any kind, resin collection and beekeeping could be complementary to tourism, only if the land in question was not suitable for immediate sale and building. Obviously ecotourism was also *a priori* doomed to become a small scale venture. The exclusion of mass tourism was neither feasible nor desirable, while the "ideal village tradition" that was hastily included in the Greek ecotourism package developed in the 2000s could not be re-established. It was refashioned by local entrepreneurs, with funds from the EEC Leader Initiative, who "invented" what the "sensitive to nature" urban ecotourists would have liked best to enjoy and consume as "traditional". Even the monastic community of Athos was officially presented as a "live museum" of Byzantine culture, for

⁹⁶ *Makedonia*, 9 November 1977; 29 January, 29 May, 1 December 1981; 1 October 1982; 11 October 1984; 10 March, 6 May and 10 May 1988; 1 April 1992; 8 February 1994; 2 July and 8 September 1998.

⁹⁷ *Makedonia*, 16 July 1987.

⁹⁸ See the chapter by Eleftheria Deltsoy in this volume.

⁹⁹ *Makedonia*, 26 November 1981; 22 December 1987; 2 and 6 August 1989; 29 March 1991.

men only, and not as a site for pilgrimage and contemplation. Apparently pilgrimage *per se*, detached from sight-seeing, is not a viable project. In other words, polyvalency of the Mediterranean type was and is discussed and pursued in Halkidiki only in the absence of any sea-oriented touristic potential, simply to make up for the deficit. This is not a sustainable recipe.¹⁰⁰

There was only one exception in this debate of limitless development through the exploitation of nature, and that was the case of mining enterprises in the eastern coast of Halkidiki. When Karamanlis visited Stratonis in 1975, he mentioned gold mining as one of the important projects in that region, a claim repeated later on by one of his trusted ministers Nikolaos Martis.¹⁰¹ Yet it took more than ten years before priority was given to gold mining, the expected annual output in the region of Olympiada estimated in 1988 at 2.5 tons. Locals were hesitant from the start. Their village was close to Stavros, a centre of tourism until the 1970s, when Kassandra and Sithonia became more easily accessible to Salonicians. In the 1980s, the eastern coastal resorts were struggling to survive with the considerable assistance of Yugoslav low budget tourism. They could not risk sea-water pollution despite the immense European funded investment of 10.5 billion drachmas. As in other parts of Halkidiki where land transactions were peaking, investing in mining did not look remunerative enough. Why should the eastern coast be allocated to mining instead of tourism? Was the geography of development predetermined and irreversible? Massaging the locals continued well into 1989. Despite promises for jobs, national wealth and the most ideal protection and restoration of the environment, they were not convinced and the project stopped.¹⁰² It surfaced anew in the 1990s when the local mining industry had already defaulted on its huge debts. By then the expected annual gold output had doubled to five tons and the project's budget had risen to 42 billion drachmas. With unemployment skyrocketing and long due salaries accumulating, thousands of miners of northern Halkidiki welcomed the opportunity and staged demonstrations urging the government to hurry up. This was followed by a two year seemingly scientific debate whether the new project, ceded to yet another Canadian company, would endanger the environment. In fact, behind the conflicting scientific views, two opposing "social" camps were shaped. Coastal villages, caring for their environmentally sensitive tourist business, rejected the project. Thirteen villages in the hinterland were convinced and gave their consent for mining to start.

¹⁰⁰ http://www.halkidiki.gov.gr/index.php?option=com_content&task=view&id=23 (last accessed on 22 February 2015); Eleftheria Deltsoy, "I oikotouristikoi anaptyxi kai o prosdiarismos tis fysis kai tis paradosis: paradeigmata apo ti voreio Ellada" [Eco-touristic development and the designation of nature and tradition: Case-studies in Northern Greece], in V. Nitsiakos & Ch. Kasimis (eds), *O oreinos choros tis Valkanikis. Syngrotisi kai metaschimatismoi* [The mountain space in the Balkans: Construction and transformation], Athens: Plethron, 2000, pp. 231-48. See also the chapter by George Agelopoulos in this volume.

¹⁰¹ *Makedonia*, 3 September 1975, and 8 December 1976.

¹⁰² *Makedonia*, 25 February, 8 March, 11 June, 1 and 29 November 1988; 30 March, 19, 22 and 25 April 1989.

This “tug-of-war” continued and eventually reached the courts. In 2002 the Council of State decided that the environmental risk outweighed the expected financial profit.¹⁰³

It is not the aim of this chapter to present in detail the saddest chapter of this story, which unfolded in 2013 when the Council of State approved an updated environmental study and the firm Hellas Gold Ltd began large scale deforestation and digging. The “tug-of-war” escalated into a bitter clash between the coastal villages and the authorities that grew out of proportion. The social cleavage between the mining villages of the hinterland and the touristic villages of the coast deepened, and has affected local and national politics. Scientists, academics and specialists of all kinds were also dragged willy-nilly in this passionate civil dispute, complicating the decision making process even more. It is an irony that this was the only instance when the protection of nature benefited, to whatever end, from touristic concerns.

Today (summer 2015), in a period of deep economic crisis, mining and tourism appear to offer no alternative for the two respective camps, the miners and the “hotel-keepers”. They seem to be two mutually incompatible ventures, at least in this part of the world. It is pointless to argue whether this dilemma is true or not. In my view, this lack of options and of flexibility is the outcome of a historical process. In the twentieth century, after more than one thousand years, the bipolar system (Thessaloniki-Mount Athos) which determined supply and demand and shaped the relations between humans and the environment in Halkidiki was broken. The system of the large estates was fully replaced by individual property which was challenged by a new kind of demand, not for agricultural and mineral products but for land to build. Lack of options is also the outcome of reckless state policy which equated touristic development with the ultimate exploitation of landed property (much of which has been sold out). Thus any real prospect for collective, regional and sustainable development in any other form is neutralised. Even the added value of cultural heritage, elsewhere a major Greek concern, has been neglected and left outside the “ideal image” of blue Halkidiki. In other words, intensive mining is the only alternative for the highlanders of northern Halkidiki only because the monopoly of mass tourism through time has unified the once “fragmented geography” and thus restricted their options.¹⁰⁴ Polyvalency, which sustained the population for centuries, has not been updated and thus has become outdated. Unfortunately, the much treasured capital of natural beauty in Halkidiki has been turned into an inflated currency that is wasted to purchase a growth of dubious quality in an unforeseeable future. Natural beauty is fervently acknowledged as a public good, compared to big private interests – be it mining, industrial or entrepreneurial. But it stands few chances of prevailing over individual and family interests. Therefore, it is

¹⁰³ *Makedonia*, 20 April and 23 June 1994; 24 and 30 August, 1, 6 and 21 September, 31 December 1995; 5-6 January, 11, 13 and 15 February, 1 and 10 March, 2 and 28 May 1996; 2 April and 18 July 1998.

¹⁰⁴ Cf. Pedro Regato & Rami Salman, *Mediterranean Mountains in a Changing World*, Malaga: IUCN, 2008, pp. 37-8.

reasonable to assume that the management of tourism, which is the concern of the chair of the local Hotel Association, as mentioned at the beginning of this chapter, will not redeem Halkidiki easily from its identity and orientation problem. We may lament the despoliation of the environment, but, in the absence of a strong civic society, of social accountability for our deeds and of a consensus in defining public interest, sustainability is out of the question.

Halkidiki

Landscape, Archaeology, and Ethnicity

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Landscape archaeology in the Mediterranean has evolved in recent decades, as the data collected during field surveys in plains and mountains has been turned into solid knowledge about the past. Its interdisciplinary character (e.g., the simultaneous use of archaeology and/or historical geography together with geophysics) has contributed significantly to its success. In his comprehensive work on the Mediterranean, Fernand Braudel argued that in order to understand the region's history one should 'dissect [it] into various planes', suggesting that researchers should 'divide historical time into geographical time, social time, and individual time'.¹ He held that concentrating on the deeds of certain individuals, where they kings or generals (*l'histoire événementielle*) was leading us away from a sound understanding of the Mediterranean world. In order to do so, one must take into account the slow unfolding of geomorphological, climatic, and environmental changes, as well as the history of institutions, economic systems, and ideologies. His work inspired the Annales School but was neglected by archaeologists for a long time. In the 1980s new forms of cultural history appeared, yet it was difficult for anyone to suggest that 'the study of the Mediterranean should return to pre-Braudelian models'.² It has been argued that writing history from the artefacts found during excavations is inadequate,³ since archaeologists generally think that in this way the material record becomes equivalent (or quasi-equivalent) to the literary sources available. Ian Morris is right when writing that the "great contribution of archaeology to

¹ Fernand Braudel, *I Mesogeios kai o mesogeiakos kosmos tin epochi tou Philippou B' tis Ispanias* [La Méditerranée et le monde méditerranéen à l'époque de Philippe II], transl. Klairi Mitsotaki, Athens: M.I.E.T. 1991, vol. 1, p. 21.

² Ian Morris, "Archaeology and Archaic Greek History", in N. Fisher and H. van Wees (eds), *Archaic Greece. New Approaches and New Evidence*, Swansea: Classical Press of Wales, 1998, p. 69.

³ Anthony M. Snodgrass, *An Archaeology of Greece. The Present State and Future Scope of a Discipline*, Berkeley: University of California Press, 1987, pp. 36–66.

the archaic historian, I contend, is that it allows us – for the first time – to think in social time”.⁴

This ‘social time’ is better explored and understood also by the use of new theories concerning the perception and evaluation of cultural landscapes. Researchers have passed from the Braudelian model of interpreting things (i.e., the trichotomy in landscape, social structure and events) to methods where supra-regional processes can be used. The employment of these processes has turned many to believe in the strong interaction between landscape and human actions. As Gert-Jan Burgers has recently emphasised in relation to another Mediterranean site, “any fundamental dominance of landscape or social structures over human action can be questioned considering that the former are also created, reproduced and transformed by human action”.⁵ As for the case of the Halkidiki peninsula, which is the focus of this study, these processes could be defined as: a) The role of the landscape; b) The creation of settlements and urban centres; and c) the notion of ethnicity(ies) in a Greek colonial context.

1. The Rural Environment of Halkidiki

The inhabitation of a landscape derives from one’s experience of the world and space. How humans choose a region to inhabit is difficult to explain, as it is an issue related to existentialism.⁶ Additionally, “space” in ancient Greek philosophy had various meanings. One of them is the theory ἐν χώρῳ καὶ χρόνῳ, which indicated that all the phenomena that occur are related to space and time. As a result, every space is a field of human action over time.⁷

The settlement evidence in Macedonia generally varies. Transhumant pastoral groups are the main feature, while we can trace from the Bronze Age onward continuous occupation of tell sites (Kastanas, Vardaroftsa, Chauchitsa, and Thessaloniki). The permanence of these settlements allowed inhabitants to use domestic space in ways that seem more complex than those found in settlements in central Greece, while constructions that had been made for storage purposes appear in the sixth century. Already by the mid-sixth century, the Greek presence in the northern shores of the Aegean had a serious impact, not only in burial customs but also in pottery and architecture. It seems that the city-states of southern Greece were carrying out economic and political activities in these areas, and the indigenous populations had to find ways to

⁴ Morris, *op.cit.*, p. 69.

⁵ Gert-Jan Burgers, “Landscape and Identity of Greek Colonists and Indigenous Communities in Southeast Italy”, in G. Cifani & S. Stoddart (eds), *Landscape, Ethnicity and Identity in the Archaic Mediterranean Area*, Oxford: Oxbow, 2012, p. 66.

⁶ Adrian M. Chadwick, “Geographies of Sentience’. An Introduction to Space, Place and Time”, in A.M. Chadwick (ed.), *Stories from the Landscape: Archaeologies of Inhabitation*, Oxford: Archaeopress, 2004, p. 7.

⁷ Lilian Karalis-Giannakopoulou, *Perivallontiki Archaeologia* [Environmental Archaeology], Athens: Kardamitsas, 2005, p. 80.

respond to this deployment. Unfortunately, we neither do nor can know the impact the other side had on the Greek settlers in this area in the north Aegean littoral called "Thrace" in the ancient literary sources.

The Halkidiki peninsula constitutes a typical example of Mediterranean morphology: it is characterised by mountains, plains, hills, and plateaus, surrounded by the Aegean. The sea also penetrates deeply among its three prongs, thus forming a kind of boundaries of separation between them and at the same time regulating the general conditions of living. Halkidiki seems to be an autonomous world, as usually the peninsulas are though to be, and one has to deal with all data available in order to understand the interconnection between its different micro-worlds and the people dwelling there. Halkidiki is the largest peninsula in Greece, covering an area of 2,918 km². It includes three minor peninsulas, known as the three prongs. It is surrounded by the Aegean from the south, east and west and has a coastline of almost 500 km. Central Halkidiki is dominated by Mount Cholomon or Cholomondas (1,165 m), with some hills both to the east and west of it. The prongs are also dominated by mountains and hills. At the southern edge of the eastern prong is located Mount Athos (2,030 m), one of the tallest massifs in Greece, while the middle prong (Sithonia) has Mount Itamos (805 m.) at its centre. Finally, Cassandreia to the west is also a hilly region. Mountains comprise a world that lives far from the civilisation of the plains and towns. A world required to live on its own resources and to produce everything needed for the survival of its inhabitants. Mountains are exactly this: Obstacles.⁸ Solely from viewing a map of the peninsula, it becomes clear that the fertile, arable lands are limited, situated mainly along the coastline.

The territory of Halkidiki certainly played a role in the history of the place. Human habitation was confined to specific areas, the ones that supported agriculture and stock raising. By this we mean that the people residing there had to adapt to the conditions they faced. The mountainous natural environment of the central peninsula was ideal for shepherds and herders, while farmers and traders were to be found at the prongs. The region does not form a single geographic unit. Instead, it is divided into various micro-regions, each one with its own micro-climate. It was natural, therefore, to have populations scattered all over the peninsula, living in communities situated in these micro-regions, thus creating situations of autonomy and separation, which played a role in the historical evolution of the peninsula. For example, in historical times Olynthos, Poteidaia, and later Cassandreia evolved into major cities of the peninsula. However no single town managed to dominate the whole of Halkidiki, exactly due to the particularity of the latter.

The study of the archaeological sediments of a site (or sites), which included physical, biogenic and cultural elements, has a long tradition in environmental and

⁸ Braudel, *op.cit.*, pp. 38-9.

stratigraphic composition. According to Karl Butzer, the presence of humans and animals as “geomorphic agents” is also based on the materials introduced to the site by people or animals. From the humans’ perspective, these materials included those for building, clothing or fuel purposes and those that accidentally have been brought to the site.⁹

The microworld of a region includes many activities that are directly linked to the natural environment. One of the aims of environmental recomposition is to define the relation of humans with the environment and vice versa, based on the study of residues of fauna and flora. The environment determines the evolution of life in which humans, animals and plants will adapt. Not only livestock and wild fauna but also studies in land use by past human societies in the scientific community have a significant contribution to our understanding of the role of the environment, a conclusion reached by many scholars dealing with its importance in human lives.

2. The Archaeological Evidence

2.1. Prehistoric Period

2.1.1. Settlements

Habitation in the Halkidiki peninsula began in the Palaeolithic period, as is inferred by an archaic skull of a Euro-African homo sapiens, dating from 200,000 to 150,000 BC, which was discovered in the cave of Petralona. There is some evidence on the habitation of the peninsula of Sithonia during the Middle Palaeolithic and the Mesolithic periods, while the first Neolithic settlements of farmers and pastoralists date to the Middle Neolithic period. They are located in fertile areas near rivers in the hinterland of Halkidiki. The earliest settlement is located at Galatista (near Anthemous River) and dates to the Middle Neolithic period (5500-4500 BC). The other settlements date to the Late Neolithic period (4500-3000 BC) and are found all over Halkidiki. Only the settlement located at the southernmost part of the hill of Olynthos, near Olynthios River, has been excavated.¹⁰

The number of settlements increased in the following period, the Bronze Age (3000-1100 BC). The new settlements have the characteristic form of a tell site, easily distinguished in the landscape of Halkidiki. These were created by the ruins of successive structures built with mud-bricks. The settlements are found by the sea, an important source of food as well as trade. Some of the settlements of this period are located at Trypiti, Kastri of Gomati, Toroni, Kastri of Nikiti, Mikyberna, Sani, Nea Phocaea,

⁹ Karl W. Butzer, *Archaeology as Human Ecology. Method and Theory for a Contextual Approach*, Cambridge: Cambridge University Press, 1982, pp. 77-8.

¹⁰ See, e.g., Georgios Mylonas, *Excavations at Olynthus. Part I. The Neolithic Settlement*, Baltimore: The Johns Hopkins Press, 1929.

Athytos, Polychrono, Mendi, Siviri, Skioni, Agios Mamas, Kriaritsi, etc. The best known settlement is that of Agios Mamas, excavated by the German Archaeological Institute. Eighteen rectilinear houses made of clay and wood came to light with hearths, storage pithoi and other useful wares.¹¹ Other settlements that were excavated were that of Toroni, Polychrono, and Siviri.¹²

2.1.2. Cemeteries

Three cemeteries of this period have been located and investigated at Kriaritsi, Agios Mamas and Skioni shedding light to the burial customs of the Bronze Age.¹³ Bronze Age cemeteries were the earliest cemeteries organised outside settlements and imply the intention of people to deal with the past and to formulate their surrounding landscape.¹⁴ Two of the three cemeteries, at Kriaritsi and Skioni, present similarities with cremations inside pots, which are placed in small cists, are surrounded by periboloi of various shapes, and are covered with stone cairns. The third cemetery of Agios Mamas presents a variety in burials, pithoi and graves.

2.2. Early Iron Age: Tenth-Seventh Century BC

The end of the Mycenaean world was marked by migrations of tribes, invasions, insecurity, and population losses. Recorded by Homer, migrations were often the result of social changes that, according to Greek tradition, were the result of the return of the heroes of Troy home. The wandering of some of the heroes to the whole of the Mediterranean on their way back home reflects the migrations of tribes that took place at the time. It is highly probable that at least some of the extant coastal settlements of Halkidiki received colonists during the end of the late Bronze Age and the Early Iron Age (twelfth-tenth century BC). Thucydides' reference on the founding of Skioni by the Pelleneis after the Trojan War reflects such events (Thuc. 4.120). The excavations of the fortified settlements and the cemeteries of this period situated on the coasts and the interior of Halkidiki show the

¹¹ Bernhard Hänsel & Ioannis Aslanis (eds), *Das Praehistorische Olynth. Ausgrabungen in der Toumba Agios Mamas 1994-1996* [PAS 23], Westfalen: Rahden, 2010.

¹² See, e.g., Sarah Morris, "Prehistoric Torone: A Bronze Age Emporium in the Northern Aegean. Preliminary Report on the Lekythos Excavations 1986 and 1988-90", *Mediterranean Archaeology*, 22-23 (2009-2010), 1-67; Christos Avgeros, Maria Mavroides & Elisavet B. Tsigarida, "Engatastasi tis epochis Chalkou sti Siviri Chalkidikis" [A Bronze Age Settlement at Siviri of Halkidiki], *Archaeologiko Ergo sti Makedonia kai sti Thraki* (AEMTh), 17 (2003), 359-68.

¹³ Sophia Asouchidou, "The Early Bronze Age Burial Tymbos at Kriaritsi-Sfikia, Central Macedonia, Greece", *Travaux de la Maison de l'Orient et de la Méditerranée*, no. 58, Lyon: Maison de l'Orient et de la Méditerranée, 2011; Elisavet B. Tsigarida & Domna Mantazi, "Proistoriko nekrotapheio Neas Skionis Chalkidikis" [The Prehistoric Cemetery of Nea Skione, Halkidiki], *AEMTh*, 18 (2004), 149-55.

¹⁴ Stelios Andreou, Michalis Fotiadis & Kostas Kotsakis, "Review of Aegean Prehistory V: The Neolithic and Bronze Age of Northern Greece", *American Journal of Archaeology*, 100 (1996), 537-97.

following: a) The settlements of the interior were inhabited by local populations who had contacts with southern Greece. b) Most of the coastal settlements were inhabited by local populations who, in some cases, received settlers from southern Greece or had very close relations with southern Greece. c) In very few cases did “colonists” from southern Greece found settlements or sanctuaries.

2.2.1. Settlements

Most of the settlements were founded on high plateaus of river banks, and the fortifications consisted of natural barriers. All these natural conditions, such as the barriers and the appearance of settlements at a short distance from the coast, were probably used as criteria for the choosing sites for habitation. There is no much evidence on the identity of the local population. It has been said that initially the area was inhabited by Thracian tribes that survived until the fifth century BC at the prong of Akti. A Thracian tribe recorded in ancient Greek literature was the Kroussaioi, allies of the Trojans. Its members lived in Flegra, the original name of Pallini, while the southwest coast of Halkidiki was named Kroussis after them.

Except for Thracian tribes there were also other tribes that moved and settled there, like the Bottiaians, who originally lived in the plain of Central Macedonia surrounded by rivers Loudias, Axios and Aliakmon. They moved to Halkidiki when they were expelled by the Macedonians (who conquered their land) and settled in the area north of Poteidaia in the seventh century BC.¹⁵

These local populations lived in settlements situated on the coasts and in the hinterland. Many Bronze Age settlements survived in the Early Iron Age or moved to a nearby area, while a few settlements were founded in this period. Early Iron Age settlements have been located in many places, like Nea Kallikrateia, Elaiochoria, Kas-troudi of Palaiokastro, Agios Mamas, Kastri of Nikiti, Kastri of Polygyros, Koukos, Lagomandra, Kochi of Sithonia, etc. There is only scanty evidence concerning the habitation of this period until the second Greek colonisation.

Two of the Early Iron Age coastal settlements, at Lagomandra of Nikiti and Kochi of Sithonia, were excavated revealing similar characteristics. The latter occupies the small peninsula of Kochi near Neos Marmaras. It spreads out over the whole peninsula and was protected by a fortification wall. The houses were small with walls constructed of a stone foundation and mud bricks and contained storerooms with pithoi and other small finds from local workshops.¹⁶ The great number of shells in the houses implies the role of the sea in the diet of the inhabitants. However, and this is surprising, no

¹⁵ Regarding the origins of the Bottiaei, see Pernille Flensted-Jensen, “The Bottiaians and their Poleis”, in M.H. Hansen & K. Raaflaub (eds), *Studies in the Ancient Greek Polis [PCPC 2 - Historia Einzelschriften 95]*, Stuttgart: Franz Steiner Verlag, 1995, pp. 108-11.

¹⁶ S. Asouchidou has excavated this important Early Iron Age settlement.

large quantities of fish bones have been found in these settlements, an indication apparently that fish were not fully integrated into the diet.

2.2.2. Sanctuaries

It is difficult to find temples in archaic northern Greece. The religious practices in these areas seem to have been the same as in the rest of the Aegean and restricted to the main Greek colonies up to the fifth century. After a thorough examination of the relevant data up to 1998, Ian Morris argued that in Halkidiki as well the evidence for worshipping the gods at *extra muros* sites (i.e., at the *chora* of the central Greek coastal settlements) is scarce. Some of the examples he has gathered (Koukos, probably ninth century; Poseidi, probably eleventh century) clearly show the existence of cults before the colonisation, while the rest (Aphytis, late eighth century; Mount Itamos, seventh century; Sani, 650 BC) indicate that those who had moved to Halkidiki, despite the absence of numerous temples, followed more or less the same religious and cult patterns as the rest of the Aegean world.¹⁷ Especially the sanctuary at Aphytis (present Athytos), dedicated to Dionysus, was in use since the Late Geometric period, mentioned also by Xenophon (*Hellenica* 5.3.19).¹⁸

Koukos, near Toroni, is a very interesting settlement of the Early Iron Age. The excavations conducted there revealed remains of a fortification wall (60-80 cm. high, with the original height reaching ca. 2 m., and 1.25 m. thick.), a settlement and a cemetery (for the cemetery, see below). It must have been a crowded settlement, as the remains of walls belonging to some ten buildings suggest, all being within a few square metres. One is impressed by a building that consists of a porch and a long chamber.¹⁹ The existence of a mould suggests that it must be considered as a site "associated with mining and metalworking", a fact closely linked with today's beyond doubt suggestion that Halkidiki "was exploited for metals since the Late Bronze Age with southern Greek, including Euboean, involvement".²⁰ The site seems to have been abandoned ca. 700 BC, for reasons not detected yet.²¹

¹⁷ Morris, *op.cit.*, pp. 45-6 and for the references see p. 87, n. 78-79.

¹⁸ Michalis Tiverios, "Greek Colonization of the Northern Aegean", in G.R. Tsetschkladze (ed.), *Greek Colonization. An Account of Greek Colonies and Other Settlements Overseas*, vol. 2, Leiden & Boston: Brill, 2008, pp. 38-9; Alexandros Mazarakis-Ainian, "Euboean Mobility towards the North: New Evidence from the Sporades", in M. Iacovou (ed.), *Cyprus and the Aegean in the Early Iron Age. The Legacy of Nicolas Coldstream*, Nicosia: Bank of Cyprus Cultural Foundation, 2012, p. 57.

¹⁹ Pernille Flensted-Jensen, "Thrace from Axios to Strymon", in M.H. Hansen & T.H. Nielsen (eds), *An Inventory of Archaic and Classical Poleis*, Oxford: Oxford University Press, 2004, p. 815.

²⁰ Mazarakis-Ainian, *op.cit.*, pp. 57-8.

²¹ John Carington-Smith & Ioulia Vokotopoulou, "Anaskaphi ston Kouko Sykias, Nomou Halkidikis" [Excavation at Koukos, Sykia, Prefecture of Halkidiki], *AEMTh*, 2 (1988), 357-70; id., "Anaskaphi ston Kouko Sykias, 1989" [Excavation at Koukos, Sykia, 1989], *AEMTh*, 3 (1989), 425-38; id., "I anaskaphi ston Kouko Sykias, 1990", [The Excavation at Koukos, Sykia, 1990], *AEMTh*, 4 (1990), 439-54; id., "Excavation at Koukos, Sykia", *AEMTh*, 6 (1992), 495-502.

The excavations at Vigla of Mendi and the sanctuary of Poseidon on Cape Poseidi on the western coast of Pallini yielded evidence on the existence of settlers from southern Greece already in the twelfth-eleventh century BC. Because of its geomorphology, Cape Poseidi was the only place on the western coast of the peninsula which could protect ships from northerly or southerly winds – the typical winds that blow in the Thermaic Gulf. This explains the choice of this area for the worship of Poseidon and the founding of his sanctuary by the first “colonists”, while the neighbouring, naturally fortified hill was appropriate for the founding of their first settlement. These early “colonists” brought pottery and architecture from their places of origin. The archaeological research at Vigla, the plateau on top of the hill, where the city of Mendi was built later, revealed part of a fortification wall, parts of houses and refuse pits that contained pottery and other finds dating from the twelfth to the seventh century BC. The finds at Vigla, which was the acropolis of Mendi, show contacts with Euboea, Ionia, Macedonia and the Cyclades.

An oblong building with an arched short side was built in the eleventh-tenth century BC at the sanctuary of Poseidon at Poseidi; this was the first temple of Poseidon which was used for many centuries.²² Its presence is perhaps an indication that the Greeks from the south sailed towards the north Aegean at an early date.²³ Imported pottery from Euboea, dating to the tenth and ninth century BC, was also found in the sanctuary of Dionysos, in an area dedicated to the worship of the god, implying the early existence of the sanctuary, which was probably founded by settlers from southern Greece.²⁴ In fact, the data collected during the past thirty years indicates that the presence of Greeks from the south, namely from Euboea, seems to be placed in a much earlier date than the colonization movement to the east. And, “although the nature of the Euboean ‘apoikismos’ of northern Greece is a matter of debate, [...] it cannot be denied”.²⁵

2.2.3. Cemeteries

The excavated cemeteries of this period are few. The most important is the cemetery of Toroni on Sithonia dating from the eleventh to the ninth century BC. A total of 134 burials were excavated: 118 cremations and 16 simple inhumations. The cremations inside pots were placed in simple pits. Many pots were imported from Attica, Euboea,

²² Ioulia Vokotopoulou “Mende-Poseidi 1990”, *AEMTh*, 4 (1990), 399–410; id. “Poseidi 1991”, *AEMTh*, 5 (1991), 303–18; id. “Poseidi 1991”, *AEMTh*, 6 (1992), 443–50; id. “Poseidi 1993”, *AEMTh*, 7 (1993), 401–12.

²³ Mazarakis-Ainian, *op.cit.*, p. 57.

²⁴ Dimitrios Pattis, “Endeixeis gia mia proimoteri chronologisi tou ierou tou Dionysou stin Kallitheia Chalkidikis” [Indications of an Earlier Chronology of the sanctuary of Dionysus in Kallitheia of Halkidiki], in E. Kefalidou & D. Tsiafaki (eds), *Kerameos paides* [Children of the Potter], Thessaloniki: Etaireia Andrion Epistimonon, 2012, pp. 265–72.

²⁵ Mazarakis-Ainian, *op.cit.*, p. 54.

Thessaly and the Cyclades, a fact that shows the existence of trade in such an early period as well as the existence of a prosperous city.²⁶

A cemetery of this period was also excavated at Koukos of Sykia in the interior of Sithonia, about four kilometres from Toroni. Ninety-eight graves have been found, while the burial customs were different. The cemetery contained three types of graves: cist-graves (49), pit-graves (15) and burials inside pithoi (34), as well as local pottery, mainly handmade. By “mainly” I mean that wheel-made types were also found, similar to the late Protogeometric and Sub-Protogeometric styles found at Euboea.²⁷

Another cemetery of the same period was excavated on the coast of Agios Giannis of Nikiti.²⁸ One finds here traces of a settlement dating to the seventh century BC.²⁹ The cemetery was in use since the Iron Age, as 45 graves from the period 900-750 BC were found, the majority being inhumations (40), some of which were placed inside perimeter walls.

Finally, a small part of another cemetery with similar finds was excavated on the coastal area where Akanthos was founded later. The cemetery dates to the tenth-ninth century BC.³⁰

2.3. Archaic and Classical Period

2.3.1. Greek Colonisation

From the eighth century BC onwards, new conceptions of space and territoriality were apparent, as populations became more sedentary. The evidence strongly suggests that the Archaic period saw a considerable degree of interaction between Greeks and those who would later be categorised as *barbarians*, and that it was in the period from the eighth to the sixth century BC that Hellenic self-consciousness was developed.

As far as the northern Aegean is concerned, the arrival of Greek colonists must have caused major changes. Abundant wood from the forests of Halkidiki, rich re-

²⁶ See Alexandros Cambitoglou & John Papadopoulos 1988: “Excavations at Torone, 1986. A Preliminary Report”, *MedArch*, 1 (1988), 180–215.; *id.* “Excavations at Torone, 1988”, *MedArch*, 3 (1990), 93–142; *id.*, “Excavations at Torone, 1989”, *MedArch*, 4 (1991), 147–71; *id.*, “Excavations at Torone, 1990”, *MedArch*, 7 (1994), 141–63.

²⁷ Flensted-Jensen, “Thrace”, p. 815.

²⁸ H. Trakosopoulou-Salakidou, “Anaskaphi ston Ai-Gianni Nikitis” [Excavation at Ai-Giannis in Nikiti], *AEMTh*, 2 (1988), 347–355; Katerina Romiopoulou, “Nekrotaphieio autochthonon kai apoikon stin paralia Ai-Giannis Sithonias (7th-5th c. BC)” [A Cemetery of Natives and Colonists at Ai-Giannis’ Beach in Sithonia], in M. Tiv-erios, V. Misailidou-Despotidou, H. Manakidou & A. Arvanitaki (eds), *I keramiki tis archaikis epochis sto Voreio Aigaio kai tin peripherya tou (700-480 B.C.)* [The Pottery of the Archaic Period in the North Aegean and its Periphery (700-480 BC)], Thessaloniki: Archaeologiko Institutouto Makedonikon kai Thrakikon Spoudon, 2012, pp. 437-51.

²⁹ Flensted-Jensen, “Thrace”, p. 815.

³⁰ Elisavet B. Tsigarida & Katerina Amanatidou, “Anaskaphi sto oikopedo idioktisias M. Bogdanou stin lerisso Halkidikis” [Excavation at the Field Owned by M. Bogdanos in Lerissos of Halkidiki], *AEMTh*, 27 (2013), in press.

sources, a fertile land and relatively safe natural bays attracted colonists from the south to the coasts of Halkidiki. This new wave of colonisation took place in the second half of the eighth and during the seventh century BC. It is highly probable that colonists from Eretria and Chalkis followed the way of their ancestors, populated the existing colonies, and established new ones. Eretria founded Dikaia and Mendi (Thuc. 4.109.3, and Hdt. 7.22.3) and many other colonies (Thuc. 4.123.1) on the prong of Pallini. Strabo (10.447) even recorded that the whole peninsula of Pallini was an Eretrian colony. Poteidaia was founded by Periander's son, Euagoras, and other Corinthians (Thuc. 1.56.2; Diod. 12.34.2; Strab. 7.330, fr. 25; Plut. *Per.* 29.6; Schol. Aristoph. *Equ.* 438.). Chalkis founded colonies in Sithonia and Andros on the prong of Akti and the eastern coast of the area.

The correlation of settlement locations with soils and topographical relief has enabled us to identify the factors that determined the choice of sites. These include proximity to the sea so as to facilitate trade and communication, natural fortification, the existence of fertile land (especially of woods) and, in the case of the colonists from Andros, proximity to the mines. The new colonies were mostly founded in rural landscapes, and were characterised by some very small sites with assemblages consisting of tiles, fine wares and domestic pottery, and, occasionally agricultural equipments, such as millstones. These sites comprised isolated private farms and small villages, and rarely shrines, dispersed in the countryside, the *chora* of the colonies. Immediately after their founding, the colonies were developed into autonomous city-states with common characteristics. Their political alignments during the sixth, fifth and the first half of the fourth century BC are well known. The economy of the coastal cities was based on agriculture, fishing and the trade of wood and wine. The trade of the latter was developed from a very early period, as it is implied by the excavation of workshops of trade amphorae at the cities of Mendi, Akanthos, Aphytis, etc. This suggests that a great area was used for arable cultivation. Fields near to – or more distant from – settlements were likely to have been farmed extensively. The cities grew prosperous in the sixth, fifth and the first half of the fourth century BC, and this prosperity is attested by the silver coins the cities were cutting already in the last quarter of the sixth century BC.

So far, other aspects of life during the Archaic and classical periods, such as the exploitation of the environment of the city, the organisation of the surrounding countryside (*chora*), economic developments, professions, social life and organisation, are basically known from the few excavations that have taken place. In general, the cities followed a similar development. In the beginning of their history, they had close contacts with Ionia and other centres of eastern and southern Aegean, while in the sixth century BC they developed trade and contacts first with Corinth and later with Athens. The latter dominated trade in the fifth century BC – Athenian vases are found in all the cities of Halkidiki.

2.3.2. Historical Sketch

The literary evidence on the cities of Halkidiki in the Archaic and Classical periods is in short supply. The few inscriptions that came to light provide information on the organisation of the political structure (with the presence of an assembly, a council and magistrates) and on other political affairs, such as treaties of peace, etc. As mentioned above, the cities are also recorded in the Athenian Tribute Lists and in Thucydides, providing thus evidence on the political history of the area. From the end of the sixth century until the end of the Persian Wars in 479 BC the cities of Halkidiki were subject to the Persians and were forced to support their campaign economically and to offer troops and ships. In 480 BC a canal was dug by the Persians at Akti, a large-scale work, traces of which still survive. Olynthos and Poteidaia revolted against them and for this reason the Persians punished them. Although they did not manage to capture Poteidaia, they destroyed Olynthos and gave the city to the Chalkidians of Toroni. After the Persian Wars, the cities of Halkidiki became allies of Athens and members of the Athenian League. According to the Athenian Tribute Lists, the most important cities paid a heavy tribute due to their wealth. The neighbouring kingdom of Macedonia began to interfere in the affairs of Halkidiki from the fifth century BC. It was with the encouragement of the Macedonian King Perdiccas II that the Federation of the Chalkidians was formed in 432 BC. It became powerful and in the fourth century BC played an important role in the political affairs of Greece, rivalling the Macedonians and even threatening them. The centre of the Federation of the Chalkidians was Olynthus. By the middle of the fourth century BC the king of Macedonia Philip II defeated the Federation and conquered Olynthus. The excavation of the various city-states of the Federation implies that they were not destroyed by Philip II, except for Olynthus and Stageira. Life continued in the cities until the founding of Cassandreia by Cassander in 316 BC, when they lost their importance and decayed.

2.3.2.1. Cities

Halkidiki consists of various areas, whose settlements present common characteristics, such as Anthemous in the north-west, Croussis located south of Anthemous, Vottiki in the western and central part of the main body of the region, Pallini, the western prong, Sithonia the central prong, and Akti the eastern one. Colonies were numerous and were mainly located on the coasts, with only a few cities and colonies in the hinterland.

The colonies were built on artificial terraces on natural hills not far from the sea, with narrow streets and houses. They were fortified with walls built with stone masonry. The houses were simple with a few rooms, without a courtyard and floors made of earth. The excavation of the *Proasteion* of Mendi provides us with a great deal of information about these houses and everyday life in the city. House walls had a stone foundation and were made of mud-bricks coated with red or white plaster. Their di-

mensions were 4×5 m., and were equipped with built hearths for cooking and heating in winter.

The application of the Hippodamian system of town planning at Olynthos in 432 BC had an effect on the other cities of Halkidiki, which were gradually adorned with larger streets, bigger houses and monumental buildings equipped with a water supply system, etc. Most of the archaeological research was carried out in the coastal area of Halkidiki. Only small parts of a few cities have been excavated. The location of some cities is established beyond doubt, while for the rest we rely on the evidence provided by written sources and surveys.

The most significant *polis* of Anthemous was the homonymous one,³¹ which has been located south of modern Galatista, while the other important city of the area, Rhaikelos, has not been securely identified, although maps sometimes place it near the Thermaic Gulf.

The inhabitants of Croussis came from Pallini and were considered to be Thracians in origin. Their most important city was Aineia, located on the coast at the Megalo Embolo cape, as is also attested in the Athenian Tribute Lists (e.g. *IG I³* 278, 18). Its coin types claim an early connection with Aeneas escaping with his father from Troy. Some trial trenches in the vicinity of the city brought to light parts of houses that date to the early fourth century BC.³² Pseudo-Skylax (66) called Aineia a *polis Hellenis*. The other cities of Croussis – Haisa,³³ Gigonos,³⁴ Kampsa or Skapsaeoi,³⁵ Kithas or Skithai,³⁶ Smila,³⁷ Tindi,³⁸ Kombreia³⁹ and Lipaxos⁴⁰ – recorded in Greek texts have not been securely located. However one disputed city, the colony of Eretria Dikaia, has been located at Nea Kallikrateia on the basis of the coins found during the excavation of the ancient city.⁴¹ The excavation brought to light parts of the city with buildings dating from the middle of the fifth century to the middle of the fourth century BC, when they were destroyed.

Vottiki is located south of Croussis, on the western coast of the main body of Halkidiki from Nea Kallikrateia to Nea Moudania. Several important cities existed in Vottiki; the largest and most important was Olynthus.⁴² It was originally a Vottiaean city, but became the centre of the Chalkidic Federation from 432 BC onwards. The city

³¹ Flensted-Jensen, "Thrace", pp. 824-5, no. 562.

³² *Ibid.*, p. 822, no. 557.

³³ *Ibid.*, pp. 828-9, no. 573.

³⁴ *Ibid.*, p. 828, no. 572.

³⁵ *Ibid.*, p. 829, no. 577.

³⁶ *Ibid.*, p. 830, no. 579.

³⁷ *Ibid.*, p. 843, no. 611.

³⁸ *Ibid.*, pp. 846-7, no. 620.

³⁹ *Ibid.*, pp. 830-1, no. 581.

⁴⁰ *Ibid.*, p. 831, no. 582.

⁴¹ *Ibid.*, pp. 826-7, no. 568.

⁴² *Ibid.*, pp. 834-6, no. 588.

was built on two hills; the southern, where the Archaic city of the Vottiaians is located, and the northern, where the city of the Chalkidians was built in 432 BC. Both cities have been systematically investigated. The Archaic one was organised along two parallel avenues running north-south and roads running off between them; simple houses, shops, store pits, and public buildings have been investigated there. The Chalkidian city on the northern hill was quite different, built according to the rectangular Hippodamian system. It was surrounded by a fortification wall of mud bricks with towers. Large avenues ran from north to south and streets running off them created building blocks (87×36 m.). Each one comprised ten houses in two rows separated by a drainage canal. Many houses share the same ground plan with adjacent walls, implying that they were built in the same period according to a town plan. The houses had two floors in their northern part, and some were decorated with mosaics made with natural pebbles from the nearby river. The mosaics of the houses of Olynthos are the oldest surviving Greek examples. Luxurious villas were also excavated east of the ancient city. The study of the houses of Olynthos provides us with information on household organisation, cooking and food preparation, storage of food, house production (weaving, process of grain, oil production, etc.). Olynthos was razed to the ground by King Philip II in 348 BC.

Spartolos is the other important city of Vottiki, and was probably located at the tomba of Nea Syllata.⁴³ Vrea or Veria, recorded by Thucydides as a colony of Athens, is located at Toumba Veria, near Nea Syllata.⁴⁴ The other Vottiaean cities – Aioleion,⁴⁵ Milkoros,⁴⁶ Pleumi,⁴⁷ Prasilos,⁴⁸ Sinos,⁴⁹ and Strepsa⁵⁰ – are not securely located, although various archaeological sites of the area have been suggested.

According to Herodotus, nine cities were built on the peninsula of Pallini. Potidaia, at its isthmus, was the most important, as it controlled trade due to its location. It was founded around 600 BC by Corinthian colonists.⁵¹ According to the literary evidence the city was involved in the important events of the fifth and fourth centuries: the Persian Wars, the Athenian League, the Peloponnesian War, and the conquest of Halkidiki by King Philip II. Recent excavations have revealed that Potidaia was built on the Thermaic Gulf, but so far not many remains of the ancient city have been recovered.

⁴³ *Ibid*, pp. 843-4, no. 612.

⁴⁴ *Ibid*, pp. 848-9, no. 624; it is named as non-located.

⁴⁵ *Ibid*, pp. 822-3, no. 558.

⁴⁶ *Ibid*, p. 833, no. 585.

⁴⁷ *Ibid*, p. 837, no. 595.

⁴⁸ *Ibid*, p. 839, no. 599.

⁴⁹ *Ibid*, p. 841, no. 606.

⁵⁰ *Ibid*, pp. 845-6, no. 615.

⁵¹ *Ibid*, pp. 838-9, no. 598.

Aphytis, a colony of Eretria, was founded on the eastern coast of the peninsula south of Potidaea in the eighth century BC. It was located south and east of the Koutsomylos hill, where a Bronze Age settlement came to light, inside the modern village of Athytos. The city struck coins already from the middle of the fifth century BC. Recent excavations have yielded habitation remains dating to the Iron Age, and the Geometric, Archaic and Classical periods. Parts of houses, workshops and shops dating to the fourth century and a few streets of the ancient city have come to light. The houses of the fourth century were made of stones and were destroyed by an earthquake towards the end of the century. There is evidence that some of them were used for a while after the destruction, but were eventually abandoned, when the city of Cassandreia was founded in 316 BC. The public buildings of the city were located on the Koutsomylos hill, where the city wall has recently come to light.⁵² According to Steph. Byz. 698.15, Aphytis had founded a colony, Chytropolis. It has been suggested that it was located in the *chora* of the city.⁵³

The location of the three cities south of Aphytis on Pallini's eastern coast – Neapolis,⁵⁴ Aigi⁵⁵ and Theramvos⁵⁶ – is not safe. If the order recorded by Herodotus runs from north to south, they should be located on three hills, Hellenica by Kriopigi, Geromoiri near Polychrono, and Daphnes between Peukochori and Paliouri. The hills are natural and they are all situated at a distance from the sea. Neapolis, a colony of Mendi, is located on the top of the forested Hellenica hill. The site has not been excavated, although a large amount quantity of fifth to fourth century pottery and traces of a fortification wall and other walls have been located on the surface of the plateau, on the top of the hill. Aigi is located on the Geromoiri hill near Polychrono. A small part of the ancient city has been excavated. Remains of houses dating from the early sixth to the late fourth century were found on artificial terraces on the hill. Finally, Theramvos is located on the forested Daphnis hill, near Cape Kanastraion, where illegal digging has brought to light parts of a city dating to the Archaic-Classical era. All three cities have a large surrounding area with forested hills appropriate for pastoralism and fertile fields.

On the western coast of Pallini, three city-states have been located. Running from south to north, they are Skioni,⁵⁷ Mendi,⁵⁸ and Sani.⁵⁹ Skioni is located on Mount Mytikas between the modern village of Nea Skioni and Loutra Agiou Nikolaou. Only a very small part of the city has been excavated, and just a few parts of an important Classical building have come to light.

⁵² *Ibid*, pp. 825-6, no. 563.

⁵³ *Ibid*, p. 826, no. 567.

⁵⁴ *Ibid*, p. 833, no. 586.

⁵⁵ *Ibid*, pp. 821-2, no. 556.

⁵⁶ *Ibid*, p. 846, no. 616.

⁵⁷ *Ibid*, pp. 842-3, no. 609.

⁵⁸ *Ibid*, pp. 831-3, no. 584.

⁵⁹ *Ibid*, p. 841, no. 601.

Mendi was the most important colony of Eretria. It is located near present-day Kalandra and extended over 700,000 square metres approximately. Excavations started in 1988 and a small part of the colony came to light. It was built on a hill by the sea and its acropolis (Vigla) was situated above the city. Part of a wall and refuge pits containing pottery dating from the twelfth to the seventh century were discovered there, but the foundations of the walls of the houses were not preserved, due to the intense exploitation of the soil. Small finds imply contacts with Euboea, Ionia, Macedonia, and the Cyclades. The *proasteion*, an area of the city with luxurious private and public buildings, was found to the south by the sea. It was equipped with a wall that protected the houses from the waves of the sea. Pottery workshops dating from the sixth to the second century BC were located outside the eastern part of the city. One of the rooms of the buildings, dating to the fourth century, was destroyed in the middle of that century, but was reused in the years of Cassander, which suggests that life in the city did not stop after the campaign of Philip II. The "Mendaian wine" was "white and fine", and its trade constituted the economic basis of the city's prosperity; one that is also revealed by the coins it struck from the sixth century to the reign of Cassander. After the founding of Cassandreia, the city was abandoned.

Finally, Sani, the last city on the west coast of Pallini, was situated immediately south of Potidaia. It is located in the area of today's Sani hotel and the nearby hill with a medieval tower. Parts of Geometric and Archaic buildings were excavated in the area of the hotel.

Ten cities – Mikyberna, Sermylia, Gali or Galipsos, Deris, Toroni, Sarti, Sigos, Piloros, Assa or Assera, and Stolos or Skolos – are located at the peninsula of Sithonia. Mikyberna is located east of Olynthus, at Molyvopyrgos, in the modern village of Kalyves Polygyrou. It was closely related to Olynthus and served as its port. It is situated on a hill by the sea and only a few trial trenches have been carried out.⁶⁰ Sermylia is located east of Mikyberna, at the large tomba south of the village of Ormylia. The tomba is situated by a river, at quite a distance from the sea. No excavation has taken place.⁶¹ Gale or Galipsos is probably located at one of the many archaeological sites in the area of Nikiti, most likely at Kastri-Agios Ioannis, where an early Iron Age and Archaic cemetery has been excavated.⁶²

Toroni, a colony of the Chalkidians, was the biggest and most important city of the peninsula. Thucydides (4.113.2) mentions here the Agora, a *Dioscoureion*, a temple of Athena on Lekythos, and other buildings. The excavation of the city was carried out by the Australian Archaeological Institute and brought to light part of the Bronze and Early Iron Age cemeteries and part of the city. The fortification of the Classical and the Hel-

⁶⁰ *Ibid.*, p. 831, no. 583.

⁶¹ *Ibid.*, pp. 840-1, no. 604.

⁶² *Ibid.*, pp. 827-8, no. 571.

lenistic periods was located, while buildings of the Classical era and a temple of Athena on the rocky peninsula called “Lekythos” were also investigated. The port of the city was adjacent to Lekythos.⁶³

Sarti is located at the homonymous present-day village, where building remains have been recently discovered.⁶⁴ Singos is located at Mitari, a natural hill by the sea, near present-day Agios Nicolaos on the eastern coast of Sithonia.⁶⁵ Piloros is probably located at Aspros Kavos, a natural hill near present-day Pyrgadikia. As the site seems small, it is likely that it corresponds only to the port, while the city was situated in the hinterland at Palaiophylaki-Marmaras of Metagitsi or at Casteli-Kokkala. A rescue excavation at Aspros Kavos has brought to light Classical pots with floral decoration and female heads made in Chalkidic workshops, which show influences from north-west Asia Minor, north Ionia or Aiolis.⁶⁶ Assa or Assera is located at Koulia hill near Pyrgos of Gomati, on the coast, where the camping site of Agia Triada is situated.⁶⁷ Stolos or Skolos is another city whose exact location is not known. It might have been situated at Smixis of Vrasta, at Castelia of Kelli, at Castelli Amygdalion or at some other site in the area of Metagitsi, Plana or Kelli.⁶⁸

The cities of the Akti peninsula were Chalkidian colonies, but their locations are still disputed. Thyssos⁶⁹ and Kleonai⁷⁰ on the western coast, Akrothoi on the southern coast inhabited by Thracians and Pelasgoi from Lemnos,⁷¹ Dion at Platys Limenas of the Akanthian Gulf,⁷² and finally Olophyxos⁷³ and Charadrous.⁷⁴ Four more cities, colonies of the Andrians, are located at the isthmus of Akti and on the eastern coast of the main body of Halkidiki. The Andrians founded Akanthos,⁷⁵ Stageira⁷⁶ and Argilos⁷⁷ near the mines of Halkidiki, on the eastern coast, while Sani was built on the southern coast in order to facilitate navigation and trade with the south, since on this route ships avoided the dangerous journey around Akti. Sani is located at the isthmus, at the southern end of Xerxes’ canal, at present-day Trypiti.⁷⁸ The city was built on a natural

⁶³ *Ibid*, pp. 847-8, no. 620.

⁶⁴ *Ibid*, p. 840, no. 602.

⁶⁵ *Ibid*, p. 841, no. 605.

⁶⁶ *Ibid*, p. 837, no. 593.

⁶⁷ *Ibid*, p. 826, no. 564.

⁶⁸ *Ibid*, p. 845, no. 614.

⁶⁹ *Ibid*, p. 846, no. 618.

⁷⁰ *Ibid*, p. 830, no. 580.

⁷¹ *Ibid*, p. 824, no. 560.

⁷² *Ibid*, p. 827, no. 569.

⁷³ *Ibid*, pp. 833-4, no. 587.

⁷⁴ *Ibid*, p. 826, no. 565.

⁷⁵ *Ibid*, pp. 823-4, no. 559.

⁷⁶ *Ibid*, pp. 844-5, no. 613.

⁷⁷ *Ibid*, pp. 820-1, no. 554.

⁷⁸ *Ibid*, pp. 839-40, no. 600.

hill by the sea but the major part of it has been destroyed by the road connecting Ierissos to Ouranoupolis. Nonetheless, a small part of the city has recently been excavated and yielded parts of private houses built on terraces and small finds dating from the sixth to the fourth century BC. Sani is located near Akanthos and it is highly probable that already in the fifth century the city was incorporated in the latter's *chora*.

Akanthos was one of the most important cities of Halkidiki. It did not participate in the Chalkidic Federation, although it had relations with Olynthos, since many Akanthian coins were found there. In 530 BC, it started striking coins, which soon had a wide circulation. The economy of Akanthos was mainly based on the production and trade of wine and on the mines. The ancient city was built on three natural hills by the sea, south-east of present-day Ierissos, and was protected by a strong fortification, only parts of which have survived. The excavation of the city started in 1994 and brought to light a rectangular private house dating from the Classical period through to the first century BC, the foundation of a temple, and many pottery workshops and shops where trade amphorae were made and sold.

Stageira, the birthplace of Aristotle, is located on the Liotopi prong, near present-day Olympiada, on the eastern coast of Halkidiki. The city was founded in 655 BC by colonists from Andros and was destroyed by Philip II in 349 BC, who refounded it some years afterwards. The excavations of the last twenty years have brought to light much of the early and late Classical fortification wall, a few public buildings of the agora, part of its water-supply system, part of a sixth-century temple of Demeter, shops, and some private houses.

There were also other cities in the hinterland of Halkidiki, such as Apollonia, Arnai and Kalindoia. The latter is located at tombs between present-day Kalamoto and Doubia in Mygdonia. The city has been securely located by an inscription that was found there. It was a Bottiaian city, the centre of the second Vottiaian Federation, and was founded again as Macedonian by Alexander the Great in 334 BC, incorporating the neighbouring cities of Thamiskos and Kamakai.⁷⁹ Arnai is probably located on Prophetes Elias hill near Arnaea, where the remains of a strong fortification wall and small finds dating to the Archaic and Classical period imply the existence of an ancient city.⁸⁰ Finally, Apollonia was one more city-state situated in the hinterland. Ancient Greek literature records thirteen cities named Apollonia in Greece, and the location of Apollonia of Halkidiki seems to vary in different sources. It has been suggested that the city is located at Mpoudroumia between Nea Apollonia and Kokkalou, where it was founded by the Chalkidians when they were given a piece of land near Lake Volvi in 432. A very small part of the city at Boudroumia has now been excavated. According to Xenophon (*Hell.* 5.3.1–2), there was a city called Apollonia in Halkidiki, 18 kilometres

⁷⁹ *Ibid.*, p. 829, no. 575.

⁸⁰ *Ibid.*, p. 814.

from Olynthus, which suggests that another Apollonia also existed in Halkidiki in the area of Polygyros.⁸¹

2.3.2.2. Sanctuaries

The appearance of major cult centres constitutes one of the definite signs of the emergence of the city-state, the *polis*. In particular, the extra-urban shrines located outside the main settlement, as were the Archaic sanctuaries of Halkidiki, are seen as uniting symbolically the members of the new city-state with the farming land that was the basis of the community. Five sanctuaries situated in the *chora* of city-states were excavated in Halkidiki. Among them, a sanctuary in the *chora* of Potidaia, dating to the fifth and destroyed in the mid-fourth century BC, was devoted to Poseidon.

Another important sanctuary of Dionysus and Zeus Ammon, recorded in the literary sources, is situated three kilometres south of Aphytis, within the *chora* of the ancient city. The cult of Dionysus was introduced in the late tenth or ninth century BC. Excavations have revealed the site of the cult of Dionysus and the Nymphs near a cave, in a place with water and dense vegetation. The area was organised with a staircase, which perhaps served ritual needs. North from the cave, in the same sanctuary, the temple of Zeus Ammon was built in the second half of the fourth century, probably towards the last quarter, and to the east of it lay two parallel rows with monumental, square bases. The cult of Zeus Ammon is historically important because it was introduced to Aphytis by the Spartan King Lysander during the siege of the city in 403 BC. The god appeared in a dream and asked him to end the siege. He then asked the inhabitants to offer sacrifices to Zeus Ammon (Plut *Lys.*, 299a–b). Excavations show that the first buildings in the sanctuary for the worship of the god date to the first half of the fourth century, when the construction of an altar or a peribolos wall and part of a building started. Their construction was not completed and building materials were used later in the century for the construction of the temple and the square bases. A fountain house was also built near the cave of Dionysus in the fourth century BC. Clay pipes brought water from it to a special structure at the entrance of the temple, while a drainage canal starting from this structure drained the water to the east, probably to a ritual cistern, which served ritual needs. The sanctuary survived into the Hellenistic period, when the cult of Asclepius was also introduced.

The sanctuary of Poseidon at the promontory of Poseidi had been founded in the tenth century BC and was in use until the Hellenistic period. New temples and an altar were built in the Archaic and Classical period. The investigation of the site brought to light four temples together with a great quantity of pottery and other small finds dating from the twelfth century to the Roman period. Some pots were inscribed with the name of the god.

⁸¹ *Ibid.*, p. 814.

An open sanctuary of a female deity, probably Artemis Pythia, was excavated in the *chora* of the ancient city of Sani on Pallini. Ceremonies took place at night, as is implied by the relatively large number of clay lamps. The investigation yielded interesting Eastern Greek and Corinthian pottery dating to the seventh and sixth century BC.

Another sanctuary of this period is found in the *chora* of ancient Sani of the Akti peninsula, near present-day Nea Rhoda. A late sixth century *oikos* with painted antefixes, simas and other architectural details came to light. Among the finds, the three Nikai acroteria of the building are very impressive. The two lateral acroteria represent standing Nikai, while the middle one shows a Nike in kneeling-running pose. The *oikos* survived to the Hellenistic period, when the city of *Ouranidon polis* was founded and incorporated it.

The last sanctuary that has been investigated is one on Mount Itamos, near present-day Parthenon in Sithonia. Archaeological investigation has brought to light a sanctuary of the seventh or sixth century BC. The excavators have related it to Parthenopolis, a city mentioned only by Stephanus Byzantius.

2.3.2.3. Cemeteries

The excavation of cemeteries provides evidence on the social structure and everyday life of the cities. Loom weights, lamps, terracotta figurines, cooking ware, fishing hooks and other implements for the mending of the fishing nets, and a variety of other artifacts reveal various aspects of everyday activities within the cities, while figurines of dancers and actors imply unknown aspects of life, like entertainment. On the other hand, cemeteries provide evidence on religious and burial customs. Similarities to the burial procedures of southern Greece reveal the close contacts of the colonies with the south, since the cemeteries of Halkidiki present the same characteristics and development. Inhumation of adults in pit- and cist-graves, clay or stone sarcophagi, inhumation of children in hydriae and amphorae and of adults in pithoi prevailed in the Archaic period. The burials contain many artifacts according to the social and economic status of the deceased and his family, his profession and social role: local pottery as well as vases and other objects imported from the eastern Mediterranean, Corinth and Attica, terracotta figurines, amulets, metal and glass vases and jewellery. Burials of children yielded many terracotta animal figurines and dolls. Burial monuments are rare. From the fifth century onwards, adults were often cremated in an oblong pit, while inhumation was used for children.

The excavation of the cemetery of Akanthos brought to light more than 13,000 burials dating from the seventh century BC to the Roman period. The graves are found in the sandy coast parallel to the sea with the head of the deceased facing eastwards. Children were buried in the same area with adults. The investigation yielded a few burial monuments, such as inscribed *stelai*.

The organisation of the cemetery of Mendi was different. Approximately 250 burials were excavated at the beach, in front of the modern Mendi hotel. The burials investigated so far were inhumations of infants in pots produced locally, dating from the eighth to the fourth century BC. The mouths of the pots face eastwards and are blocked by a stone slab or another smaller pot. The grave goods were placed inside the pot, mainly smaller vases such as aryballoi, kylices, etc.

A small part of the cemetery of Aphytis, located to the west of the ancient city, was excavated. The graves and the burial customs are similar. The excavation yielded a great number of artifacts that reveal the city's wealth, including a number of pieces of jewellery recalling the so-called "Macedonian bronzes".

The cemeteries of Scione, Aigi and Dikaia were also similar. The cemetery in Scioni was located north of the ancient city. A few sixth-century cist-graves lined with clay plaques were investigated and yielded abundant late sixth-century imported and local pottery, some jewellery, and figurines. At Aigi, the investigation of the cemetery yielded burials dating from the sixth to the fourth century. The graves belonged to various types: cist-graves, pit-graves covered with tiles, and infants buried in pots. Space for burial rituals, such as the construction of pyres, was left by the graves. Additionally, the cemetery of Dikaia yielded burials dating from the Early Iron Age to late Antiquity.

The excavation of the cemetery of Agia Paraskevi in the vicinity of Anthemous yielded different finds. The 500 graves that were investigated were covered with low mounds and were organised in parallel lines. They contained rich grave-goods, such as gold lozenge-shaped sheets that covered the mouth of the deceased, silver and bronze jewellery of the so-called "Macedonian bronzes", bronze and iron arms and weapons made locally, clay figurines and local and imported pottery. The finds present similarities to cemeteries of the Macedonian kingdom – such as the neighbouring cemetery of Thermi, of Nea Philadelphia and of Sindos – and suggest the existence of a flourishing community that enjoyed contacts with various areas of the Aegean (Ionia, Corinth, Attica, Chios, etc.) and had close relations with Macedonia.

2.4. Hellenistic and Roman Period

This era starts with the conquest of the autonomous cities of Halkidiki by King Philip II in the middle of the fourth century and ends with the prevalence of Christianity and the disruptive barbarian invasions. One of the most important events of the Hellenistic period is the founding of a political and economic centre, Cassandreia, by King Cassander in 316 BC. It is a period that also witnessed the founding of other Macedonian cities, such as Ouranidon polis, Antigoneia, Stratonikeia in the late fourth and the third century BC, the introduction of a new pattern of organisation for the countryside, and the defeat of the Macedonians by the Romans.

2.4.1. The Hellenistic Period

2.4.1.1. Cities

The anti-Macedonian Athenian orator Demosthenes recorded that King Philip II destroyed thirty-two Chalkidic cities. However, the results of recent archaeological research suggest that this was an exaggeration. As mentioned, Philip destroyed Olynthos and Stageira, but after a while he refounded the city of Aristotle. The other city-states remained as autonomous Greek *poleis*, probably free allies of Macedonia, and only eventually they were incorporated into the Macedonian realm. Large tracts of their territories were confiscated, some of which were annexed to the Macedonian territory and received Macedonian settlers. For instance, the valley of Anthemous was incorporated into the realm, but the city survived as an autonomous one and received Macedonian settlers. Macedonian colonists settled in Aineia too, as is suggested by archaeological research. Excavations have revealed that burial mounds dating to the third quarter of the fourth century BC belonged to prominent Macedonians. These mounds covered cist- and pit-graves that contained rich grave-goods.

The lands of many other cities were confiscated and converted into royal land. Kalindoia, Tripoai, Kamakai and Thamiskos were donated to "the Macedonians" and opened to colonisation, while Kalindoia was refounded as a Macedonian city, probably in 335-34 BC. The same fate awaited the cities of Vottici in central Halkidiki. Olynthos was destroyed, its inhabitants were enslaved and the land was converted into royal land. Part of it was donated by Philip II to high-ranking Macedonians (Diod. 16.53.3; Dem. 19.145). However, a few Olynthians survived after the war and occupied the north-western quarter of the city until the end of the fourth century, when they must have moved to Cassandreia. Sermilia suffered extensive confiscations, too. By contrast, Akanthos and the cities of Akti remained autonomous.

King Philip's policy towards the autonomous cities of Halkidiki is implied by excavations which show that during his reign life did not end, at least in the cities of Pallini. Houses and other buildings discovered at Aphytis were destroyed towards the end of the fourth century by an earthquake. The houses were rebuilt shortly after the destruction and were abandoned only later. A workshop dating from the fourth to the second century BC and located outside the city of Mendi survived also. One room dating to the fourth century was destroyed in the middle of that century, but it was reused during Cassander's reign. Furthermore, Stageira was destroyed, but refounded soon after by Philip II. It survived to the Hellenistic period, received colonists, and its acropolis was used by military troops as barracks. Likewise, a Hellenistic settlement with workshops has come to light at Mavrolakkas, not far from the ancient city.

The most important event for Halkidiki in the early Hellenistic period was the founding by Cassander in 316 BC of a large city at the isthmus of Pallini named after him, Kassandreia. It was founded as an independent city and Cassander assigned the

whole of Pallini and a large part of south-western Halkidiki north of the isthmus of Poteidaia to it. Poteidaia, the cities of Pallini, Olynthos, Sermylia, Strepsa, Sinos, Spartolos, and probably also the other minor Vottiaian cities, became *komai* (villages). Cassander's new city was autonomous with civic institutions. Archaeological research has brought to light only a small part of it, but the northern and the southern fortification walls have been located – the northern approximately 400 metres from the isthmus and the southern about two kilometres from it. The wall incorporated a huge area, including the former Poteidaia and the Archaic and Classical cemeteries.

Because of its strategic position, Kassandreia was to become one of the most prosperous cities of Hellenistic Macedonia, as is suggested by the finds of the excavations. A Macedonian tomb dating to about 300 BC and other simpler graves belonging to members of the same prominent Macedonian family were discovered at Petriotika, not far from the southern wall of the city. The Macedonian tomb was found looted, but it preserved two magnificent marble *klinai* (couches) with painted decoration, which most probably supported two ash-containers and other grave-goods. The *klinai* imitate wooden ones decorated with ivory and gold. Also, important cist-graves with wall paintings and rich grave-goods have been discovered in the area of Agios Mamas (in the vicinity of Kassandreia). Further away, a Macedonian tomb was excavated at Solenas, south of Kallithea. The mound and tomb were totally destroyed, but the foundation of the walls indicates its plan. The tomb was small with just one room, and remains of two marble *klinai* recall those from Poteidaia. The tomb probably dates to the late fourth century BC.

On the orders of his brother Cassander, Alexarchos founded the Ouranidon polis (the city of the children of Ouranos) at the isthmus of Akti. Only the perimeter of its fortification has been located. No remains of the city have been found, save for the sanctuary of Apollo that was part of the city of Sani and was incorporated into the newly-founded one. Part of the sanctuary has been excavated. The Archaic *oikos* of Apollo was repaired and used again and a *telesterion*, where Helios was worshipped, was built to the south-east of the *oikos*. The city struck coins showing a seated Helios and a star. However, it was abandoned in the beginning of the third century BC. Afterwards, Akanthos, which had remained an autonomous city all this time, became the most important centre of the area and a significant port throughout the Hellenistic period.

During the reign of Antigonos Gonatas in the beginning of the third century BC the policy towards Halkidiki changed and the whole area became part of Macedonia, indistinguishable from the rest. Antigonos founded Antigoneia on the western coast of the main body of Halkidiki and, either he or Dimitrios Poliorkitis, Stratonikeia on the eastern coast. Some scholars have suggested that Stratonikeia was the name of the refounded city of Stageira.

The Hellenistic cities had strong walls and large public buildings. However, people lived mainly in the countryside, which was densely organised with farmsteads and vil-

lages. Recent archaeological investigation has brought to light remains of big farmsteads of the first half of the third century BC, equipped with wells, workshops, periboloi to encircle or to divide production, and other structures. The economy was based on agriculture and trade. Wine was the most important product and pits opened for vines have been discovered in many areas of Pallini. A famous workshop for trade amphorae, the Parmeniskos group, was located at Mendi and in other areas of Pallini (Siviri, Paliouri, etc.). A great number of workshops producing trade amphorae have been investigated at Akanthos, dating from the beginning of the third to the first century BC, suggesting large scale trade of wine. Except for wine, the presence of oil presses denotes the production of oil, while the discovery of terracotta hives, stone mortars, etc. suggests the production of other agricultural products, too.

The first evidence on metalworking activities in the disputed area of Megali Panagia dates to the late third or the second century BC. There are only remains of pits and kilns, however, which provide evidence on the economy and the activities of this area in the Hellenistic period.

The Hellenistic age was a period of insecurity, invasions, and battles. Because of these, the Macedonians developed a defence system with towers (*Phryktoria*) and fortified small settlements, probably inhabited by soldiers. Three such towers on the hills of Pallini, overlooking the Aegean, have been so far located. One is being excavated at Kounouklia of Agia Paraskevi on the southern coast of Pallini, while there is evidence on the existence of similar ones on Mount Arapis, near Paliouri, and on Lekani, a plateau near Fourka. These towers are all square in plan and two-storied, and similar ones probably existed in Sithonia, Akti, and the hinterland. Two fortified settlements discovered at Solenas, Kallithea and on the mountainous area of Polychrono belonged to the same system. The settlement of Solenas was probably inhabited by soldiers, as was the fortified acropolis of Stageira.

2.4.1.2. Cemeteries

No well-organised cemetery has been discovered. At Akanthos the Hellenistic burials are found dispersed among the earlier and the later ones in the same cemetery. The grave types and burial customs do not differ, implying a more or less stable population number. On the other hand, the few Macedonian tombs that were discovered only in the area of Cassandreia suggest the installation of Macedonians in the new economic and political centre. Likewise, the burial mounds of Aineia also imply Macedonian colonisation of the area.

2.4.1.3. Sanctuaries

Only the sanctuary of Zeus Ammon survived in the *chora* of Cassandreia and the sanctuary of Apollo–Helios in *Ouranidon polis* until the beginning of the third century, when the city came to an end.

2.4.2. The Roman Period

In the immediate aftermath of the battle of Pydna in 168 BC the Romans conquered Macedonia. Few Romans inhabited the area of Cassandreia. However, according to the archaeological data, it seems that during the second and first century BC the countryside fell into decline and was depopulated. It is only in the first and second century AD that there are signs of prosperity again in Halkidiki. The most important events of this period are the second Roman colonisation of Cassandreia after 30 BC and the founding of Colonia Julia Augusta Cassandrensis.

2.4.2.1. Cities and Sites

After the defeat of the Macedonians, Halkidiki was annexed to the Roman Empire and became part of the province of Macedonia. Cassandreia remained the economic centre, a free city with the privilege to strike coins (Prokop. *Pers.* 2.4). Roman merchants and soldiers had settled in Cassandreia and Akanthos and in the first century BC made up the colony of Cassandreia, Colonia Julia Augusta Cassandrensis. A second colonisation took place under Augustus, who distributed lands to poor Italiotes and war veterans. The city struck coins with the head of Zeus Ammon, the god worshipped in the nearby sanctuary. Cassandreia was destroyed in the sixth century AD by the invading Huns.

Kalindoia also became a very important city and flourished in the first and second century AD, possessing a gymnasium and other public buildings. Recently a significant sanctuary for the imperial cult, the *Sevasteio*, has been excavated on the site and a superb sculpture, inscriptions and coins of the Imperial era have come to light.

The Italiotes who colonized Cassandreia inhabited the city and the countryside, which had been depopulated. They lived together with the local population and revived agricultural production and trade. The whole of Halkidiki is full of sites located by surveys in the countryside; at Sani, Athytos, Polychrono, Chanioti, Pefkochori, Paliouri, Cassandreia, Toroni, Trypiti, etc. They date to the Imperial period, after the settling of the Italiotes, who put an end to the decline of the population and the economy. They built villas with mosaics, baths and painted walls, which served as centres for the exploitation of large estates (*villae rusticae*). The kilns located by the sea are characteristic features of this era. None has been investigated, but their location by the sea does imply trade.

2.4.2.2. Cemeteries

A few cemeteries of this period have been investigated. They all date from the second to the fifth century and contain various types of graves, cist- and pit-graves, pit-graves covered with tiles, stone sarcophagi and graves cut into the soft rock with inhumations. Adults are buried with children in the same cemetery and quite often at

the same grave, where one finds earlier and later burials together. The grave-goods are simple vases, other artifacts and jewellery. Rarely there are grave *stelai* or altars.

2.4.2.3. Sanctuaries

The excavation of the *Sevasteio*, the sanctuary of the imperial cult, at Kalindoia brought to light superb sculpture finds, inscriptions and coins of the Imperial times.⁸² The other sanctuary that was in use was that of Zeus Ammon and Dionysos. The temple was repaired and the sanctuary was adorned with new structures and buildings built to meet new cult needs, like the two parallel buildings in front of the eastern entrance of the temple, which accommodated seats for the spectators who attended religious activities in front of the temple. A bath was also built in the second century in the sanctuary, which survived until the fourth century. It consists of the standard three rooms (*frigidarium*, *tepidarium*, *caldarium*), a changing room and a swimming pool. After the destruction of the sanctuary in the early fourth century, a water mill was built there to take advantage of the force of the water.

3. Identities in the Halkidiki Landscape

3.1. General Remarks

Definitions of community are extremely problematic and have been the subject of debate in social sciences. Certain criteria were employed for all these definitions, such as common interests, the role of ecology or social structure, and an essential commonality. Nevertheless, notions of community have changed, based on the various functionalist and structuralist approaches. Anthony Cohen has argued that community should be seen “firstly as a symbolic construct and a contrastive one, and secondly as a product of the situational perception of a boundary dividing one social group from another”. For Cohen, the very existence and consciousness of boundaries play a valid role to the awareness of community.⁸³ However, only recently landscape has been taken into account regarding the formation of boundaries (physical or subjective) and communities. Since community is a term that both sustains diversity and expresses commonality, its members are related by their perception of these commonalities and, equally, are differentiated from other communities and their members by these relations and the patterns

⁸² Kostas Sismanidis, “Naos autokratōrikis latreias sta archaia Kalindoia” [Temple of Imperial Worship at Kalindoia], *AEMTh*, 17 (2003), 143-52; *id.*, “I synecheia tis ereunas sto Sebasteio ton Kalindoion” [Follow-up Excavation at Sebasteion, Kalindoion] *AEMTh*, 18 (2004), 213-24; *id.*, “Sebasteio Kalindoion: Estiaseis kai evochies”, [Sebasteion of Kalindoion: Dining and Wining] *AEMTh*, 19 (2005), 145-56; *id.*, “O choros E sto sygrotima tou Sebasteiou ton Kalindoion”, [Room E in the Building Complex of Sebasteion at Kalindoia] *AEMTh*, 20 (2006), 249-62; *id.*, “I mechri tora anaskaphiki ereuna sta archaia Kalindoia”, [Excavation Conducted so far at Ancient Kalindoia] *AEMTh*, epeteiakos tomos (2009), 317-28.

⁸³ See, *e.g.*, the book by Anthony Cohen, *The Symbolic Construction of Community*, London: Tavistock Publications, 1985.

of association to which they give rise.⁸⁴ Does landscape play a role in the formation of these commonalities? Absolutely, as the relation between people's actions and the landscape is closely linked.

Catherine Morgan has maintained that in its ancient Greek context community is "an innocent definition of a group with which individuals identify, resting on and reflected in factors such as shared residence, cult, or subsistence needs. A community is thus an entity that implies at once perceived similarities and differences and thus has clearly recognized boundaries".⁸⁵ Morgan made clear that we are dealing with groups that may define themselves in more than one way. Community is strongly related to the Greek terms *polis* (city-state) and *ethnos* (*ethne* in plural = people). Besides its political sense, *polis* covers a variety of usage.⁸⁶ All these usages apparently share the common denominator of the sense of a number of people living together and acting together. While *ethnos* has a similar meaning, it refers to cultural, rather than biological or kinship differences. As groups of men and women interpret and express their collective experiences, these interpretations and expressions cohere into cultural practices and attitudes over time, which are then handed onto the next generations, which modify them according to their own experiences and interactions. The continuity and survival of these ethnic dimensions of communities are key elements underpinning the formation of nations in the modern era. In fact, some scholars have studied the rise of contemporary nations in the context of their ethnic background. Nevertheless, the complexity of ancient Greece does not permit such analysis.

In recent years the nature and role of ethnic expression in Greek Antiquity have been among the most debated topics among both archaeologists and historians. One conclusion of these debates is that it is essential to gauge the contextual complexity of this topic. Every ancient Greek belonged to a multiplicity of groups, which included the family and household; the neighbourhood or village; the military unit; the community and its political subdivisions. The meaning of *ethnos* ranges across these diverse social subgroups. As a result of this complexity, what is required is a systematic analysis of everything in the available documentation that pertains to ethnic consciousness. The importance of this question cannot be overstated. It provides a crucial new dimension to the process of defining ethnic communities. And, from this aspect, landscape cannot but be a crucial factor in this process.

An ethnic landscape represents a collective perception of identity and can be reconstructed through the study of literary sources, archaeological evidence, and other

⁸⁴ Nigel Rapport & Joanna Overing, *Social and Cultural Anthropology. The Key Concepts*, London: Routledge, 2000, pp. 62-3.

⁸⁵ Catherine Morgan, "Ethne, Ethnicity and Early Greek States, ca. 1200-480 B.C.: An Archaeological Perspective", in I. Malkin (ed.), *Ancient Perceptions of Greek Ethnicity*, Cambridge MA: Harvard University Press, 2001, p. 77.

⁸⁶ Catherine Morgan, *Early Greek States beyond the Polis*, London: Routledge, 2003, p. 12.

evidence that belongs also to the field of environmental archaeology. According to Gabriella Cifani, "within the huge literature on how to define ethnicity, we can [...] trace two main approaches. The first one is the physical approach, which tends to define communities by means of their physical attributes, geographical distribution and the effects of weather on behaviour and culture. [...] The second approach is cultural and idealistic which focuses on the customs, language and culture to investigate an ethnic group".⁸⁷

Additionally, according to cultural anthropologists, we can trace four characteristics that contribute to an overall definition of an ethnic group: the *epos*: the feeling of identity within a community and its cultural memory; the *ethos*: the sharing of moral values; the *logos*: the common language or languages inside a group; the *oikos* or *topos*: the territory where a community is based. The methodology used for such a study lead us to follow a multidisciplinary approach which can be traced in five kinds of data: literary sources, epigraphic evidence, burial customs, material culture, and the spatial organisation of territories.⁸⁸ Thus, the articulation of time and change of a past landscape was based on Braudel's theory through which three different domains – landscape, social structure and events – should be observed. However, many landscape archaeologists take a step beyond Braudelian or processualist approaches.⁸⁹

Especially, as far as Halkidiki's habitation is concerned, the interaction between the place (environment) and the settlers (humans) leads us to focus on an overall study of the region. Archaeology, zooarchaeology, geology, geoarchaeology, history, ecology, anthropogeography, archaeobotany are the main domains on which we rely for a paleoenvironmental reconstruction. However, the ethnic landscape is also vital for the reconstruction of the past and we think it is an important aspect for the present paper.

3.2. The Case of Halkidiki

The study of the characteristics of the identity of the first settlers in Halkidiki and the external factors that probably influenced their identity (e.g., their interaction with indigenous people as a result of trade activities) will allow us to describe the progressive development of an ethnic group since the time of Halkidiki's colonisation. The phenomenon of ethnicity has its roots in Antiquity, even though the term was applied for the first time in 1953. In Greek historiography, the term *ethnos* was used extensively by Herodotus. Not only *ethnos* but also *genos* was a term used for the definition of a tribal subdivision of *ethnos* and *syngeneia*, which referred to those belonging to the same

⁸⁷ Gabriella Cifani, "Approaching Ethnicity and Landscapes in Pre-Roman Italy: The Middle Tiber Valley", in Cifani & Stoddart, *op.cit.*, p. 144.

⁸⁸ *Ibid.*, pp. 145-6.

⁸⁹ Burgers, *op.cit.*, p. 64.

genos – whether biologically or not.⁹⁰ Additionally, Herodotus defines *Hellenicity* as a feature that emerges among people with the same blood, language, cults, sacrifices and culture (8.144.2). However, as Jonathan Hall has pointed out, *Hellenicity* is defined “oppositionally” through differential comparison with a “barbarian” group. Thus, Greek identity should be studied in terms of similarities within the same group but also in terms of the perceived differences with a “barbarian” group that expresses its own specific stereotypes.⁹¹ On the other hand, archaeological excavations provide information on special features of an ethnic group. For example, the type of vessels and its decorative styles, the consuming of flora and fauna, the architectural motifs, and the burial customs indicate the preferences of a population group living in the same region.⁹²

3.3. The Literary Evidence on “Thrace” and “Thracians”

3.3.1. The Archaic Period

We will not present in detail the citations in epic poems or in Archaic literature of the terms “Thrace” or “Thracians”, a task already undertaken by other scholars. Through the study of all the literary citations on Thrace and/or the Thracians, an attempt will be made to give the best possible picture of how down to the end of the sixth century (and, accordingly, Herodotus’ predecessors) the Greeks saw the inhabitants of this area in general and Halkidiki in particular, as well as themselves. In other words, we will seek to show whether (and, perhaps, how) the differences between Greeks and barbarians were depicted in the literary sources and the historiography of the period. It is generally accepted that Greek writing about barbarians was usually a portrait of self-definition, for the barbarian is often portrayed as the opposite of the ideal Greek.⁹³ In this respect, we investigate oral traditions that shaped all pre-Herodotean knowledge, a need that has already been noticed.⁹⁴

The examination of the pertinent fifty-one citations in epic poems and Archaic literature⁹⁵ has helped us to reach certain conclusions. These could be summarised as follows: a) No Thracian is ever mentioned as “barbarian”, although the word was

⁹⁰ Jonathan M. Hall, *Ethnic Identity in Greek Antiquity*, Cambridge: Cambridge University Press, 1997, pp. 34-7.

⁹¹ Jonathan M. Hall, *Hellenicity: Between Ethnicity and Culture*, Chicago: The University of Chicago Press, 2002, pp. 179-80.

⁹² *Ibid.*, p. 111.

⁹³ Edith Hall, *Inventing the Barbarian. Greek Self-Definition through Tragedy*, Oxford: Oxford University Press, 1989, p. 1.

⁹⁴ Nino Luraghi (ed.), *The Historian's Craft in the Age of Herodotus*, Oxford: Oxford University Press, 2001, p. 15.

⁹⁵ Found in Homer (10), the Homeric Hymns (2), Hesiod (2), Archilochus (2), Simonides (2), Hipponax (2), Xenophanes (1), Anacreon (4), Ibycus (1), Semonides (2), Pindar (2), Tyrtaeus (1), Hellanicus (12), Hecataeus (1) Pherekydes (7).

known since Homer; b) Usage of the term *Thrace* has basically a geographical meaning, despite the fact that the land was not yet fully exploited by the Greeks.⁹⁶ Hecataeus writes about Therme that is *Ἑλληνων Θρηίκων πόλις*, the term *Θρηίκων* being geographical. It is a place where one could find fine horses⁹⁷ or a place well known for its good wine.⁹⁸ It is difficult to detect an ethnic differentiation between Greek colonists or Greeks and Thracians, as far as the fragmentary Archaic literature is concerned. The “ethnic” sentiment of the Greeks, which naturally grew during the colonisation, had not yet reached the level where it could easily be directed against peoples who lived in the newly discovered areas of the northern Aegean.

3.3.2. The Classical Period

The representation of the Thracians and their land in Greek historiography of the Classical period can be found in the complete or fragmentary literary works of the period from the end of the sixth century to the mid-fourth century BC. An important parameter in the formation of the Greek (especially the Athenian) image on the Thracian tribes and the differentiation between Greeks and barbarians was – again – the colonisation of the region. Furthermore, the Athenian ideology that was developed after the Persian Wars and can be clearly seen in the work of Thucydides was another criterion for the development of the Greek perception of the Thracians. Finally, as regards the specific Thracian “nation”, one should consider the lack of written evidence on the part of the Thracians themselves, a major problem for the understanding of their self-perception. Therefore, since the works of Herodotus and Thucydides comprise our main sources for the period, it is important to remember that these identities were attributed to the Thracians from the Greeks, and especially the Athenians. This restriction, combined with other parameters such as the Athenian political pursuits in the Thracian region in particular and the North Aegean in general, proved to be decisive.

Historians of this era shared a critical view towards the Thracians, largely differentiated from that of the poets. They sought to rely on observation and recording in order to achieve an “objective” result. Hecataeus of Miletus is the first to unite in his fragmentary work many of these new characteristics. As far as the term *Θράκες* is concerned, one cannot reach concrete conclusions other than to note that by using this term he meant the inhabitants of a specific area, despite their ethnic origins. For Hecataeus, Thrace was a region inhabited by different population groups – including Greeks. That he did not consider the region named *Θράκη* as an ethnological entity is shown by the parallel use of the terms *Θράκες* and *Ἕλληνες Θράκες*.

In Herodotus’ *Histories*, the Thracians are treated, from an ethnographical point of view, as a single entity. In the short introduction of his main Thracian excursus, He-

⁹⁶ E.g., Acousilaus 1a 2, Fr 30.5; Anacreon, *Fragm. Eleg.* 5. 1; Ibycus 5.9 and 2.1.10.

⁹⁷ Hesiod, *Opera* 507.

⁹⁸ Pindar, *Fragm. Paian.* 52b· 95.

Herodotus refers to the “nation of the Thracians” (*Θρηίκων ἔθνος* (5.3.1), which he clearly considers to be barbarian. In the works of Thucydides we find only two references regarding the cultural inferiority or the barbarous character of the Thracians. He is far from characterising them explicitly as barbarian, although he had many opportunities to do so given that the Thracians’ practices (e.g., the existence of kingship in the Odrysians) differed from the Athenian cultural and political model.

The differentiation between Greeks and barbarians during the fourth century BC was based on cultural grounds and, as already mentioned in the case of Thucydides, was still Athenian-centred. This is also highlighted in Isocrates’ *Panegyrikos* speech (50), where the orator emphasises the cultural superiority of those who have been educated the Athenian way. Similar opinions about the cultural superiority of the Greeks are found also in Xenophon’s *Anabasis*, a work of Isocrates’ contemporary historian. The fragmentary works of Theopompus and Ephorus do not enable us to have a clear picture of how the Thracians were represented by them. One can trace the extensive use of myth in the works of both these historiographers. The term Thrace has a geographical meaning, while some comments on Thracian behaviour indicate that they were treated as barbarians.

3.3.3. The Hellenistic Period

The cultural transformation of the barbarians into *Hellenes* was not merely a theoretical ideal. Diodorus asserts (for his own reasons, of course, that we cannot analyse here) that the indigenous populations of Sicily had already started to speak Greek and to adopt Greek customs. Hellenism was not altered in this new context of the Hellenistic world. Education continued to be the undisputed tool for the dissemination of Hellenism to all those peoples who could accept it. Moreover, this culture was still determined by Athenian-centred criteria. For the historians of the Hellenistic period the Thracians remain a peculiar national mixture: foreign and familiar at the same time, barbarians, but not as those peoples living at the periphery of the civilised world. The political developments that previously had shaped the context of perception (particularly on the part of the Athenians) were not applicable anymore. The new situation, which arose after the death of Alexander and the coming of Rome in the East, did not favour aphorisms or agreements regarding the barbarians.

3.4. *Χαλκιδικόν γένος, ἐπί Θράκης Χαλκιδεῖς* and Other Problems

We have seen the various meanings of the term Thrace in the literary sources, ranging from the Archaic to the Hellenistic period. There was no specific name in Antiquity to denote the whole of the Chalkidic peninsula. The earliest evidence on the name and inhabitants of Halkidiki dates to the sixth- fifth century BC. The peninsula did not have a specific name and, according to Herodotus and Thucydides, it was called “Cher-

sonesos" (peninsula), or *ἡ ἐν Θράκῃ χερρόνησος* (the peninsula in Thrace).⁹⁹ Closely connected to the use of this term is another one, namely the term *ἐπὶ Θράκης* ("Thraceward") *Χαλκιδεῖς*, which is found in our sources. Thucydides makes use of it already in his first Book, when writing about the events at Potidaia.¹⁰⁰ A scholiast on Thucydides gives the interpretation that these were colonists from Euboea.¹⁰¹ In his *Politics*, Aristotle mentions a certain Androdamas who made a legal code for the Thraceward Chalkidians,¹⁰² while Strabo seems to agree with the above mentioned scholiast.¹⁰³ Finally, Stephanus from Byzantium, when referring to the twenty-second Apollonia he had recorded, writes that this was *τῶν ἐπὶ Θράκης Ἴωνων, ἣν Δημοσθένης φησίν*.¹⁰⁴ Nicholas Hammond had reached the conclusion that the term *ἐπὶ Θράκης* "covered the coastal area of the Chalkidic peninsula, extending from the east coast of the Thermaic gulf south of Crousis to the west of the Strymonic gulf", and that it referred to the Chalkidians who inhabited these areas.¹⁰⁵ However, it was not a term applied to all the inhabitants of these areas but apparently only to the "Chalkidians", since Hellanicus did not use it in his work when referring to the people (*ethnos*) of Crousis, whom he called a Thracian tribe (*ethnos*).¹⁰⁶

Thucydides used the name "Halkidiki" to denote the area north of Potidaia to the direction of Olynthos (Thuc. 1.65.2). It was used for the whole peninsula only from the second century AD onwards. There are different views about the origins of the name Halkidiki: Following Polybius, one view relates the name to colonisation and suggests that the area was named after settlers from Chalkis of Euboea.¹⁰⁷ Another suggests that the area was named after the *χαλκιδικὸν γένος* (*Chalkidic tribe*) recorded by Herodotus (Hdt. 7.185), a Greek tribe that settled in Halkidiki during the migrations of the second millennium.¹⁰⁸ A third combines the former two views, arguing that during the migrations of the tribes in the second millennium a Greek tribe from Chalkis settled in Sithonia and the coasts of the two gulfs on either side of it. The relations of the colonies with

⁹⁹ Michael Zahrt, *Olynth und die Chalkidier*, München: C.H. Beck Verlag, 1971, pp. 4 ff; cf. Pernille Flensted-Jensen, "The Chalkidic Peninsula and its Regions", in P. Flensted-Jensen (ed.), *Further Studies in the Ancient Greek Polis*, (CPCP 5 – Historia Einzschriften 138), Stuttgart: F. Steiner Verlag, 2000, p. 122 (n. 3).

¹⁰⁰ Thuc. 1.56.2; 57.5; 59.1; 60.3; 68.4.

¹⁰¹ *Scholia In Thucydidem*, 1, 57, 5: <τοῖς ἐπὶ Θράκης Χαλκιδεῦσι:> εἰσὶ γὰρ καὶ ἐν Εὐβοίᾳ Χαλκιδεῖς, οἵπνεες ἀπώκησαν εἰς Θράκην.

¹⁰² Arist. *Pol.* 1274b, 23-24.

¹⁰³ Strabo, *Geographica* 7a, 1, 11.

¹⁰⁴ Stephanus, *Ethnica*, p. 106, line 13.

¹⁰⁵ Nicholas G.L. Hammond, "The Chalcidians and 'Apollonia of the Thraceward Ionians'", *ABSA*, 90 (1995), 307-8.

¹⁰⁶ See also Nicholas G.L. Hammond, *A History of Macedonia*, vol. 1, Oxford: Clarendon Press, 1972, p. 187.

¹⁰⁷ Frank W. Walbank, *A Historical Commentary on Polybius*, vol. 2, Oxford: Oxford University Press, 1984, p. 164.

¹⁰⁸ E. Harrison, "Chalkidike", *The Classical Quarterly*, 6 (1912), 93-103; Ulrich Kahrstedt, "Städte in Makedonien", *Hermes*, 81 (1953), 85-7.

Chalkis and Eretria, the linguistic similarities between Chalkis and Halkidiki, and the archaeological evidence (imported Proto-Geometric and Geometric pottery from Euboea, similarities in architecture, etc.) suggest that an Ionian tribe from Euboea settled in the second millennium and Chalkis and Eretria founded new colonies later during the second Greek colonisation.¹⁰⁹ The absence of a founding year for the colonies of Halkidiki supports this suggestion. Finally, according to others, the name Halkidiki is related to the Greek word *Chalkos*, which means copper. We do know a settlement named Chalki (*Χαλκίς*). It is mentioned by Stephanus Byzantius (685.2-5), who is our only source and places it on Mount Athos. However, Eudoxos (fr. 309, Lasserre) was certain that this was the name of a gulf, not a settlement.¹¹⁰ If this was the case, then perhaps the name was derived from the specific metal, which is abundant in the area.

Geographically, Halkidike was divided in four different geographical entities: The first one was called Crousis, being the western coast of the Chalcidic peninsula. In the literary sources one can find the terms *Κροσσαίη* (Hdt. 7.123.2) or *Κρουσίς γῆ* (Thuc. 2.79.4; cf. Strabo 7, fr. 21: *Κρούσις*). In his description of Xerxes' invasion of Macedonia in 480 BC, Herodotus states that there were seven *poleis* in the area of Crousis, with Aineia being relatively known (the others were Gigonos, Haisa, Kampsa, Kombreia, Lipaxos, and Smila).¹¹¹ The people originally living there are named *Κρουσαῖοι* in the sources and they were considered to be a Thracian tribe.¹¹² One cannot know whether these "were Hellenised relatively early",¹¹³ as was the case with the neighbouring Bottiaei.

The second area was Vottiki (*Βοττική* - Thuc. 1.65.2) to the east of Krousis. The name derived from the ethnic *Βοττιαῖος* (Hdt. 8.127). When the Macedonians conquered Vottiaia in central Macedonia sometime in the seventh century BC (Hdt. 8.127; Thuc. 2.99.3), they expelled its inhabitants who resettled in the central part of the Halkidiki peninsula. The new place took the name Vottiki in order to be distinguished by Vottiaia and also to highlight the fact that it was the region inhabited by the Vottiaians. Thucydides informs us that in his times Spartolos was their main *polis*.¹¹⁴ There were approximately between six and twelve Vottiaian *poleis* (Aioleion, Kalindoia, Kamakai, Kithas, Pleumi, Prasilos, Sinos, Spartolos, Tindi, Tripioai). It is also interesting that Herodotus (8.127) includes also Olynthos among the originally Vottiaian communi-

¹⁰⁹ Miltiades B. Hatzopoulos, *Actes de vente de la Chalcidique centrale*, Athens: de Boccard, 1988, p. 40-3; Selene Psoma, *Olynthe et les Chalcidiens de Thrace*, Stuttgart: F. Steiner Verlag, 2001, pp. 20-1.

¹¹⁰ See Flensted-Jensen, "Thrace", p. 831.

¹¹¹ *Ibid.*, nos. 557, 572-3, 577, 581-2, 611 respectively.

¹¹² Hecataeus, *FGrHist* 4, F 31; cf. Dionysios of Halikarnassos, *Ant. Rom.* 1.47, 49.

¹¹³ As suggested by Flensted-Jensen, *op.cit.*, p. 811.

¹¹⁴ Thucydides 2.79; see also the Athenian tribute lists (e.g. *IG*¹ 277, 15).

ties,¹¹⁵ but we think this was due to his sources and does not correspond to historical reality.

Halkidiki was next to the east of Vottiki. The name of the region was *Χαλκιδική* (Thuc. 1.65.2). Although Herodotus (7.185) calls its inhabitants τὸ *Χαλκιδικόν γένος*, Thucydides and Diodorus call them *οἱ ἐπὶ Θράκης Χαλκιδεῖς* (Thuc. 2.79.1; Diod. 12.50.3), which makes one wonder if they refer to the same people. What cannot be questioned is that as Halkidiki one should denote the area inhabited by the *Χαλκιδεῖς*. It has been suggested that Halkidiki should be placed in the area north of Sithonia.¹¹⁶ However, one cannot tell for sure its exact borders nor which towns were considered to be *Χαλκιδικαί*.¹¹⁷ Thucydides (1.58, 62-63) informs us that in 432 the Chalkidians decided to leave their numerous *poleis* that were situated along the coast and create (through a synoecism) a strong *polis*, namely Olynthos. This is perhaps another indication that the interior of Halkidiki was not easily accessible. The evidence in the literary and epigraphic sources shows that the Chalkidians had some kind of common political organisation, thus having by the fourth century a federal state, with common laws and citizenship and a federal army.¹¹⁸ Save Poteidaia (Xen. *Hell.* 5.2.15), we do not know which cities were members of the Koinon, but it must have included many and quite rich, since there is numismatic evidence that civic mints coexisted along with the "official" mint of the Federation. Also, it is Xenophon again (*Hell.* 5.2.16) who says that "the Federation had revenues from many harbours and *emporía*".

The fourth entity consisted of three prongs (Pallini, Sithonia and Akti) they had settlements of various populations. For example, in Pallini Poteidaia was a colony of Corinth (Thuc. 1.56.2), Mendi a colony of Eretria (Thuc. 4.123.1), Neapolis a colony of Mendi (*IG* I³ 263, iii. 26-27), while the inhabitants of Skioni claimed their origins from Achaia (Thuc. 4.120.1). In Akti, Sani may have been a colony of Andros (Thuc. 4.109.3), whereas the other five *poleis* had a mixed, bilingual population (Thuc. 4.109.3). Sithonia is more difficult to define as regards the populations of its settlements.

Until the mid-fourth century BC, the Halkidiki peninsula was a region inhabited by southern Greeks, Macedonians and probably also various Thracian people (Thuc. 4.109). There were only a few large and well-known *poleis* and a large number of smaller ones. In many cases these settlements were situated within a few kilometres of each other. Halkidiki seems to have been a melting-pot for various *ethne* and this is

¹¹⁵ See Flensted-Jensen, *op.cit.*, nos. 558, 575-6, 579, 595, 599, 606, 612, 619, 621 respectively, and *id.*, "The Bottiaians", pp. 103-32.

¹¹⁶ Harrison, *op.cit.*, p. 96.

¹¹⁷ Flensted-Jensen "Thrace", p. 811.

¹¹⁸ For references, *ibid.*, p. 812.

clearly depicted in Thucydides. His account of Vrasidas' expedition in the Halkidiki peninsula (4.109.1) records that it was:

A peninsula which runs out from the canal made by the Persian King, and culminates in Athos, a high mountain which projects into the Aegean sea. The cities on Akti include Sani, an Andrian colony [... and] the others are Thyssos, Kleonai, Akrothooi, Olophyxos, and Dion. These are inhabited by a mixed population of barbarians, speaking Greek as well as their own language. A few of them are from Euboean Chalkis, but most are either Pelasgians (descended from the Tyrrhenians who once inhabited Lemnos and Athens) or else Bisaltians, Krestonians or Edonians. They all live in small citadels.¹¹⁹

It has been argued that in this passage Thucydides emphasises the linguistic criterion, which was not of great importance to him.¹²⁰ His use of the word *diglosson* (speaking two languages) should be interpreted as meaning speaking Greek and non-Greek languages. One important reason for this linguistic condition was the fact that these barbarian cities were established on the site of previous Greek settlements in the area.¹²¹ It has also been suggested that Thucydides' intention was to state that in his days a homogenous population, whether of Greeks or barbarians, no longer existed. It is impossible to move beyond speculations such as these regarding Thucydides' goals. Although this passage reveals little about his specific view of the people there, it nevertheless gives an impression of the contemporary Athenian perception of the whole area. Perhaps the explanation for his use of the term *barbarians* may be found in this interaction of *ethne*. It would not seem fanciful to suggest that the answer to these questions may be found in this colonial context, which was a stage for acting out conflicts and competitions between local barbarians and the various Greek communities.

4. Final Remarks

Throughout Halkidiki, the consistency of the settlement pattern is definite. One can find strong walls on certain places, an indirect implication of a defensive position. However, in cases where the natural location itself is not as strong, settlements needed these walls so as to survive. It has been argued that in Halkidiki houses seem to have followed the typical central Greek patterns.¹²² The apsidal buildings found at Koukos (dat-

¹¹⁹ Translated by Simon Hornblower, *A Commentary on Thucydides*, vol. 2, Books IV-V.24, Oxford: Clarendon Press, 1996, pp. 345-6.

¹²⁰ Bernhardt Funck, "Studie zur der Bezeichnung βάρβαρος", in E.C. Welskopf (ed.), *Soziale Typenbegriffe im alten Griechenland und ihr Fortleben in den Sprachen der Welt*, vol. 4, Berlin: Akademie Verlag, 1981, p. 39.

¹²¹ Arnold W. Gomme, *A Historical Commentary on Thucydides*, vol. 3, books IV-V24, Oxford: Clarendon Press, 1966, pp. 588-9) argues that these were foreigners who spoke Greek as well as their own tongue and were not completely Hellenised.

¹²² Morris, *op.cit.*, p. 47.

ing from the tenth and ninth century BC) seem to support this argument, although we also do find rectilinear houses, as those at Sani (dated in the seventh century). The variety is supplemented by sixth-century houses (Tragilos, Mendi).¹²³

However, the natural environment was pivotal to the regularity of the settlement pattern. In the Halkidiki peninsula it seems that each environmental unit resembles that of a neighbouring territory. Big or small rivers and foothills seem to mark boundaries between the settlements' regions. More or less, agriculture, grazing and viniculture were feasible, either as sole activities or combined. The area of these environmental units did not vary that much, with the exception of central places in the fifth and fourth century, such as Olynthos, Akanthos, Poteidaia, and Cassandreia. The human impact on the environment could also be seen in the formation of ancient field borders for agricultural purposes, and the development of ancient roads for communication and transportation purposes.

Still, there is a lot of work to be done. Halkidiki provides us with little or no evidence at all regarding the interaction between the people and the environment in early Antiquity, and with only some hints for the Roman period. A number of questions arise. What were the ways in which different people in different periods engage with the land? How did the environment play a crucial role in the emergence of the settlements? Were there local conflicts regarding water resources or the use of fields for agriculture or pasture? The answers to these questions may be found through the detailed examination of the data collected in this programme, thus ending a *desideratum* of the pertinent research.

¹²³ *Ibid.*, p. 87 (n. 81 for references).

The Rivers of Halkidiki in Antiquity

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The land of Macedonia is blessed with a number of big rivers: Haliacmon, Loudias, Axios, Gallikos and Strymon. In the centre of Macedonia lies Halkidiki, this peculiar peninsula extended south of the imaginary line formed by the Thermaic Gulf, the Strymonic Bay and between them Lakes Koroneia and Volvi, before ending into three smaller peninsulas – Kassandra, Sithonia and Athos. Between the big rivers of Axios and Gallikos in the west and Strymon in the east, Halkidiki gives the impression that it lacks remarkable rivers, which results in its particularly clear seas. However, in its main part there are many smaller rivers that were recorded even during Antiquity by authors for various reasons. The rivers of Halkidiki mentioned in ancient sources and inscriptions are Chavrias, Olynthiacos, Ammitis, Anthemus, Richios, Sandanos, Psychros, Manis, Petariskos and Smeilodis.

The writing of this chapter¹ was triggered by a contradiction concerning Chavrias, one of the major rivers of Halkidiki: nowadays, Chavrias, also called Ormylia's River, is the biggest river of the region that springs from Mount Cholomonadas, crosses central Halkidiki and flows into the Toronaic Gulf. However, the only ancient source citing this river, Ptolemy's *Geography* (3.12.10), locates it definitely further to the west and flowing into the Thermaic Gulf. In cartography Chavrias flows either into the Thermaic or the Toronaic Gulf, or in some cases even into the Singitic Gulf. What is the reason for this contradiction? Which river is actually Chavrias and which are the rivers that occasionally "usurped" its name? This question led me to a comprehensive analysis through time of the rivers of Halkidiki from the first references in ancient sources to their depiction in the old European post Ptolemaic maps and the references by contemporary travellers of Halkidiki. This study showed that it is not only Chavrias but many of Halkidiki's rivers that have fallen victims of misun-

¹ I am indebted for this chapter to various people whom I wish here to thank. Dr I. Papaggelos, with a deep knowledge of Halkidiki, taught me much during our conversations, and was always willing to help. Mr S. Demertzis and Professor A. Garyfallos, with touching enthusiasm allowed me to study the maps of their rich collections, take photographs of them and shared with me many of the secrets of paleocartography. The material used here comes almost exclusively from their maps. Dr S. Akrivopoulou shared with me her thoughts about two of the rivers mentioned here.

derstanding. Let us now examine each of Halkidiki's rivers separately, in the chronological order in which they first appear in the ancient sources.

1. Psychros (Ψυχρός)

Psychros is mentioned only once, by Aristotle in the fourth century BC (*Hist. Animal.* 519a.9-16): it was named Psychros (cold in Greek) due to its very cold waters, which had as a consequence that the sheep that grazed on its banks gave birth to black lambs. This is a unique and quite interesting observation, especially since it is narrated by a distinguished philosopher and scientist. However it is obvious that this phenomenon could not have occurred. Apparently, Aristotle heard it as a widespread rumour probably linked with a local legend. It raises questions as to how he adopted it so easily, especially since his birthplace (Stagira) was located only a few kilometres north of the river. Psychros crossed the area Assyritis of "Halkidiki on Thrace" and flowed into the Singitic Gulf. This area probably extended around the city of Assa (Herod. 7.122), which could be Cassera of Pliny (*N.H.* 4.17).²

It is surprising that the river does not at appear on European maps save for that of the distinguished German cartographer H. Kiepert, *Thessalia, Epeiros und Macedonia*, 1849 (Fig. 1). The river however did not go unnoticed by European travellers. In 1862 the French Th. Desdevises-du-Dezert mentioned Psychros with all the details provided by Aristotle, adding that the river was also named Platanis and flowed into the Singitic Gulf.³ Psychros was also mentioned some years later in the works of two Greeks, the scholar Margaritis Dimitsas⁴ and the traveller Nikolaos Schinas.⁵

² Cf. W. M. Leake, *Travels in Northern Greece*, London: J. Rodwell, 1835, vol. 3, pp. 153-4; Th. Desdevises-du-Dezert, *Géographie ancienne de la Macédoine*, Paris: A. Durand, 1862, p. 377. See also K. Mannert, *Geographie der Griechen und Römer: Thracien, Illyrien, Macedonien, Thessalien, Epirus*, Nuremberg: Grattenauer, 1812, vol. 7, p. 454.

³ Desdevises-du-Dezert, *op. cit.*, pp. 47, 353, 377.

⁴ M. Dimitsas, *Archaia Geographia tis Makedonias* [Ancient Geography of Macedonia], Athens: P.D. Sakelariou, 1870, p. 163.

⁵ Nikolaos Th. Schinas, *Odoiporikai simeioseis Makedonias, Ipeirou, neas orothetakis grammis kai Thessalias, syntachtheisai ti entoli tou epi ton Stratiotikon Ypourgou* [Itinerary Notes from Macedonia, Epirus, the New Frontier Line and Thessaly, on the Orders of the Minister of War], Athens: Messenger d'Athènes, 1886, vol. 1, pp. 53-4.



Figure 1

Today what remains of ancient Psychros is a gorge, which appears to have its source on Mount Kakkavos of the Cholomon mountain complex northwest of the village of Gomati. It flows into the beach of Develiki, approximately 100 metres west of the medieval tower. It is known as Kryokampos (the cool plain), which indicates the same characteristic of the stream as the name Psychros. D. Zaglis mentions that it is also called Strivotis.⁶ It is worth noting that the bay of Pyrgadikia, a little further to the west, is named Psychros Bay on the maps of the Hellenic Army Geographical Service and is marked in red, indicating an ancient place-name.

2. Olynthiacos and Ammitis; Manis, Petariskos and Smeilodis

Contrary to Psychros, much more debate has been caused by two other rivers of Halkidiki, Olynthiacos and Ammitis, despite the fact that they appear only once in an ancient text. The author who mentioned them was Hegesander (*FGRH* IV.420-421 F 40), in the third century BC, as we learn from Athenaeus (*Deipn.* 8.11), who writes: "I know, also, what is related to the fish called apopyris, which is found in the lake Volvi". In his *Commentaries*, Hegesander speaks thus:

Around Apollonia of Chalcis two rivers flow, the Ammites and the Olynthiacus, and they both fall into the lake Bolbe. And on the river Olynthiacus there is a monument of Olynthus, the son of Hercules and Bolbe. And in the months Anthesterion and Elaphebolion, the natives say that Bolbe sends Apopyris to Olynthus; and that about this time a most

⁶ D.D. Zaglis, *Chalkidiki. Istoría-Geographía (apo ton archaiotaton chronon mechri tou 1912)* [Chalkidiki. History-Geography (from Antiquity until 1912)], Thessaloniki 1956, pp. 13, 121. I. Papagelos told me that Platani is a different stream.

enormous number of fish ascend out of the lake into the river Olynthiacus: and this is a shallow river, scarcely deep enough to wet a man's ankles; but for all that there does not the less come a great number of fish, so that all the people of the district get enough cured fish for their use for the year. And it is a wonderful fact that they never pass above the monument of Olynthus. They say, in explanation of this, that the people of Apollonia did formerly, in the month Elaphebolion, celebrate sacrifices to the dead, but that they do so now in the month Anthesterion; and that on this account this ascent is made by the fish in those months alone in which the natives are accustomed to pay honour to their national heroes.

The information that we obtain is that the two rivers passed close to Apollonia and flowed into Volvi, without however specifying where their springs were located.⁷ Apollonia mentioned here absolutely matches the one close to Volvi, which mistakenly is identified as “Apollonia of Mygdonia” of Ptolemy (3.12.33) and which must be located further to the west and closer to Thessaloniki.⁸

However, since the name Olynthiacos reminds us of Olynthos, which is located quite far from Volvi, some people expected that the river would flow not far from the town, and into the Toronaic Gulf rather than Volvi. This has led to another major misunderstanding concerning Halkidiki's rivers, in relation both to the rivers' mouth and thus the identification of the two rivers as well as Lake Volvi itself.

In his *Travels in Northern Greece*, Leake wrote about the marsh situated near Olynthos and Agios Mamas, the so-called Agios Mamas marsh, thus: “From Athenaeus, on the authority of Hegesander, we learn that the name of the marsh was Bolyca, and that it received two rivers, named the Ammitis and the Olynthiacus”.⁹ This information was repeated in 1873 by William Smith.¹⁰ The fact is, however, that Athenaeus does not use the name Bolyca but Volvi. As early as 1786, John Gillies had noted that “the rivers Olynthus and Amnias flow into the lake Bolyca, a name improperly bestowed on the inmost recess of the Toronaic Gulf”.¹¹ Though not explained, the word “improperly” is striking. The name “Bolyca” [Volyka] is not found either in Athenaeus or in any other ancient source. So then, how did it appear?

The explanation is simple and relates to something that often happened during the medieval era, when these ancient texts were transcribed: the inclusion of a false copy in the extant manuscript. Indeed, the name is not found in Athenaeus but in one of his

⁷ Cf. G. Hirschfeld, *RE* 1.2 (1894), s.v. Ammites, p. 1853; A. West, “Notes on the Multiplication of Cities in Ancient Geography”, *CP* 18 (1923), p. 57; M.B. Hatzopoulos & L.D. Loukopoulou, “Recherches sur les marches orientales des Temenides”, *Meletimata*, 11.1 (1992), 128, 131-4.

⁸ On the case of “Apollonia of Mygdonia” and the other cities of the region having the name Apollonia, see M. Manoledakis, “Apollonia Mygdonias” [Apollonia in Mygdonia], *Egnatia*, 11 (2007), 73-90, with bibliography.

⁹ Leake, *op. cit.*, pp. 154-5, 457.

¹⁰ W. Smith, *A Dictionary of Greek and Roman Geography*, London: J. Murray, 1873, vol. 2, p. 481.

¹¹ J. Gillies, *The History of Ancient Greece, Its Colonies, and Conquests*, London: Jones and Company, 1786, vol. 2, p. 236; *idem*, *The History of Ancient Greece: Part the First. From the Earliest Accounts till the Division of the Macedonian Empire in the East*, London: T. Cadell and W. Davies, 1820, vol. 2, p. 198.

manuscripts dating from the Renaissance. The oldest surviving codex of *Deipnosophists* is *Venetus Marcianus gr Z447*, the work of Ioannis Kalligrafos in minuscule script, dates from c. 895-917.¹² In this work the lake is named clearly Volvi. But this is not the case with all later editions. Thus, in 1597-98, Isaac Casaubon published *Athenaei Deipnosophistarum libri quindecim* (Geneva or Heidelberg) and in this edition, one of the most important of Athenaeus' work,¹³ Volvi appears suddenly as *Βολύκη*, while Volvi, mother of Olynthos (see Athenaeus' text above) appears as *Βολύη*. This is the first time that *Βολύκη* appears and it will reappear in subsequent editions of Casaubon's work. This error is not difficult to interpret. As we know, in the minuscule script the letters β, κ, μ, ν, υ are written with similar υ shapes.¹⁴ Therefore, it is likely that the individual who wrote the codex used by Casaubon (which certainly was not *Venetus Marcianus gr. Z447*) transcribed *Βόλβη* as *Βολυη* in calligraphic letters, which was read by Casaubon as *Βολύκη*. The fact is that subsequently the name Volyci would appear on several maps, but also in texts of travellers.

Some years later Casaubon published the *Animadversiones in Athenaei Deipnosophistas*.¹⁵ Commenting on the whole work and in relation to the name Volyci,¹⁶ he writes that in some ancient texts there is the name Volvi, that is the lake as known by Thucydides, Stephanus, and others. Casaubon makes it clear that he is aware of the Volvi version, but he prefers the Volyci one, for reasons that he does not explain. It is impossible for us to know in which manuscript he read this name and why he chose this and not *Venetus Marcianus*, which was the oldest but also "the source of all the other known manuscripts of the complete Athenaeus".¹⁷ According to a theory, he considered the identification of that lake with the known Volvi an error of Hegesander. Thus, he believed that Hegesander refers to the marsh of Agios Mamas, in the Toronaic Gulf, which could also have the name Volvi, as implied by the names of the settlements of Upper and Lower Volvos further to the west, and he arbitrarily preferred to keep for this marsh the name Volyci – even if it did not exist – only to differentiate it from Volvi. According to the same theory, Olynthiacos and Ammitis did not flow into the known Volvi but into the marsh of Agios Mamas.¹⁸ This view is of course purely hypothetical and not based on any evidence.

¹² J. Irigoine, "L'édition princeps d'Athénée et ses sources", *Revue des Études Grecques*, 80 (1967), 419; G. Arnott, "Athenaeus and the Epitome. Texts, Manuscripts and Early Editions", in D. Braund & J. Wilkins (eds), *Athenaeus and His World. Reading Greek Culture in the Roman Empire*, Exeter: University of Exeter Press, 2000, p. 42.

¹³ Cf. indicatively Arnott, *op. cit.*, pp. 51-2.

¹⁴ Arnott, *op. cit.*, p. 43.

¹⁵ Lyon 1600 (and 1621, 1664).

¹⁶ See p. 582 of the 1664 edition.

¹⁷ Arnott, *op. cit.*, pp. 45, 52.

¹⁸ S. Akrivopoulou, "Halkidiki Apollonia kai limni Volyki" [Halkidiki Apollonia and Lake Volyki], in *Timitikos tomos gia ton I. Papaggelo* [Honorary Volume to I. Papaggelos], Thessaloniki (forthcoming).

In any case, two centuries later Johann Schweighäuser published a new edition of Athenaeus translated in Latin and nine volumes of *Animadversiones*.¹⁹ In this work he corrects the name *Βολύκη* to *Βόλβη*, citing all versions of the name that were found in various editions: *Κόμβη*, *Βολύκη*, *Βολβή* for the city and *Βολύη* for Olynthos' mother.²⁰ This correction will be adopted a little later by G. Dindorf,²¹ and since then it will prevail – probably correctly, since the oldest codex referred clearly to *Βόλβη*.



Figure 2



Figure 3

However, the version of Casaubon, a man with great influence, was adopted by several European cartographers, who in turn seem to have influenced some travellers, such as Leake. Thus, in 1648 on the map of Nicolaus Vissler, *Atlas Novus* (Fig. 2), and later in 1682 on the pioneering for its time, due to the correct orientation of

¹⁹ J. Schweighäuser, *Athenaei Naucratis Deipnosophistarum libri quindecim* and *Animadversiones in Athenaei Deipnosophistas*, Strasbourg: Typographia Societatis Bipontinae, 1801-1807.

²⁰ J. Schweighäuser, *Athenaei Naucratis Deipnosophistarum libri quindecim*, Strasbourg: Typographia Societatis Bipontinae, 1803, p. 233. For the Schweighäuser edition, which was based on the *Venetus Marcianus*, see e.g. Arnott, *op. cit.* p. 52.

²¹ G. Dindorf, *Athenaeus*, Leipzig: G. Reimer, 1827, vol. 2, p. 734.

Halkidiki, nautical map *Archipelagusche Eylanden* of Johannes van Keulen (Fig. 3), a lake appears in the middle of Halkidiki, in a long oval shape and a north-west south-east direction. A river springs from there and flows into the Singitic Gulf. On none of these maps is there a name for the river or the lake. The first who gave a name to the lake was Laurenberg in 1650 (Fig. 4), who named it “Bolyca stagnum” (marsh), while a little later, on the almost similar maps of *Macedonia* and *La Macedonia* of Giacomo Cantelli da Vignola, published in 1684 and 1689 respectively (Fig. 5-6), the lake has the name “Bolica Lago”, while the river that flows into the Singitic Gulf is named “Olynthiacus fl. qui et Ammites”!



Figure 4



Figure 5



Figure 6

It is striking that until this period Volvi does not even exist on maps and it is the non-existent Volyci that appears for the first time in the middle of Halkidiki, as if the marsh was more known than the lake, which was mentioned in so many other sources. Both Volyci and Volvi appear for the first time as two separate lakes in the early eighteenth century, on the maps of G. Delisle, *Greciae Pars Septentrionalis* (first published in 1707) (Fig. 7),²² where we encounter for the first time an almost

²² They also appear on the map with the same name by the imitator of Delisle, J.C. Weigel (1720).

round lake near the cove of the Toronaic Gulf. Its location connects it to the current marsh of Agios Mamas. Two small rivers flow into it from the north and a smaller one connects it with the gulf itself. None of these is named; on the contrary Volvi is correctly named.



Figure 7

Rivers and lakes will all be named by the end of the eighteenth century on the map of Jean-Baptiste Bourguignon d'Anville, *Graeciae Antiquae Specimen Geographicum*, 1762 (Fig. 8). Here we find Olynthiacos and Ammitis for the first time in cartography, not as one and the same river flowing into the Singitic Gulf, as da Vignola erroneously had noted a century ago (Fig. 6), but as two separate rivers flowing into Lake "Bolyca Palus",²³ just to the north of the Toronaic Gulf. They are named Olynthios and Amnias. Additionally, d'Anville places Lake Volvi eastwards, almost at the banks of the Strymonic Gulf, but still with two rivers flowing into it from the north, repeating the model of Volyci. The lake is named "Volvi Palus quae et Prasias", although it is clear from the description of Herodotus (5.16), the only source mentioning Prasias, that it had nothing to do with Volvi.²⁴ The pattern of rivers that d'Anville introduced would be repeated by many cartographers.

²³ Ch-A.-L. de Barentin de Montchal, *Atlas de la Géographie ancienne et historique composé d'après les cartes de d'Anville*, Paris: A. Egron, 1807, vol. 1, p. 494.

²⁴ It is not perfectly clear where exactly Lake Prasias was but, according to most scholars, it should be identified with Lake Kerkini.



Figure 8

So, where do Olynthiacos and Ammitis flow into? Lake Volvi or the marsh of Agios Mamas (erroneously called “Bolyca”) and the Toronaic Gulf? According to Leake, as mentioned above, the latter option holds. However, four years earlier, Cousin ry had written that a small river springing from the area of Polygyros flows into the Toronaic, near Agios Mamas, but without naming it²⁵, while the very thorough in other cases Tafel, as regards Ammitis and Olynthiacos, merely cites Hegesander without any further explanation.²⁶

In his book published in 1862, the French traveller Th. Desdevises-du-Dezert suggests that Olynthios (river of Poliero), and Amnias or Amnitis flow into the Toronaic Gulf²⁷. His innovation on the issue is that he identified Volyci as Kantharolethron (*Κανθαρώλεθρον* or *Κανθαρόλεθρον*), which is mentioned in some ancient sources²⁸. According to Aristotle (*Mirab. ausc.* 120), Strabo (7 frg. 30), Plutarch (*de An. Tranq.* 15.473) and Pliny (*H.N.* 11.34) Kantharolethron was a hollow area near Olynthos, a little larger in size than a threshing-floor, owing its name to the fact that all the beetles (and there were many in the area, according to Strabo) fell inside and could not get out, and thus died. Whether Kantharolethron is identified with the marsh of Agios Mamas and this in its turn is identified with the lake Volyci is another issue.

The fact is that the location of the two rivers in the Toronaic Gulf and in particular in the marsh of Agios Mamas had prevailed, as one can assume from the texts of Dimitsas,²⁹ Isambert,³⁰ Schinas³¹ and Chrysochoos.³² And presently the majority of

²⁵ M. E. M. Cousin ry, *Voyage dans la Mac doine*, Paris: Imprimerie Royale, 1831, vol. 2, pp. 160-1.

²⁶ Th. L. F. Tafel, *De Thessalonica eiusque agro dissertatio geographica*, Berlin: G. Reimer, 1839, pp. 239-40.

²⁷ Desdevises-du-Dezert, *op. cit.*, p. 47.

²⁸ *Ibid.*, pp. 371, 382.

²⁹ Dimitsas, *op. cit.*, p. 162.

researchers identify Olynthiacos with River Vatonia,³³ flowing into the marsh of Agios Mamas, and Ammitis with the disappeared today Kavourolakos³⁴ or the river of Ormylia, the largest in Halkidiki, which erroneously is today called Chavrias.³⁵

A convincing solution to the long holding misunderstanding for the two rivers was attempted in 1923 by A. West, who maintained that Olynthiacos and Ammitis might have been the “two small rivers flowing northwards into the lake [Volvi]”.³⁶ And he continued:

Thus, modern geographers have stumbled over the name Olynthiac [...] and have used it as an argument for locating Apollonia near Olynthus and distinguishing it from the Mygdonian town [he means Apollonia near Volvi]. The confusion here is due to the fact that the river got its name from a memorial or tomb of Olynthus, the son of Heracles and Volvi, and not directly from the capital of the Chalcidic state. [...]. This monument might very well have been situated in the upper reaches of the river.³⁷

Moutsopoulos³⁸ as well as Hatzopoulos and Loukopoulou³⁹ have followed the suggestion of West and identified the two rivers as Mikro and Megalo Reuma of Volvi (the former named also Holomon or Barbara's Stream and the latter Pazarouda or Koca Dere), both springing from Mount Holomon and running into Volvi from the south.

³⁰ I. Isambert, *Itinéraire descriptif, historique et archéologique de l'Orient. Première Partie: Grèce et Turquie d'Europe*, Paris: Hachette, 1873, p. 729.

³¹ Schinas, *op. cit.*, pp. 491, 505-6, 539-40.

³² M. Chrysochoos, “Olynthos”, *Epetiris Philologikou Syllogou Parnassos*, 3 (1899), 144, 148.

³³ Zaglis, *op. cit.*, pp. 12-3, 24, 97; I. Vokotopoulou, “Nea topographika stoicheia gia ti chora ton Chalkideon” [New Topographic Elements on the Land of the Chalkideans], in *Mnimi D. Lazaridi* [Memory of D. Lazarides], Thessaloniki: Greek Ministry of Culture, 1990, p. 119; M. Lilimbaki & I. Papaggelos, *Oi ygrotopoi tis Chalkidikis apo istoriko-archaiologiki apopsi* [The Wetlands of Halkidiki from a Historical and Archaeological View], Athens: Goulandri Natural History Museum, 1995, pp. 25, 53-4.

³⁴ Zaglis, *op. cit.*, p. 13.

³⁵ Vokotopoulou, *op. cit.*, p. 119, note 30; *eadem*, “I epigraphi tou Holomonta” [The Inscription of Holomontas], in *Epigraphes tis Makedonias. Trito Diethnes Symposio gia ti Makedonia* [Inscriptions of Macedonia. Third International Symposium on Macedonia], Thessaloniki: Aristotle University of Thessaloniki, 1996, p. 216. This identification is also accepted by I. Papaggelos, “I Istoría” [The History], in *Ormylia. Iero Koinovio Evaggelismou tis Theotokou* [Ormylia. Sacred Commune of the Annunciation of St Mary], Athens: Iero Koinovio Evaggelismou tis Theotokou, 1992, pp. 67-8.

³⁶ A. West, “Notes on the multiplication of cities in Ancient Geography”, *CP* 18 (1923), 57. Cf. E. Oberhummer, “Volvi 1”, *RE* III.1, p. 668.

³⁷ West, *op. cit.*, p. 57.

³⁸ N. K. Moutsopoulos, “I thesi tis Mygdonikis Apollonias” [The Place of Apollonia of Mygdonia], in *Ancient Macedonia V*, Thessaloniki: Institute for Balkan Studies, 1993, vol. 2, p. 1060-6. For these two rivers, and also for the others that flow into Volvi, cf. L. C. Ballas, “Chrisi ton asaphon kanonon sti diacheirisi ydatikon ponon. Efarmogi stin ydrologiki lekani Volvis” [Use of the Unclear Rules in the Management of Water Resources. Application in the Water Basin of Volvi], unpublished PhD thesis, Aristotle University of Thessaloniki, 2007, pp. 187-9, 210. Cf. Zaglis, *op. cit.*, p. 14.

³⁹ Hatzopoulos-Loukopoulou, *op. cit.*, pp. 30, 128, 132-3.

Finally there is a unique inscribed stele, known as the “inscription of Holomon” of the fourth or the early third century BC,⁴⁰ that refers to the determination of the borders between some cities in inland Halkidiki (Fig. 9). The stele, which we do not know where exactly it was found, mentions four rivers: Ammitis, Manis, Petariskos and possibly Smeilodis. Unfortunately, all eight cities mentioned in the inscription as well as their inhabitants (Ramaioi, Paraipioi, Osbaioi, Olaia, Kisseitai, Kallipolitai, Prassilioi, Pirolos), remain unidentified. Nevertheless, as regards Kissos, it would be safe to argue that it was located to the south-east of Thessaloniki and to the west of the summit of Mount Kissos (Chortiatis).⁴¹ From the rivers mentioned, Manis (line 8) is located near Piloros, Smeilodis (line 16) could have been located near the area of Kissos, while Petariskos (lines 32-33) and Ammitis (line 33) are mentioned as borders between the regions of Osbaioi and Kallipolitai.

⁴⁰ Archaeological Museum of Thessaloniki, inscribed stele No. 6128. For this inscription and for the different views about its dating, cf. Vokotopoulou, *op. cit.*, pp. 109 ff and Vokotopoulou, *op. cit.*, p. 208 ff (beginning of third century BC); Hatzopoulos–Loukopoulou, *op. cit.*, pp. 30, 123-145 (first half of fourth century BC); P. Flensted-Jensen, “Some Problems in *Polis* Identification in the Chalkidic Peninsula”, in T. H. Nielsen (ed.), *Yet More Studies in the Ancient Greek Polis*, Stuttgart: Franz Steiner Verlag, 1997, p. 127; M. Manoledakis, *Apo ton Kisso ston Hortiati* [From Kissos to Chortiatis], Thessaloniki: Kornelia Sfakianaki Editions, 2007, p. 49; *idem*, “Kissos. Proseggisi tis istorias mias archaias thrakikis polis” [Kissos. Approach to the History of an Ancient Thracian City], in *Praktika dekatou diethnous synedriou thrakologias “I Thraki ston Ellino-romaiko kosmo”* [Proceedings of the Tenth International Conference of Thracology “Thrace in the Greco-Roman World”], Athens: National Research Foundation, 2007, p. 363; K. Tzanavari, “Anathimatikos kioniskos ston Dia ipsisto apo ta Plana Chalkidikis” [Dedicatory Pillar to Zeus Hepsystos from Plana in Halkidiki], in P. Adam-Veleni & K. Tzanavari (eds), *Diniessa. Timitikos tomos gia tin Katerina Romiopoulou* [Diniessa. Honorary Volume to Katerina Romiopoulou], Thessaloniki: Archaeological Museum of Thessaloniki, 2012, pp. 596-7.

⁴¹ M. Manoledakis, *Apo ton Kisso ston Hortiati* [From Kissos to Chortiatis]: Thessaloniki: Kornelia Sfakianaki Editions, 2007, pp. 43-64.



Figure 9

As noted above, Vokotopoulou states that Ammitis should be identified with the river of Ormylia, while she considers that Manis and Petariskos could have been two streams in the broader area of Ormylia, such as Smixis; that is the upper course of the river of Ormylia and its western tributary, Melias.⁴² On the contrary, Hatzopoulos and Loukopoulou⁴³ place the locations' names on the inscription much further to the west and north-west.⁴⁴ They suggest that Ammitis could be Megalo Reuma, springing from Kalindoia and flowing into Volvi, that Petariskos is a tributary of Ammitis, which flows near the road Zagliveri-Sana next to Kalindoia, that Smeilodis could be Vathylakkos, which is the stream of Thermi,⁴⁵ and that Manis (the name of which, according to Vokotopoulou, implies the forcefulness of the water),⁴⁶ could be a stream near Vathylakkos, which flows into the Thermaic Gulf, south-east of Little Karampournou.

The truth is that the only two place-names of the inscription that we could possibly identify, due to their appearance in other sources, are Kissos and Ammitis. As regards the other three rivers of the inscription (Manis, Petariskos and Smeilodis) we

⁴² Vokotopoulou, *op. cit.*, pp. 119-22. Cf. Papaggelos, *op. cit.*, p. 68.

⁴³ Hatzopoulos & Loukopoulou, *op. cit.*, pp. 132-3.

⁴⁴ We have already seen that they locate Ammitis as flowing into Volvi.

⁴⁵ Especially since they propose (p. 133, 141) that the ending "μαιοις" of the native name of the second line of the inscription belongs to "Θερμαιοις".

⁴⁶ Vokotopoulou, *op. cit.*, p. 115.

can only make assumptions, but south-east Halkidiki is excluded due to its distance from Kissos.

Therefore, the inscription is not very helpful as regards the identification of Ammitis and, consequently, of Olynthiacos, but I consider the view of West valid and, therefore, the identifications of Hatzopoulos and Loukopoulou likely.⁴⁷ Since our only source about the two rivers is Athenaeus (Hegesander), we do not have any other choice but to follow his text in order to identify the rivers he mentions. And this leads us clearly to Volvi and not to the marsh of Agios Mamas. The opposite view, although tempting, was based on an error of the manuscript and an assumption that sought to rely on this error in a cunning manner. If, later on, the river of Olynthos took the name Olynthios, due to its proximity to the city, is another issue. This name was given after 1929 and the discovery of ancient Olynthos.

Finally, we have to point out that all scholars who locate the estuary of Olynthiacos and Ammitis at the marsh of Agios Mamas constantly invoke Athenaeus (as it is the only extant historical source). In addition to the fact that they change the name – and consequently the location – of the lake he mentions, they overlook two very important details. Firstly that Olynthiacos was so shallow that it could barely cover a human's ankle. Does this apply also to Vatonia given the marked reduction of the volume of water in all the region's rivers from ancient times until today? Probably not. It applies, however, to the streams of Volvi. Furthermore, if the two rivers are Vatonia and Ormylias⁴⁸, then again Athenaeus, who says that they both flowed into the same lake, is not verified, since Ormylias flows far away from the marsh of Agios Mamas.

The second detail refers to the fish apopyris that rose out of the lake into the river Olynthiacos. This should be a lake fish, since it was found in a lake. Indeed, *Devario apopyris* is a small freshwater fish that belongs to the carp family (cyprinidae).⁴⁹ This suits Volvi, which is a freshwater lake, but not the marsh of Agios Mamas, which has brackish water. In the light of all the above, and given Athenaeus as the only source available, I consider that Olynthiacos and Ammitis could be identified with Megalo Revma (Pazarouda) and Mikro Reuma (Holomon) of Volvi, though it remains unclear which is which.

⁴⁷ At least for the two big rivers.

⁴⁸ As suggested by Vokotopoulou, *op. cit.*, pp. 119-20.

⁴⁹ F. Fang & M. Kottelat, "Danio Species from Northern Laos, with Descriptions of Three New Species (Teleostei, Cyprinidae)", *Ichthyological Exploration of Freshwaters*, 10.3 (1999), 281-95. Cf. F. Fang, "Phylogenetic Analysis of the Asian Cyprinid Genus *Danio* (Teleostei, Cyprinidae)", *Copeia*, 4 (2003), 714-28.

3. Anthemus (Ανθεμούς)

As the name of a district and a town in Halkidiki, the place-name Anthemus appears in the works of Herodotus (5.94), Thucydides (2.99.6), Demosthenes (*Phil.* 2.20), and Aeschines (*Fals. Leg.* 27). As a river name, it was first mentioned in the second century BC by Apollodorus (2.5.10), who described Hercules' labour with Geryon, mentioning that the latter pursued Hercules at River Anthemus but was killed by him. Probably following Apollodorus, in his commentaries on Lycophron's *Alexandra* (652) in the twelfth century Isaac Tzetzes argued likewise. The problem however is that it is not clear where this river was. As is widely known, the legends narrating labours of great heroes, such as Hercules or Odysseus, were associated with various sites across the world, depending on the origins of the creators of each one of their many versions, since the inhabitants of each site wished to connect their land with a heroic achievement.

Save that Anthemus has survived to this day as the name of the river that runs into the Thermaic Gulf, the fact that Halkidiki is the most likely site is due to the following factors. As a river's name, free of mythical elements, Anthemus is mentioned by Hesychius in the fourth century AD. This reference is so laconic (Hes., *Lex.* s.v. Ανθεμούς: city; land; river), that the geographical location of the river cannot be determined. Nevertheless, the very next entry of the *Lexicon* of Hesychius, that is Anthemousia (Ανθεμουσία), is described as a military division of the Macedonians originating from the Macedonian city Anthemus. This does not prove the river's location at the homonymous area of Halkidiki, but it strengthens significantly the possibility. Moreover, as mentioned, Olynthos, the mythical founder of the homonymous city of Halkidiki, was the son of Hercules and Volvi (Hegesander; Athenaeus), and this is an indication of a strong presence (and consequently worship) of Hercules in the region.

But even if the labour of Hercules did not take place in the specific Anthemus, the scholiast of Homer (*Il.* 13.459) mentions the river on the occasion of another mythical event. After the fall of Troy, Aeneas took his father Anchises and they travelled westwards. When they passed through Halkidiki, Anchises died “πλησίον Ἀνθέμου ποταμοῦ” (near the river Anthemus), not far away from the site where Aeneas founded a city with his name (Aeneia). The scholar of Ancient Greek Literature and also traveller of the broader area of Thessaloniki G.L.F. Tafel persuasively stated that instead of Ἀνθέμου we have to read Ἀνθεμοῦντος, identifying the river Anthemus with the river that springs from the homonymous city (which he places in Galatista), crosses the homonymous valley and runs into the Thermaic Gulf⁵⁰. The

⁵⁰ Tafel, *op. cit.*, pp. 255-6, especially note 75. His view is also accepted by O. Tafrafi (*Topographie de Thessalonique*, Paris: P. Geuthner, 1913, p. 25).

river is also known as Vassilikiotikos, since it crosses the village of Vassilika.⁵¹ With this name it is mentioned by Struck, who describes its area as well as features of its inhabitants.⁵²

Anthemus did not go unnoticed by travellers of Macedonia and geographers due to its proximity to the city of Thessaloniki. It is mentioned by Cousinéry, though it is not named,⁵³ by Desdevises-du-Dezert,⁵⁴ Dimitsas,⁵⁵ Schinas,⁵⁶ and also Abbott.⁵⁷ Most describe its course, which begins from Mount Kissos (Chortiatis) and the area of Galatista, and flows into the Thermaic Gulf, between Thessaloniki and Cape Karampournou.

It is notable that, unlike other rivers of Halkidiki, Anthemus is almost never noted with its name on European maps, even if this name is not rare in the sources. Moreover, in 1762 Jean-Baptiste Bourguignon d'Anville, on his map *Graeciae Antiquae Specimen Geographicum* (Fig. 8) notes the river, but gives it the name "Rechius" (Ρήχιος), a fact mentioned also by Charles-A.-Louis de Barentin de Montchal, who practically studied ancient history and geography based on the maps of d'Anville.⁵⁸ This tradition of d'Anville had an impact on many cartographers, and only Kiepert (Fig. 1) will name this river as Anthemus, and will depict it as springing from the homonymous city and cross the homonymous valley. Nevertheless, we have to note that, contrary to our abovementioned observation, Anthemus is the only river of Halkidiki that is mentioned by name (although many other rivers are marked) on the most recent atlas of antiquity, the *Barrington Atlas of the Greek and Roman World* (Fig. 10).⁵⁹

⁵¹ Cf. Zaglis, *op. cit.* (note 6), p. 12, 25; N.G.L. Hammond, *A History of Macedonia*, vol. I: *Historical Geography and Prehistory*, Oxford: Oxford University Press, 1972, p. 190. Another name of the river is Vassilopotamos; cf. on the modern map of I. Kokkidis, Wien 1883 (Δ 22). Undoubtedly, the name *Vassilika* given to the river of Ormylia on a map of 1940 of the Ordnance Survey, Britain's mapping agency (Δ 67), is a gross error, inconceivable for the cartographic service that made it.

⁵² A. Struck, *Makedonische Fahrten I*, Wien-Leipzig: A. Hartleben, 1907, pp. 2, 4-10, 27.

⁵³ Cousinéry, *op. cit.*, p. 137.

⁵⁴ Desdevises-du-Dezert, *op. cit.*, p. 353.

⁵⁵ Dimitsas, *op. cit.*, pp. 160-1.

⁵⁶ Schinas, *op. cit.*, pp. liii, 490, 513-5, 556-7.

⁵⁷ G.F. Abbott, *Macedonian Folklore*, Cambridge: Cambridge University Press, 1903, pp. 251-2.

⁵⁸ De Montchal *op. cit.*, p. 492: "Anthemonte était situé sur le Rechius".

⁵⁹ R.J.A. Talbert, R.S. Bagnall et al. (eds), *Barrington Atlas of the Greek and Roman World*, Princeton: Princeton University Press, 2000, p. 50. See also R.J.A. Talbert (ed.), *Barrington Atlas of the Greek and Roman World. Map-by-Map Directory*, Princeton: Princeton University Press, 2000, p. 762.



Figure 10

4. Chavrias (Χαβρίας)

Chavrias is undoubtedly the most discussed river of Halkidiki, and also the most popular among cartographers. This is mostly due to the fact that it is the only river of the region mentioned by the great cartographer Claudius Ptolemy, in his second-century AD *Geography* (3.12.10). This reference was the first and, at the same time, the last in ancient sources, and this uniqueness was the main reason for one of the greatest misunderstandings as far as this river is concerned. According to Ptolemy, the river Chavrios (Χάβριος) flows into the Thermaic Gulf and the coordinates of its estuary are 50°40' east and 40°05' north. No other reference to this river is found in the sources; however Chavrios or Chavrias⁶⁰ (the latter appellation has prevailed) is the river mostly depicted on old maps, exactly due to this reference. According to Ptolemy, the estuary of Chavrias should have been situated on the western coast of Halkidiki (to the north of the Kassandra Isthmus), between Potidaia (Kassandreia) and Cape Gigonis (Γιγωνίς), somewhere further to the south of Cape Karampournou. Not as simple as it sounds, today the homonymous river has nothing to do with this

⁶⁰ In some editions of Ptolemy we find the phrase "Χαβριου ποταμού εκβολαί", which means that the nominative could be either Χαβρίας or Χάβριος.

area but is identified with Ormylia River –the biggest river in Halkidiki.⁶¹ Where did this inconsistency come from and how did it start?

Chavrias' reputation and especially its popularity among European cartographers was the result of Ptolemy's reference. Naturally, in "Ptolemaic" maps the only river mentioned is Chabrius (e.g., Fig. 11).⁶² According to an assumption of cartographers, since Ptolemy himself does not provide any relevant information, this river springs from Mount Vertiskos and always flows into the Thermaic Gulf, to the north of the Cassandra Isthmus. At this point, the question arising is that of the reliability of Ptolemy's coordinates; as I have examined this issue in detail elsewhere,⁶³ I will not elaborate again on it here.



Figure 11

⁶¹ Cf. for example Hatzopoulos & Loukopoulou, *op. cit.*, p. 128; Th. Papagiannis & K. Poirazidis, "O physikos choros" [The Natural Space], in *Ormylia. Iero Koinovio Evaggelismou tis Theotokou* [Ormylia. Sacred Commune of the Annunciation of St Mary], Athens, 1992, pp. 16-8; M. Stamatelatos & Ph. Vamva-Stamatelatu, *Elliniki Geographiki Egyklopaideia* [Greek Geographical Encyclopedia], Athens, 1998, vol. 3, p. 391; Th. Papayiannis, "I geysi tou chorou" [The Taste of Space], in I. Vokotopoulou & I. A. Papaggelos (eds), *Chalkidiki. Iero Koinovio Evaggelismou tis Theotokou - Ormylia*. [Halkidiki. Sacred Commune of the Annunciation of St Mary – Ormylia], Athens, 2002, p. 26.

⁶² Ptolemy, *Tabula Europae X*, Basel: S. Mönster & H. Petri, 1552.

⁶³ M. Manoledakis, "I thesi ton Aigon sti 'Geographia' tou Klavdiou Ptolemaiou" [The Place of Aigae in the *Geographia* of Claudius Ptolemy], *AEMTH* [The Archaeological Work in Macedonia and Thrace], 19 (2005), 483-94; M. Manoledakis & E. Livieratos, "On the Digital Placement of Aegae, the First Capital of Ancient Macedonia, according to Ptolemy's *Geographia*", *Proceedings of the First International Workshop "Digital Approaches to Cartographic Heritage"*, Thessaloniki 2006, pp. 262-70. The same article on *e-Perimeton*, 2.1 (2007), 31-41.

On the “Post-Ptolemaic” maps Chavrias initially does not have a name, though it is never absent. We find it already in the sixteenth century, in the maps of two of the greatest cartographers of the era, the Italian Giacomo Gastaldi and the Flemish Abraham Ortelius, 1566 (Fig. 12), as well as in the *Theatrum Orbis Terrarum* by Ortelius, which is considered to be the first modern atlas, originally printed in 1570 in Antwerp (Fig. 13). For the moment, the river remains without a name; but it acquires one soon after, at the latest on the maps of Mercator called *Macedonia, Epirus et Achaia* (e.g., Fig. 14), which were published in several editions from 1589 onwards, based on Mercator’s 1578 edition of Ptolemy’s *Geography*.⁶⁴



Figure 12



Figure 13

⁶⁴ It is worth noticing that on this map not only does Chavrias have a name, but also a tributary is marked and named Olcimus or Olcimo fl., which had appeared and named for the first time even earlier, in 1578, on the map of Gerard de Jode, *Speculum orbis terrarum*, based on a Pirro Ligorio’s map of 1561. Here I am not going to deal with Olcimus, which is not mentioned by any written source, as this forms the subject of a forthcoming article of mine.



Figure 14

Particularly important are the almost similar maps *Macedonia* and *La Macedonia* of Giacomo Cantelli da Vignola, published in 1684 and 1690 respectively (Fig. 5-6). Here for the very first time we encounter also other names for Chabrius, which is named Cillabro, et Chabria ol. Chabrius. The name Cillabro is entirely unknown and not mentioned in any other source, and the presence of a comma and an “et” cannot be easily explained (two different names?). The only conclusion that can be reached for the name Cillabro is that it is a corruption of Kalavros, which is important, since this is also the name of the small mountain to the south of Chortiatis on the borders between the prefectures of Thessaloniki and Halkidiki, where it is almost certain that Chavrias crossed or sprang from, since it flew into the location noted by Ptolemy. It could be possible that da Vignola knew or heard somewhere about the relation between river and mountain⁶⁵, or the river might indeed had that name at that time, as springing from the mountain.

However, the most important contribution by da Vignola seems to relate with a misunderstanding accompanying the very existence of Chavrias River to this day. As we know, today Chavrias is the name of the river crossing the region of Ormylia and flowing into the Toronaic Gulf, known also as “the river of Ormylia”. Of course, this is contradicted by Ptolemy, who very clearly locates the estuary of Chavrias, as mentioned above, at the Thermaic Gulf. On the maps of Mercator, entitled *Macedonia, Epirus et Achaia*, from 1578 onwards (e.g., Fig. 14), Chavrias is correctly located, in accordance with Ptolemy, but the town Sermila is noted on its estuary! Of course, this is a mistake, since the specific town, Sermyli (Σερμύλη) (Herod. 7.122) of the ancient sources, is situ-

⁶⁵ The alteration of names is of course a very usual phenomenon on maps.

ated on the cove of the Toronaic Gulf, south of Ormylia, and indeed, a river passes by this town. The cause of Mercator's mistake is revealed, maybe unintentionally, by da Vignola, who names for the first time the city on the estuary of Chavrias as Sermila or Similo. By the second name he certainly means Smila of the ancient sources (Herod. 7.123; Hecat., according to Steph. Byz. 580.9-10), which was located in Croussis, at the site noted on the maps. Obviously Mercator mistook Smila for Sermila and misplaced the latter with the former. When cartographers put back Sermila at its initial position, they also misplaced Chavrias, considering that the town and the river were related. Consequently, from the eighteenth century Chavrias appears to flow into the Toronaic Gulf, or even into the Singitic one. The path for errors of this kind was paved. Da Vignola, obviously unaware of the fact that Sermila and Smila were two different towns in two different areas of Halkidiki, chose to follow both Ptolemy and Mercator, two great models of European cartographers, and to locate correctly Chavrias, "justifying" at the same time the Dutch cartographer. Obviously, subsequent cartographers were not based either on Ptolemy or on other ancient written sources, not even on their famous precursor. Without any further reflection, they began to locate Chavrias indistinctively at the Toronaic, the Singitic or the Thermaic Gulf. From the nineteenth century the first of these versions prevailed, a fact that allowed for the continuation of this misunderstanding to the present, particularly since its adoption by the maps of the Hellenic Army Geographical Service.⁶⁶

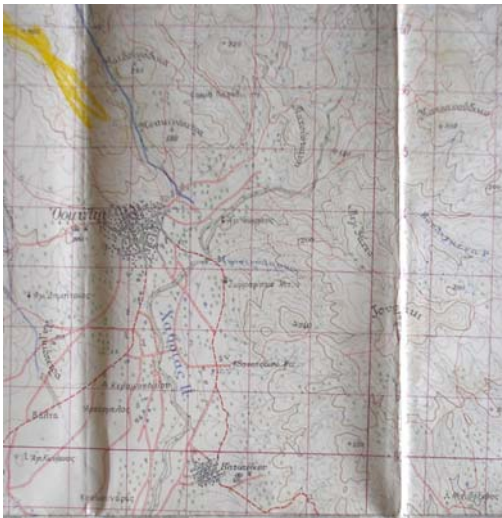


Figure 15

⁶⁶ For example, on that of 1928 (Fig. 15). However, it should be underlined that the cartographers of the Army Geographical Service were not always sure about this identification, in light of the fact that another river near its real location is named as Chavrias on some maps, for example in 1914; this river passes near Nea Sylata (Valouzia Stream), further to the south is united with Tsinganorema, which comes from the west, and flows as one river between Nea Kallikratia and Sozopoli.

One of the most important cartographers of the eighteenth century was undoubtedly Guillaume Delisle. First published in 1707, his map of Macedonia entitled *Graeciae Pars Septentrionalis* became the model for the cartography of this region and was used during the whole century (Fig. 7).⁶⁷ Here Chavrias, flowing into the Thermaic Gulf near the town of Campsa (Herodotus 7.123), is not named at all. The next big step was taken in 1762, when on his *Graeciae Antiquae Specimen Geographicum* (Fig. 8) Jean-Baptiste Bourguignon d'Anville relocated Chabrius flowing into the Singitic Gulf and passing through the city of Apollonia, for which there is no evidence at all.



Figure 16

As mentioned above, the erroneous location of Chavrias flowing into the Thronaic Gulf is due to Mercator's blunder, as indicated on the map of da Vignola of 1684. The development of this "identification" deserves particular attention. In 1715 N. de Fer, on his map *La Grèce ou la partie méridionale de la Turquie en Europe* (Fig. 16), marks the towns of Similio and Sermila separately but neighbouring. Chavrias is depicted flowing to the east of the latter town, as is the case with Ormylias River (which was erroneously named as Chavrias) in relation to the real Sermyle. The latter would begin to appear near its proper location as late as the eighteenth century (e.g., in Delisle and those under his influence; Fig. 7), initially though a

⁶⁷ L. Navari, "O katalogos tis ekthesis" [The Catalogue of the Exhibition], in *Makedonia. Chartographia kai istoria (15^{os} – 18^{os} aionas)* [Macedonia. Cartography and History (15th - 18th Century)], Athens: National Bank of Greece Cultural Foundation, 2013, p. 197.

little further to the south-east in Sithonia and without any other river near it. In 1784, on d'Anville's map (Fig. 8) Chavrias appears, but, as noted above, it is depicted flowing into the Singitic Gulf and quite far from Sermyle. In A.H. Dufour's *Grèce ancienne, partie septentrionale* (1827, Fig. 17) it flows into the Toronaic Gulf and, once more, far away from Sermyle.



Figure 17



Figure 18

On his *Grèce ancienne, partie septentrionale* (1825, Fig. 18), A. Tardieu placed the river next to the town but without a name. Two years later, on his *Atlas Universel* (Fig. 19) Ph. Vandermaelen gave to the river its proper name (*R. de Ouroumilla*) and depicted Sermyle correctly, though with its new name (Ormilia). Three years later, both John Arrowsmith, on his *Northern Turkey in Europe*, and his cousin Samuel, on

his *Northern Greece* (Fig. 20), did likewise, naming it *Ormilia R.* A third member of the Arrowsmith family of cartographers did not share the same point of view, and this is of course striking. That same year on his *Northern Turkey in Europe, with Part of Hungary and Dalmatia* (Fig. 21), Aaron the younger (son of Aaron the elder, brother of Samuel, and cousin of John) named the river Chabris, and became the first to identify the river with the river of Ormylia, putting also Serymyla and Smyla on their proper locations. Since then, this version has prevailed with a few exceptions; e.g., on the map of H. Kiepert *Thessalia, Epeiros und Makedonia*, (1849, Fig. 1), where Chavrias is noted on its position and the river of Serymyla has no name.



Figure 19



Figure 20

Chavrias sprang from Chortiatis and flowed into the Thermaic Gulf to the north of Potidaia.⁷³ Similar was the view of N.T. Schinas, who defined Chavrias as the deep stream springing from Chortiatis, flowing between the villages of Nea Triglia and Portaria and into the Thermaic Gulf.⁷⁴ This river exists until today and flows into the small village of Mouries, a little further to the east from Flogita and about three km north-west of Nea Moudania. The view of M. Chrysochoos departed from that of Schinas, as he identified Chavrias with the river of Ormylia.⁷⁵ It is obvious that the map of d'Anville had an impact on French travellers, such as Cousin ry and Desdevises-du-Dezert, while the German educated geographers, such as Dimitsas, preferred to rely upon the map of Kiepert.

As mentioned above, today the dominant view is to identify Chavrias with the river of Ormylia. Yet, there are certain historians and archaeologists who (correctly) oppose this identification and place the estuary of Chavrias to the Thermaic Gulf, though not at the same place as Schinas but a bit further to the north-east, at Nea Kallikrateia, at the site of Stomion (Στόμμιον) that served as the glebe of the Xenophon Monastery⁷⁶. There is also the intermediate version of the map of the Hellenic Army Geographical Service mentioned above. I consider almost certain that one of these versions is correct. If we accept the connection of the name Cillabro on the map of d'Anville with Mount Kalavros, then the identification of Chavrias with the river of Nea Kallikrateia that springs from it is more likely than with the river of Flogita that springs from Mount Vavdos. Moreover, the location of the river's estuary matches more Ptolemy's coordinates in relation to the neighbouring place-names provided.

5. Sandanos/Sardon (Σάνδανος/Σάρδων)

Sandanos is mentioned just twice in the sources. According to both Plutarch (*Parall. min.* 307D1-3) in the second century AD and Stobaeus (3.7.67 = *FGrH* 124 F 57) in the fifth century, King Philip wished to plunder Methoni and Olynthos and, while he was attempting to force a crossing at the Sandanos (or Sardon) river, his eye was pierced by an arrow from the bow of a certain Olynthian named Aster. Plutarch names the river as Sandanos (Σανδάνω ποταμῶ), while Stobaeus calls it Sardon (ποταμοῦ Σάρδωνος). Even if some scholars place the event in the area of Methoni (Pieria) and, consequently, identify the river with modern Toponitsa, a tributary of the

⁷³ Dimitsas, *op. cit.*, pp. 161-2.

⁷⁴ Schinas *op. cit.*, pp. 490-1.

⁷⁵ M. Chrysochoos, "I Sermili (Ormylia)" [Sermyle (Ormylia)], *Epetiris Philologikou Syllogou Parnassos*, 4 (1900), 104-7, 110-1 (with the relevant map).

⁷⁶ Papaggelos, *op. cit.*, p. 68; Lilimbaki & Papaggelos, *op. cit.*, p. 25, 36. Cf. Zaglis, *op. cit.*, pp. 12-3 as regards Dimitsas' point of view. Some maps of the Army Geographical Service, e.g. of 1914, place Chavrias a little further to the east.

Haliacmon,⁷⁷ the fact that the archer that wounded Philip originated from Olynthos indicates that the event took place in that area⁷⁸ and that the river should be placed there. As a result, some identify the river with Olynthios or Retsetnikiotis, such as the German traveller A. Struck, who cites also the name that the river had at his times (Lundschik Dere).⁷⁹

In 1650, the map of J. Laurenberg *Macedonia Alexandri M. patria* (Fig. 4) was the first to depict Sardanus River flowing into the eastern part of the Toronaic Gulf. The name is a combination of Sandanos (Plout., *Parall. min.* 307D1-3) and Sardon (Stob. 3.7.67 = *FGrH* 124 F 57). Apart from this combination, it is interesting to observe that Laurenberg attempts here to combine the two cities, Methoni and Olynthos, which according to the sources are cited in the narration about the blindness of Philip, the only instance that this river is mentioned. Thus, he “transfers” the first one from Pieria to Halkidiki, close to the second, so that both of them would be close to the river! Even so, Olynthos is placed much further to the east than in reality, in the eastern instead of the western part of the Toronaic Gulf.

Struck seems to be the only traveller who dared to identify Sandanos with the river of Olynthos (that is Lundschik Dere, Retsetnikiotis, Vatonía, Olynthios, but not Olynthiacos!), and this identification does not seem unlikely. In fact, it was adopted by twentieth-century cartographers, as can be seen on maps of the *Army Geographical Service* (1928, Fig. 22). The river of Olynthos probably is the anonymous one mentioned by Xenophon (*Hell.* 5.3.3), as the river which flows by the city of Olynthos.

⁷⁷ Hammond *op. cit.*, p. 129 and note 3. Cf. M. Hatzopoulos, D. Knoepfler & V. Marigo-Papadopoulos, “Deux sites pour Méthone de Macédoine”, *BCH (Bulletin de correspondance hellénique)*, 114 (1990), 647 (note 36), 661-3 (with more bibliography for both views).

⁷⁸ Cf. A. Swift Riginos, “The Wounding of Philip II of Macedon: Fact and Fabrication”, *JHS*, 114 (1994), 112-3.

⁷⁹ Cf. Struck *op. cit.*, p. 38. Cf. D.M. Robinson, “A Preliminary Report on the Excavations at Olynthos”, *AJA*, 33 (1929), 53 (note 1); M. Séve & D. Feissel, “La Chalcidique vue par Charles Avezou (avril-mai 1914). Notes de voyages et inscriptions”, *Bulletin de correspondance hellénique*, 103 (1979), 254, and the map of Chrysochoos cited on p. 255.

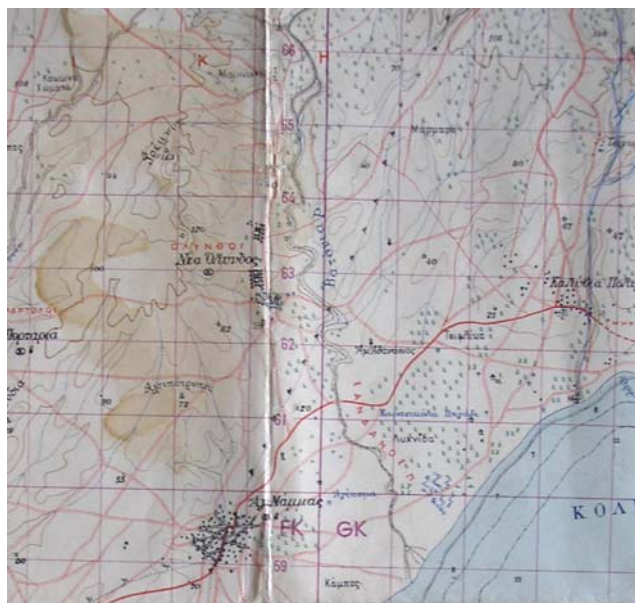


Figure 22

6. Richios (Ρήχιος)

Richios is just once mentioned in the sources. This unique reference to Richios by Procopius (*Aed.* 4.3.27-30) in the sixth century AD is not without problems. It is referred as a calm river with drinking water, flowing near the city of Thessaloniki. The area it crossed was fertile and there was also a marsh. According to Procopius, Justinian built a castle near the estuary of the river “εις θάλασσαν τὴν ἐκείνη” (into the nearby sea), and named it Artemision. Today, this fortress is identified with the castle located on the top of the hill of Rentina to the east of Lake Volvi, while Richios is the name of the river through which the water from the lake flows into the Strymonic Gulf, known also as the Stream of Rentina.⁸⁰

Although the term “near” is subjective, we could not say that the Strymonic Gulf is near Thessaloniki. The reference “εις θάλασσαν τὴν ἐκείνη” certainly is suited better to the Thermaic Gulf. Yet, even if travellers and modern scholars appear to be divided when referring to the location of Richios, most of them have supported and sought to reinforce with arguments the identification that is valid today.

Yet, on older European maps the name “Rechius” is noted for the first time in 1650 on the map of J. Laurenberg *Macedonia Alexandri M. patria* (Fig. 4), where it is

⁸⁰ Cf. Moutsopoulos *op. cit.*, passim; *idem*, *Rentina* / [Rentina], Thessaloniki: Centre for Byzantine Studies, 1995, passim; Stamatelatos & Vamva-Stamatelatos, *op. cit.*, p. 234; A. Lioutas, “Archaioi oikismoi stis limnes Koroneia kai Volvi” [Ancient Settlements in Lakes Koroneia and Volvi, in K. Soueref (ed.), *Ydatines scheseis* [Water Relations], Thessaloniki: University Studio Press, 2003, pp. 13, 15; Ballas *op. cit.*, especially p. 191.

depicted as a small river flowing just out of Thessaloniki to the south. A similar motif can be found on the map of d'Anville (Fig. 8). Obviously, the two cartographers follow the information of Procopius on the proximity of the river to the city, the latter with a much detailed outline of Halkidiki, which allows us almost to identify, as we have already seen, Richios with Anthemus, particularly as it springs from the homonymous city, which of course is placed there arbitrarily.⁸¹ In 1825 Richios was placed far away from the city of Anthemus by A. Tardieu on his *Grèce ancienne, partie septentrionale* (Fig. 18). This location was going to prevail, especially on maps of French cartographers,⁸² who relied significantly on the map of d'Anville. Later on, Kiepert (Fig. 1) would transfer the city of Anthemus itself further to the south, in the area of Vasilika-Galatista. The river named Richios today is never named as such in cartography until the twentieth century and on certain military maps.⁸³ Kiepert (Fig. 1) seems to name it Arethousa valley (Thal Arethusa).



Figure 23

It is indicative that although the first travellers of Halkidiki, such as Cousinéry⁸⁴ and Leake,⁸⁵ mention River Volvi, they do not give to it this name. The first who identified it with Richios was Tafel in 1839, who believed that “the sea near by” could not be the

⁸¹ Cf. de Montchal, *op. cit.*, p. 492.

⁸² Cf. A. H. Dufour, *Grèce ancienne, Partie septentrionale*, 1827 (Fig. 17); A. Brué, *Carte générale de la Grèce ancienne, de la Macédoine, de la Thrace, & al.*, 1840.

⁸³ Cf. for example. on maps of *Fd. Survey Coy* in 1946 (Fig. 23).

⁸⁴ Cousinéry, *op. cit.*, vol. 1, p. 116.

⁸⁵ Leake, *op. ci.*, pp. 160-70, 231-2.

Thermaic Gulf.⁸⁶ Moreover, as he argues, there was no marsh there or anywhere else around Halkidiki. He then suggested to turn to the area of Volvi, to identify Artemision with the castle of Rentina and to recognise Richios as the river silently mentioned by Thucydides (4.103) near the city of Bromiscus. He concluded that the name Richios mentioned by Procopius was connected to the Slavic ethnic group Rychinoi (Ρυγγίνοι), and the name of the area Rentina where this group was based. Dimitzas fully accepted Tafel's arguments.⁸⁷

Nevertheless, soon others expressed a different view. According to Desdevises-du-Dezert,⁸⁸ Richios sprang from Kissos (Chortiatis) and flowed into the Thermaic Gulf, crossing Krousis at the same (western) part of Halkidiki as Anthemus. He was the first to open up the possibility that Richios was related to the city Rekilos (Ραίκηλος), supporting evidence of which was to be found one century later.⁸⁹

But since 1886 and Schinas' *Οδοιπορική σημειώσεις* (Travelling Notes), Richios is established as a passable, on foot or on an animal (save in the season of heavy rainfall) river channelling water from Volvi to the Strymonic Gulf.⁹⁰ Similar are the views of Chrysochoos⁹¹ and Hatzikyriakou.⁹² Only in 1913 Tafrafi expressed his reservations concerning the location of Richios, and seemed to prefer the side of the Thermaic,⁹³ but his point of view would not prevail.

As regards Tafel's arguments, which supported the prevailing view, one could hold two reservations. Firstly, on why "the sea near Thessaloniki" mentioned by Procopius is not the Thermaic; and secondly, on the absence of any other marsh in Halkidiki. On the contrary, we cannot omit to observe the similar sound of the name Richios with Artemida Rechilia (Αρτέμιδα Ρηχειλία). The latter appears on a second-century AD column inscription found at the village Peraia on the other side of the Thermaic, a few kilometres south of Thessaloniki. This is an area identified with the ancient city of Rekilos (Ραίκηλος), which was at the Thermaic Gulf (Aristotle, *Athen. Pol.* 15.2) on the foothills of Mount Kissos (Lykophron, *Alex.* 1236-1238).⁹⁴ This con-

⁸⁶ Tafel, *op. cit.*, pp. 272-5.

⁸⁷ Dimitzas, *op. cit.*, p. 164-5. Cf. E. Oberhummer, "Volvi 1", *RE*, III.1, p. 668; *Tabula Imperii Romani. Naissus-Dyrrhachio-Scupi-Serdica-Thessalonike*, Ljubiana: Union Académique Internationale, 1976, p. 28.

⁸⁸ Desdevises-du-Dezert, *op. cit.*, pp. 353, 361-2, 373.

⁸⁹ See *supra* in this chapter.

⁹⁰ Schinas, *op. cit.*, pp. 418-9, 492, 511.

⁹¹ M. Chrysochoos, "Ta Makedonika Tempa iti ta stena tis Arethousis (Arenta i Rentina Bougaz)" [The Macedonian Tempa, that is the Straits of Arethousa (Arenta or Rentina Bougaz), *Epetiris Philologikou Syllogou Parnassos*, 8 (1904), 11, 38-40. Chrysochoos places Artemision right to the south of Richios' estuary, as he notes on the map accompanying his article.

⁹² G. Hatzikyriakou, *Skepsis kai entiposeis ek periodeias ana tin Makedonian meta topographikon, istorikon kai archaeologikon simeioseon* [Thoughts and Impressions from a Tour to Macedonia with Topographic, Historical and Archaeological Notes], Athens: Society for Macedonian Studies, 1906, p. 17.

⁹³ Tafrafi, *op. cit.*, p. 34.

⁹⁴ Cf. Ael. Herod., *De pros. cath.* 3.1.123; Steph. Byz., *Ethn.*, s.v. Ράκηλος.

nection has led to the suggestion that the name Rechilia on the inscription and the name of River Richios is a corrupted version of the name Rekilos (Ραίκηλος). Thus, the river flowed near the city and could be identified as Anthemus.⁹⁵ A similar view was shared by Kiepert (Fig. 1), who marked Anthemus flowing next to Rekilos.

As regards the identification of Justinian's Artemision with the fortress of Rentina, this is neither certain at all nor based on any evidence. Procopius clearly states that Artemision was built on the sea, near the river's estuary, while the hill of Rentina is far away from the sea.

In any case, the identification of River Richios remains problematic, but if we follow Procopius, its placement at the Thermaic Gulf is clearly much more probable.⁹⁶ Moreover, the combination of the reference to Artemision and Richios by Procopius with the reference of Artemida Rechilia on the inscription is too strong to be a coincidence. It cannot be excluded that Justinian named his castle Artemision, which is not a particularly common Byzantine name, because he built it at the area of a sanctuary of Artemis. Given the fact that the inscription is found on a stone column more than 2.5m high, which is very difficult to be transferred in Peraia from afar, it is highly likely that River Richios, after which Artemis was named, was not very far away. The nearest important river is of course Anthemus. It could also either have a second name, as we have already seen, or it could also be the slightly more distant stream of Thermi, identified by some (as noted above) with Smeilodis.

Nevertheless, I consider more likely that it is an even nearer stream that exists to this day and flows to the east of Peraia, between Peraia and Thessaloniki's airport, which means that it almost crosses the area where the inscription was found. Today, a very small part of it has water, but its course can be clearly seen, with its springs located at the area of the village of Trilofos, while just before its estuary it joins another stream that seems to spring from the area of the village of Kardia. The land around is indeed fertile, as Procopius states, and there are also traces of the mentioned marsh around its estuary.⁹⁷

7. General Remarks

From the preceding examination, I believe it becomes clear that the ten rivers of Halkidiki mentioned by ancient authors went through a journey of misunderstandings and distortions. Centre-stage in this journey was River Chavrias, as well as Olyn-

⁹⁵ F. Papazoglou, "Les villes de Macédoine à l'époque romaine", *Bulletin de correspondance hellinique Suppl.* 16 (1988), 28 (note 70); P. Nigdelis, "Anazitontas tin Archaia Raikilo. Aristotelous Politeia 15.2 kai mia nea epigraphi apo tin Peraia tis Thessalonikis" [Searching for ancient Raikilos. Aristotle's *Politics* 15.2 and a New Inscription from Peraia Thessaloniki], *Tekmiria*, 10 (2011), 112-3, with the latest discussion about both the inscription and the city.

⁹⁶ See the discussion below in this chapter.

⁹⁷ Of course, Tafel tried in vain to recognize in the words of Procopius a significant marsh of Halkidiki.

thiacos, Ammitis and Richios. We saw above the story of the transfer of Chavrias to the Toronaic Gulf. Initiated by Mercator, the misunderstanding was probably supported by the cartographers' expectations as a result of Ptolemy's reference to Chavrias.

But why did Ptolemy refer only to Chavrias when there were other bigger rivers in the region? Obviously, this question cannot be answered with certainty. Was it because it flowed near the large city of Thessaloniki? Was it because something important happened there during Ptolemy's times that we are not aware of? Was it known as a borderline between Croussis and Vottiki? Or is the reference completely accidental?

In any case, it is a fact that, though erroneously, today Chavrias is the name of the river of Ormylia and this is commonly accepted. Thus, the question that arises is whether to call Chavrias this river or the river of the Thermaic Gulf? Respectively, one has to wonder about Olynthiacos, which is now identified with Olynthios/Vatonia, but also about Richios, which is identified with the stream of Rentina. This is clearly a matter of methodology. Actually, it is possible that the acceptance of the erroneous version makes sense, if only for practical reasons. However, from a scientific point of view, it is clear that the erroneous version has to be corrected. And even if it does not prevail in the end, at least the right one has to be recorded. Even if Ptolemy made a mistake as regards the placement of Chavrias, this is something that we can never know or prove. The fact that he was the only one who mentioned a river with the particular name and placed it clearly (with coordinates) flowing into the Thermaic Gulf compels us to place Chavrias at this site and nowhere else. The same goes for the location of Richios, as mentioned by Procopius.

In our effort to explain this journey of misunderstandings and distortions, we observe that almost all of these ten rivers appear only once each, either in a text or on an inscription. The only exception is Ammitis, which is mentioned once in a text and once on an inscription. *Inter alia*, this scarcity of references is due to the fact that none of these rivers was significantly big, such as Strymon in the east or Axios and its neighbouring rivers in the west. This could entail a low probability of their involvement in historical events or of raising an interest for environmental reasons. Historical research shows that it was common in Antiquity for rivers to serve as borders among cities or ethnic groups. The inscription studied above verifies to a certain extent this theory, since the rivers on it are mentioned as borders of such regions: Petariskos and Ammitis as borders between Osbaioi and Kallipolitai, Smeilodis (if the completion is right) as the border between Ramaioi and Kissites. Having placed Ammitis at Volvi and knowing that Kissos was located in the area south-east of Thessaloniki and west of the mountain's summit,⁹⁸ we can consider probable that

⁹⁸ See here above, and Manoledakis, *op. cit.*, pp. 43-64.

Petariskos was not very far away from Ammitis. Both rivers formed the boundaries of the same regions in the vicinity of Lake Volvi, near which there were the regions of Osbaioi and Kallipolites. Moreover, Smelodis was one of the rivers (streams) of Mount Chortiatis.

As far as the other rivers are concerned, we could assume that Anthemus and Chavrias served as a border between Mygdonia and Halkidiki (Croussis) and between Croussis and Vottiki, respectively. It is possible that Olynthios (that is probably Sandanos) was the easternmost border of Vottiki with the rest of Halkidiki.⁹⁹ In any case, those rivers were so shallow, that they served as borders only typically, as it was not difficult to cross them.

From all the above, I think that there is only one certain conclusion we can draw: That it is easier to get drowned trying to study the shallow rivers of Halkidiki than trying to cross them. After this study, we end up with the following placement of the ten rivers mentioned in Antiquity – sometimes with more, sometimes with less certainty:

Psychros: The stream that appears to spring from Mount Kakavos, part of the of the Holomon range, to the south-west of the village of Gomati. It flows into the coast of Develiki, and is also known as Kryokampos and Strivotis.

Olynthiacos: Megalo Revma (Pazarouda) or, otherwise, Mikro Revma (Cholomon) of Volvi.

Ammitis: The Mikro Revma (Cholomon) or, otherwise, Megalo Reuma (Pazarouda) of Volvi.

Manis, Smeilodis: Two streams of the mountain range of Chortiatis, unknown which ones. Possible candidates, among others, are the Regional Canal (περιφερειακή τάφρος) of Thessaloniki or Stream of Toumpa, and also the Stream of Thermi.

Petariskos: A stream not far away from Ammitis, probably one of its tributaries.

Anthemus: Also known today as Anthemus or Vasilikiotikos.

Chavrias: A river springing from Mount Kalavros and flowing into the Thermaic Gulf, probably the stream flowing west of Nea Kallikrateia, known in the past as Kioulafli Stream.

Sandanos: Probably the river of Olynthos, known as Lundschik Dere, Retsetnikiotis, Vatonía and Olynthios.

Richios: A stream flowing between Peraia and the airport of Thessaloniki, or a second name for Anthemus, or the Stream of Thermi.

Another justifiable question that could be raised is whether the reference of rivers in Antiquity could yield information about the development of the aquatic envi-

⁹⁹ For these regions, see P. Flensted-Jensen, "Thrace from Axios to Strymon", in M. H. Hansen & T.H. Nielsen (eds), *An Inventory of Archaic and Classical Poleis*, Oxford: Oxford University Press, 2004, pp 810-1.

ronment of Halkidiki from Antiquity to this day. Of course, a decrease of the water volume, a general phenomenon in Greece and elsewhere, should be considered almost certain. We are in a position to come to this conclusion based on various information regarding the broad area under study, and mostly Mount Chortiatis (ancient Kissos), the mountain to the south-east of Thessaloniki.

Chortiatis is a mountain whose summits were covered with snow all year long until recently. The seventeenth-century traveller Evliya Çelebi wrote that:

It is a mountain high above sea level, rising to the sky. On the mountain top there is snow, ice and crystals, both in summer and in winter. On the mountain, there are hundreds of small lakes, resembling the eye of life. During the severe winter weather, crystal-like ice is formed on those small lakes, while in summer the [inhabitants] of Hortatz bring the ice in Thessaloniki on packhorses and sell it.¹⁰⁰

Until the mid twentieth century, the snow-capped Chortiatis provided an important source of employment for many of the inhabitants of the homonymous village located on the mountain's foothills.

There is also the important information provided by Xenophon (fifth-fourth century BC) that during his times “lions, leopards, lynxes, panthers, bears and all similar wild beasts are captured in foreign countries, on Mount Pangaeus and Cittus beyond Macedonia, on Mysian Olympus and Pindus, on Nysa beyond Syria, and in other mountain ranges capable of supporting such animals” (*Hunt.* 11.1).

Combining all this information, we can imagine a mountain with a climate much colder than today, with heavy winters and cool enough summers, so that the winter ice and snow were preserved on the top of the mountain. A mountain with particularly fertile slopes, rich vegetation, lots of water and small lakes, and also a great variety of fauna, especially in Antiquity, but also during the Ottoman period. Since then, the increase of temperature is beyond doubt. The snow and ice covering the top of Chortiatis all year long, at least until the era of Çelebi, today does not cover it even for one winter month, while the numerous lakes have disappeared and recently there were even problems of water shortage.¹⁰¹

Given that Chortiatis was the mountain where the springs of most of the rivers (certainly Anthemus, Richios, Smeilodis, Chavrias and perhaps Manis and Petariskos) mentioned in ancient sources were located, it can be assumed with sufficient certainty that the dramatic decrease of snow and ice on the mountain during the last decades had a significant impact also on the decrease of the water volume of the rivers springing from it. This could be one of the reasons that would explain the absence, as we have seen, of a continuous tradition for the name of many of these rivers over the centuries. We should not forget the evidence of 1344 that some

¹⁰⁰ Evliya Çelebi, *Seyâhatnâme*, 1667, Book 8 (Greece), chapter on Thessaloniki.

¹⁰¹ For all this, see Manoledakis, *op. cit.*, pp. 85-91.

years before that time the river of Nea Kallikrateia, which we considered as the most likely candidate for the identification with Chavrias, had flooded, endangering the neighbouring Byzantine castle.¹⁰² This suggests that it was a particularly rough river, one that bears no resemblance to the current stream in the area.

There is also another aspect of the study on rivers, namely their principal component: water. Almost all travellers, when they mention rivers, underline that the land these rivers crossed were particularly fertile. They describe the rich vegetation in great detail and point out the ensuing benefits for the locals. This is particularly important, bearing in mind the importance of water for the very existence of both humans and their settlements. Undoubtedly, to a large extent these rivers always attracted settlements. Some of the most important ancient civilisations have developed around big rivers, such as the Nile, Tigris and Euphrates. Even very small rivers, such as those under study, comprised geophysical points of reference in each area, chosen for the development of settlements, since they provided people and animals with water, and also with fertile and arable land, necessary for the survival of each settlement. Consequently, rivers contribute to the development of the economy, commerce and transportation. Thus, it is not mere chance that around the rivers of Halkidiki, already in prehistoric times, many settlements appeared.¹⁰³ A mere glance on the map of Halkidiki's prehistoric settlements (Fig. 24) reveals that the vast majority of these were located either in the fertile regions crossed by rivers or near the sea.¹⁰⁴ In particular, the majority were located at the valleys of Anthemus, Richios, Chavrias, Sandanos, Olynthiacos and Ammitis, as well as those formed by rivers whose ancient names are not known (e.g., Ormylia, Rentina) and the streams between the lakes Koroneia and Volvi. Even in small peninsulas, such as Sithonia, research has revealed that the majority of prehistoric settlements developed near streams¹⁰⁵ so as to be as close as possible to drinking water.

¹⁰² D. Papachryssanthou, *Actes de Xénophon. Édition diplomatique (Archives de l'Athos XV)*, Paris: L. Petit, 1986, text 27.

¹⁰³ Cf. also Lioutas *op. cit.*, p. 15-8.

¹⁰⁴ D.V. Grammenos, M. Besios & S. Kotsos, *Apo tous proistorikous oikismous tis Kentrikis Makedonias* [From the Prehistoric Settlements of Central Macedonia], Thessaloniki: Society for Macedonian Studies, 1997, where the map comes from.

¹⁰⁵ A. Smagas, *Proistorika chronia sti Sithonia* [Prehistoric Age in Sithonia], Thessaloniki: Municipality of Sithonia, 2000, pp. 34, 60-86, 93.

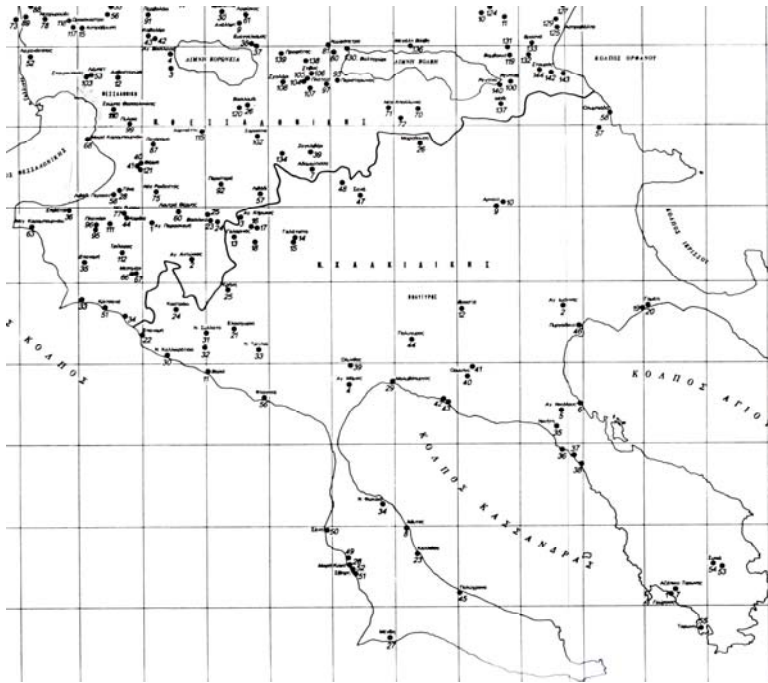


Figure 24

Even in historical times, near each of the rivers under study, at least one significant city had developed: Apollonia between Olynthiacos and Ammitis; Assa near Psychros; the various cities mentioned on “the inscription of Cholomon” around Manis, Petariskos and Smeilodis; Olynthos near Sandanos, from which it was supplied with water; Thessaloniki and the antecedent towns around Richios, Chavrias and Anthemus. If we accept that the etymology of the name Mygdonia derives from “my”, which in turn derives from the Phoenician letter “mem”, which means water, and “γῶν” (χθων, land),¹⁰⁶ then the area of Mygdonia was called “water land”, which indicates that it was renowned in Antiquity for its fertile land.

Special mention should be made of the supply of Olynthos with water from Sandanos, as it has been archaeologically evidenced. We mean the qanat of Olynthos, parts of which were excavated in the previous century.¹⁰⁷ The existence of a qanat in the Greek littoral is always important, since it is very rare. Qanat is defined as a system of underground tunnels and pipelines, drawing water from the underground water table, and transporting it to the surface via natural inclination. According to the most widely accepted view, this system was invented by Persians or Armenians, not

¹⁰⁶ Cf. for example Lioutas *op. cit.*, p. 14.

¹⁰⁷ D. M. Robinson, *Excavations at Olynthus* viii, Baltimore 1938, 307 ff.; *Excavations at Olynthus* xii, Baltimore 1946, pp. 103 ff.

later than in the eighth century BC. There is also the view that in Greece there were similar techniques, probably previously known, even if they were used for other purposes. The biggest qanat in Greece is that of Agia Paraskevi in Chortiatis.¹⁰⁸ The qanat of Olynthos is very close to this, parts of which were discovered and described by the city's excavator, who dated it to the second half of the fifth century BC.¹⁰⁹ We do not know with certainty from where this qanat carried the water to Olynthos, but it is possible that it carried it from Sandanos;¹¹⁰ thus, the role of the river was vital for the city.

The high importance of water is clearly reflected on various local legends and traditions related with the specific regions. Among those legends, the dominant one is that of Nymph Volvi, who mated with Hercules and gave birth to Olynthos. Naming the lake after a nymph is not at all coincidental, since nymphs were young goddesses, related with springs, rivers and in general freshwater, thus emphasising its great importance for life. They were daughters of Zeus or Ocean or of various rivers – personifications of actual rivers, depending on the region where each legend was created or altered. In our case, Nymph Volvi mated with Hercules, a great hero of Greek mythology, who, as we have seen,¹¹¹ is related with the area. This tradition enhances even more the placement of rivers Olynthiacos and Ammitis in Volvi and not in the Toronaic Gulf, especially since it is mentioned by Athenaeus, our only source for these rivers.

¹⁰⁸ See M. Manoledakis & P. Androudis, "To systima ydromastephsis (qanat) tis Ag. Paraskevis Hortiati" [The Water Supply System (qanat) of St Paraskevi in Chortiatis], *AEMTH*, 21 (2007), 285-92, with the relevant bibliography.

¹⁰⁹ Robinson, *Excavations* viii, p. 309; *Excavations* xii, p. 107.

¹¹⁰ Robinson (*Excavations* viii, p. 307, and *Excavations* xii, pp. 112-3) thinks that the water could be piped from the Polygyros Hills, which is also possible but does not exclude the Sandanos version.

¹¹¹ See here above.

Settlement and Environment in Halkidiki, Ninth to Fifteenth Century AD

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A number of often interrelated factors determined the evolution of the settlement and the environment of medieval Halkidiki. Apart from the soil and the climate, the fact that Halkidiki is a peninsula surrounded by sea played a substantial role. Political developments were also crucial in determining, in particular, the levels of security and the existence or not of state intervention. The demographic and economic developments and the changes in social relations had a fundamental impact. A final factor that set Halkidiki apart from most areas of the Byzantine Empire was its proximity to Thessaloniki and to the monastic centre of Mount Athos.

Halkidiki and the lower Strymon valley stand out from all other Byzantine provinces with regard to the wealth of available documentary evidence. This is owed to the preservation in the archives of Athonite monasteries of documents concerning the property rights of the monks. A few documents survive from the late tenth century and substantially more from the eleventh. There is practically no data for the twelfth and first half of the thirteenth century after which our documentation expands reaching a peak in the first half of the fourteenth century.¹ The texts in question shed light on the settlement, the population, the landownership regime, the agrarian economy, and the natural environment in coastal Halkidiki, where the possessions of the Athonites were concentrated, but reveal little about the mountainous interior of the peninsula, where the monks had fewer properties.² The following discussions therefore focus on the coasts. Also excluded is the peninsula of Athos, which was characterised by an idiosyncratic type of settlement. The exceptional documentation concerning medieval Halkidiki has permitted an advanced study of the issues indicated above, most notably by Angeliki

¹ Very few documents from before the late tenth century survive. On the number of Athonite documents in Greek preserved from different centuries, see Kostis Smyrlis, *La fortune des grands monastères byzantins, fin du x^e - milieu du xiv^e siècle*, Paris: Centre de Recherche d'Histoire et Civilisation de Byzance-Collège de France, Monographies 21, 2006, p. 26 (table 1).

² As the northern limit of the peninsula I take the northern slopes of Mts Chortiatis and Cholomon.

Laiou and Jacques Lefort.³ The discussions below are to a large extent based on this scholarship and especially on the pioneering work of Lefort.

1. Factors Conditioning the Settlement and the Environment

The greatest part of coastal Halkidiki is hilly terrain suitable for cultivation. The exceptions are Sithonia (medieval Longos), the eastern shores of Halkidiki and the peninsula of Athos, which are mountainous.⁴ The fact that Halkidiki is surrounded by sea affected its settlement in various ways, some of which are documented while others can be inferred. It is likely that the Justinianic and the late medieval plagues hit the peninsula harder than the inland regions since these epidemics were spread primarily through sea-born trade. In a similar fashion, the maritime situation of Halkidiki meant that it was exposed to piratical attacks, which are attested throughout our period. The Arab control of Crete (c. 828-961) is likely to have had a severe effect on the peninsula.⁵ The fourteenth-century Turkish attacks were apparently even more disruptive.⁶ At the same time, the maritime character of Halkidiki may have also favoured continuity in settlement. The fact that coastal communities could receive support from the sea, which remained under Byzantine control in the seventh and eighth centuries, may have allowed parts of the peninsula to withstand the Slavic invasions for longer periods. For the same reason, it was easier for the Byzantines to reclaim Halkidiki and they may have done so at a relatively early date. Such developments could help explain the evidence for continuity of settlement from the antique into the medieval era.

The two most significant political developments in our period were, first, the reestablishment of imperial control over Halkidiki, at the latest in the first part of the ninth century, and, second, the collapse of Byzantine power in the fourteenth century and

³ See in particular Angeliki E. Laiou-Thomadakis, *Peasant Society in the Late Byzantine Empire. A Social and Demographic Study*, Princeton: Princeton University Press, 1977, and Angeliki E. Laiou, "The Agrarian Economy, Thirteenth-Fifteenth Centuries," in *eadem* (ed.), *The Economic History of Byzantium, from the Seventh through the Fifteenth Century*, Washington D.C.: Dumbarton Oaks Research Library and Collection, 2002, vol.1, pp. 311-75; Jacques Lefort, *Villages de Macédoine. 1. La Chalcidique occidentale*, Paris: Centre de Recherche d'Histoire et Civilisation de Byzance, Monographies 1, 1982; *idem*, *Société rurale et histoire du paysage à Byzance*, Paris: Association des amis du centre d'histoire et civilisation de Byzance, 2006, and his contributions in several volumes of the *Archives de l'Athos* series.

⁴ On the geomorphology and soils of Halkidiki, see Paul Bellier, René-Claude Bondoux, Jean-Claude Cheynet, Bernard Geyer, Jean-Pierre Gréolis, Vassiliki Kravari, *Paysages de Macédoine : leurs caractères, leur évolution à travers les documents et les récits des voyageurs*, Paris: Centre de Recherche d'Histoire et Civilisation de Byzance-Collège de France, Monographies 3, 1986, pp. 3-6.

⁵ The Cretan threat is mentioned in the Life of Athanasios of Lavra as affecting trade and settlement on Athos; Jacques Noret (ed.), *Vitae duae antiquae sancti Athanasii Athonitae*, Leuven: Brepols-Turnhout, 1982, p. 19. Arab pirates appear to have taken a captive from the region of Ierissos as late as the early eleventh century; Jacques Lefort, Nicolas Oikonomidès, Denise Papachryssanthou (eds), Hélène Métrévéli, collab., *Actes d'Iviron I, des origines au milieu du XI^e siècle*, Paris: P. Lethielleux, 1985; hereafter *Iviron I*, no. 16 (1010).

⁶ Cf. Mirjana Živojinović, "Concerning Turkish Assaults on Mount Athos in the 14th Century, Based on Byzantine Sources", *Orijentalni Institut u Sarajevu, Prilozi za Orijentalnu Filologiju*, 30 (1980), 501–16.

the attendant upheavals that lasted for more than 80 years (1345-1430).⁷ In the intervening centuries various political changes or violent episodes also affected the peninsula but to a lesser degree.⁸ The Byzantine recovery of Halkidiki allowed the state to intervene in the region, as seen in particular in the creation of towns, whereas the improved security conditions were fundamental for demographic and economic expansion in the peninsula as they were for the empire in general. All evidence coming from the areas documented by the Athonite material as well as from other regions of Byzantium suggests that the population grew substantially in the period extending from the ninth to the fourteenth century⁹.

Another development of major significance concerns the changes in the pattern of landownership in the region. As manpower became more plentiful and security improved, land exploitation became more profitable, something which incited people with means to acquire properties from the fisc or from peasants thus creating sizable estates. The state participated in this process acquiring a large portion of the land in the eleventh century, which it either kept or ceded to imperial servants and monasteries. By the middle of the same century most of the land in coastal Halkidiki was part of estates. The expansion of the estates led to the creation of numerous settlements inhabited by peasants needed for the exploitation of these properties. In addition, the same development probably meant an emphasis on the cultivation of exportable products and, overall, to an intensification of land exploitation.

The proximity of Thessaloniki, the only city in the wider region that remained under constant imperial control and which had a relatively large population, had a significant impact on the evolution of Halkidiki. The presence of this city probably facilitated the early recovery of the peninsula and contributed to the already mentioned continuity of settlement we observe in certain parts. As the population of Thessaloniki grew in the Middle Ages so did its demand for agricultural products from Halkidiki. The emergence from the late tenth century of a populous monastic centre on Athos had similar effects. Moreover, the Athonites and powerful landowners based in Thessaloniki possessed in

⁷ The evidence on monastic settlement on Athos and in Halkidiki during the ninth century suggests that the peninsula was already under Byzantine control in the earlier part of that century: Denise Papachryssanthou, *O athonikos monachismos. Arches kai organosi* [Athonite Monasticism. Principles and Organisation], Athens: Morfotiko Idryma Ethnikis Trapezis, 1992, pp. 82–128.

⁸ Most notable are the frequent Bulgarian incursions in the tenth century (Lefort, *Société rurale*, p. 76, n. 116), the upheaval after the Latin conquest of Constantinople in 1204, whose effects on our region are largely unknown, and the certainly disruptive passage of the Catalans in 1307; see Ioakeim A. Papaggelos, "I Sithonia kata tous vyzantinous chronous. Istoría, mnimeia, topografía [Sithonia in the Byzantine Era. History, Monuments, Topography], unpublished PhD thesis, Aristotle University of Thessaloniki, 2000, vol.1, pp. 123–4, 130–1; Smyrlis, *La fortune*, pp. 177–8; Jacques Bompaire, Jacques Lefort, Vassiliki Kravari, Christophe Giros (eds), *Actes de Vatopédi I, des origines à 1329*, Paris: Lethielleux, 2001, p. 242 (hereafter *Vatopédi I*).

⁹ Jacques Lefort, "The Rural Economy, Seventh-Twelfth Centuries", in Laiou (ed.), *The Economic History of Byzantium*, vol. 1, pp. 269–71.

the Middle Ages a considerable portion of the fertile coastal lands of the peninsula.¹⁰ This phenomenon, along with the mighty presence of the state in Halkidiki, limited the possibilities of expansion of local landowners who were based in the small towns of Halkidiki, and played a role in the decline of these settlements after the eleventh century. Finally, in the troubled period of the fourteenth and fifteenth centuries, the Athonite presence in Halkidiki contributed considerably in mitigating the effects of the crisis and maintaining a degree of continuity in settlement and land exploitation in the peninsula.

2. Immigration and the Population of Halkidiki

Hardly anything is known about the peninsula in the period extending from the seventh to the first half of the ninth century. The plague, which had appeared in 541-42 and kept returning in Byzantium until the middle of the eighth century, certainly also affected the population in Halkidiki as must have done the insecurity that followed the collapse of Byzantine defences in the late sixth century. This collapse permitted the settlement of Slavs throughout the Balkans.¹¹ The predominance of Slavic place names in medieval Halkidiki shows that the abandonment of habitat was massive and that it concerned the entire peninsula, though less so its western and southern coasts. The preservation of ancient names in Kalamaria, Kassandra and Longos and the apparently weaker Slavic presence indicates a degree of continuity in the settlement of these regions, which may be the result of a longer control of the coasts by the Byzantines.¹² Immigration to Halkidiki continued after the ninth century but at lower intensity than in the seventh and eighth centuries. Slavs continued entering the peninsula throughout our period; Armenians and possibly Greeks from Asia Minor were settled in Halkidiki by the state in the tenth century.¹³ The manpower needs of estates sometimes led landowners to bring and settle in Halkidiki peasants coming from other regions of the empire, northern Greece, the islands and Asia Minor.¹⁴ Such movements

¹⁰ See the case of western Halkidiki in Lefort, *Chalcidique occidentale*, maps.

¹¹ Lefort, "The Rural Economy", pp. 268–9.

¹² François Brunet, "Sur l'hellénisation des toponymes slaves en Macédoine byzantine", *Travaux et Mémoires*, 9 (1985), especially pp. 253–6; Vassiliki Kravari, "L'hellénisation des Slaves de Macédoine orientale, au témoignage des anthroponymes", in *Eupsichia. Mélanges offerts à Hélène Ahrweiler*, Paris: Publications de la Sorbonne, Byzantina Sorbonensia 16, 1998, vol. 2, pp. 387–97; Lefort, *Société rurale*, pp. 64, 158, 266–7, 275, 489; Peter Soustal, "Place Names as a Source for Migration and Settlement: Continuity and Change in Byzantine Chalkidiki", *Wiener Schriften zur Geographie und Kartographie*, 18 (2009), 177–83.

¹³ Lefort, *Société rurale*, pp. 275, 276–7, 278; Kravari, "L'hellénisation", p. 395; *Iviron I*, pp. 166–7 (on the Armenians).

¹⁴ See the case of the estate of Rosaion belonging to the monastery of Docheiariou in Nicolas Oikonomidès (ed.), *Actes de Docheiariou*, Paris: P. Lethielleux 1984, no. 19 (1338) (hereafter *Docheiariou*).

probably continued during the period of the crisis, after the middle of the fourteenth century, the aim now being to counter the depopulation of the estates.¹⁵

People were still relatively rare in Halkidiki in the ninth and tenth century.¹⁶ As in the rest of the empire, the population of the peninsula was growing, nevertheless, as it is made clear by Athonite documents dating from the eleventh to the fourteenth century. In fact, the only quantitative evidence regarding demographic evolution in Byzantium comes from the archives of Athos. The aggregate population of nine settlements situated in Halkidiki and in the region of Mounts Pangaion and Symbolon grew by 82% between the early twelfth and early fourteenth century; the population of the five documented settlements of Halkidiki more than doubled in this period.¹⁷ The trend was reversed in the fourteenth century primarily because of the plague that hit the region for the first time in 1347. To the ravages of this recurring epidemic were added the effects of various attacks and the generalised insecurity and economic contraction that lasted until the fifteenth century, when the firm establishment of the Ottomans brought stability. Our documents bear the marks of this crisis. The population in most villages was reduced drastically, whereas whole coastal areas, in Kassandra and Longos in particular, were deserted at this time¹⁸.

3. Settlement in Medieval Halkidiki

The ancient cities of Halkidiki were abandoned after the sixth century at the latest. The Byzantine reconquest of the peninsula before the second half of the ninth century was followed by the creation of fortified towns, usually called *kastra* in our sources, which spanned the coast. Moving eastwards from Thessaloniki one encountered Vrya (first mentioned as a town in 1047), Kassandreia (996), Ermileia (1047), Pokrentos (1047) and Ierissos (927). This was certainly the product of state action that aimed at restoring imperial control and securing a region exposed to Bulgarian attacks from the north and Arab raids from the south. The population of these *kastra* was probably not greater than that of a large village, a few hundred people, but it included a bishop and church officials, some army officers as well as a number of well-to-do landowners whose

¹⁵ Cf. Raúl Estangüi Gómez, *Byzance face aux Ottomans: exercice du pouvoir et contrôle du territoire sous les derniers Paléologues (milieu XIVe - milieu XVe siècle)*, Paris: Publications de la Sorbonne, Byzantina Sorbonensia 28, 2014, p. 175, n. 255.

¹⁶ Lefort, *Société rurale*, pp. 232–4, 275.

¹⁷ *Ibid.*, pp. 231, 238–40.

¹⁸ On the crisis of the fourteenth and the slow recovery in the fifteenth century see in general *ibid.*, 240–47; Kostis Smyrlis, "Byzantium", in Harry Kitsikopoulos (ed.), *Agrarian Change and Crisis in Europe, 1200-1500*, New York and London: Routledge, 2012, pp. 145–8. On population decline and the desertion of Kassandra and Longos, also see Elias Kolovos, "Chorikoi kai monachoi stin othomaniki Halkidiki, 15os-16os aiones" [Peasants and Monks in Ottoman Halkidiki, 15th-16th c.], unpublished PhD thesis, Thessaloniki: Aristotle University of Thessaloniki, 2000, vol. 1, pp. 85–97.

wealth was expanding up until the eleventh century.¹⁹ None of these settlements retained its *kastron* status for very long. All seem to have gone into decline sometime between the eleventh and the fourteenth century.²⁰ The town of Vrya was abandoned altogether before that century.²¹ Kassandreia is last mentioned as a town in 1047. Historian Nikephoros Gregoras informs us that at the time he was writing, the middle of the fourteenth century, Kassandreia was deserted.²² Ermileia, a *kastron* in 1047 and again in 1274, is a village (*chorion*) in all subsequent mentions, from 1280-81 to 1404.²³ Pokrentos, a *kastron* in 1047, is no longer mentioned as a settlement. This is probably because Pokrentos is called Ravenikeia in later sources. Nevertheless, although Ravenikeia was a settlement of some importance it is never called a town.²⁴ The case of Ierissos is better known and more complex. Ierissos, which consistently appears as a *kastron* in the sources between 927 and 1104²⁵, is called a village from 1259, when documents become available again, and up until 1344, even though it remains a bishopric.²⁶ In the fourteenth century, the term *kastron* was occasionally used

¹⁹ Lefort, *Société rurale*, pp. 64–9, 156, 158, 234.

²⁰ Cf. *ibid.*, pp. 159, 491.

²¹ *Ibid.*, p. 80 (n. 131), 491 (n. 11).

²² *Ivion I*, no. 29, l. 85, 87; Nikephoros Gregoras, *Byzantina historia 1*, ed. by Ludwig Schopen, Bonn: Ed. Weber, 1829, p. 245. Certain decisions issued by the Venetian senate between 1425 and 1429 mention the need to fortify or repair Kassandreia or its “tower”; Freddy Thiriet, *Régestes des délibérations du Sénat de Venise concernant la Roumanie, II, 1400-1430*, Paris: Mouton, 1959, nos. 1943, 1964, 1995, 2000, 2149. These decisions probably refer to the fortification at the isthmus of Kassandra which was restored by John VII around 1407; cf. Jacques Lefort, Vassiliki Kravari, Christophe Giros, Kostis Smyrlis, Raúl Estangüi Gómez (eds), *Actes de Vatopédi III, de 1377 à 1500* (forthcoming; hereafter *Vatopédi III*), no. 197. On Kassandreia, also see Ioakeim A. Papaqelos. “To polichnion tis Kassandreias” [The Township of Kassandreia], in *Praktika tou protou panelliniou symposiou istorias kai archaiologias tis Halkidiki, Polygyros 1984, Chronika tis Chalkidiki*, Supplement 1, Thessaloniki, 1987, pp. 201–10.

²³ *Ivion I*, no. 29 (1047), l. 55; Jacques Bompaire (ed.), *Actes de Xéropotamou*, Paris: P. Lethielleux, 1964, no. 9 (1274) (hereafter *Xéropotamou*); *Docheiariou*, nos. 9 (1280/81), 22 (1344), 26 (1346); *Vatopédi III*, nos. 189 and 190 (1404).

²⁴ On the likely identity of Pokrentos with Ravenikeia, see *Docheiariou*, no. 50, and Jacques Lefort, Nicolas Oikonomidès, Denise Papachryssanthou (eds), *Actes d'Ivion II, du milieu du X^e siècle à 1204*, Paris: P. Lethielleux, 1990, p. 196. Ravenikeia was the name of an *enoria* in 1101 (*ibid.*, no. 50), of a *chora* before 1274 (Paul Lemerle, Gilbert Dagron, Sima Ćirković (eds), *Actes de Saint-Pantéléémôn*, Paris: P. Lethielleux, 1982, no. 9], and of a *katepanikion* in 1275 (*Xéropotamou*, no. 10), elements that suggest that the settlement was important. A document of 1349 (*Docheiariou*, no. 25) mentions “the *kastellion* of Ravenikeia with the tower and the peasants and lands found there”, all of which were donated by Stefan Dušan to Docheiariou. Although the expression “*kastellion* with tower” usually denotes a fortified administrative centre of an estate, we cannot exclude the possibility that here it refers to the walled settlement of Ravenikeia.

²⁵ *Ivion I*, no. 1 and *Ivion II* no. 52, l. 571.

²⁶ Jacques Lefort, Nicolas Oikonomidès, Denise Papachryssanthou, Vassiliki Kravari (eds), *Actes d'Ivion III, de 1204 à 1328*, Paris: CNRS Éditions & P. Lethielleux, 1994 no. 58 (hereafter *Ivion III*), and *idem*, *Actes d'Ivion IV, de 1328 au début du XV^e siècle*, Paris: CNRS Éditions & P. Lethielleux, 1995 no. 88 (hereafter *Ivion IV*). On Ierissos, cf. Lefort, *Société rurale*, p. 79, 491 (n. 10).

in reference to the settlement of Ierissos or at least its fortification.²⁷ The mentions of Ierissos as a *kastron* from the 1340s suggest that its walls, which were probably not maintained earlier, had been repaired and that the settlement was again fortified. This did not necessarily make it a town however; at least in this period, villages could also be walled (see below). It is noteworthy, nevertheless, that in 1346 the Athonites obtained from Stefan Dušan, the new ruler of Macedonia, the promise that no governor would be appointed at Ierissos which would thus remain under the authority of its bishop and Athos.²⁸ The monks were making sure that no governor interferes in Athos or its productive hinterland, but also Ierissos remains under their control. However, in 1359, three years after the death of Dušan, we encounter a Serbian governor of Ierissos judging, along with church and lay notables, a property dispute between two Athonite monasteries.²⁹ Another Serbian governor is known to have active in Ierissos before 1363.³⁰ The Serbian ascendancy in the region also enhanced the position of the prelate of Ierissos who was now particularly valuable to Constantinople. Before 1345, bishop Iakobos was promoted to the rank of metropolitan, a title he retained until his death before 1365. Although his successors were again bishops, they had some success in asserting their authority over Athos in the later fourteenth century.³¹ For a while at least, Ierissos regained some of its importance thanks to the Serbian conquest of Macedonia. Ierissos is still mentioned as a fortified place in a letter written by a Venetian captain in 1425. Significantly, however, this text also states that at the approach of a Venetian fleet the inhabitants of Ierissos fled allowing the Italians to plunder it and burn it.³² The fate of the towns of Halkidiki is intriguing, especially because most if not all of these declined before the great upheavals of the fourteenth century. At least partly, this phenomenon is due to the fact that these settlements were never very populous and that their town status was essentially owed to the state. After the early eleventh century the central authority probably did not have the same interest as before in maintaining a string of fortified towns in a region whose strategic significance had declined. Moreover, as already suggested, the appropriation of a large part of the

²⁷ *Ivion III*, no. 70 (1301), l. 209, 241, 246, 247; *Ivion IV*, no. 86 (1341), l. 235; *Xéropotamou*, no. 25 (1346); Jacques Lefort, Vassiliki Kravari, Christophe Giros, Kostis Smyrlis (eds), *Actes de Vatopédi II, de 1330 à 1376*, Paris: Lethielleux, 2006 no. 127 (1368) (hereafter *Vatopédi II*). In the first two of these texts, Ierissos is also called a village.

²⁸ *Vatopédi II*, no. 92.

²⁹ C. Pavlikianov, *The Mediaeval Greek and Bulgarian Documents of the Athonite Monastery of Zographou*, Sofia: St. Kliment Ohridski University Press, 2014, no. 31.

³⁰ L. Petit, ed., *Actes de Chilandar. Première partie : Actes grecs, Vizantijskij Vremennik* 17 (1911), Appendix 1 Repr. Amsterdam 1975, nos. 151, 154.

³¹ D. Papachrysanthou, "Histoire d'un évêché byzantin: Hiérissos en Chalcidique", *Travaux et Mémoires*, 8 (1981), 377-80.

³² I know this text from its Greek translation given in Konstantinos D. Mertzios, *Mnimeia makedonikis istorias* [Monuments of Macedonian History] Thessaloniki: Etaireia Makedonikon Spoudon, 1947, p. 25. A document of 1421 apparently calls Ierissos a village: *Vatopédi III*, no. 219, l. 12.

land by the state in the eleventh century and the strong presence in the coastal zone of powerful Athonite and Thessalonian landowners must have affected negatively the prospects of these places. This was most clearly the case of Ierissos whose surrounding lands were practically all in Athonite hands by the thirteenth century.

Throughout our period, the main type of settlement in Halkidiki was the village. In the tenth and eleventh century, when textual evidence becomes available, most of the people were living in such settlements. Villages were grouped habitats containing relatively modest populations, usually a few dozens of households. They were typically located on the foot of hills or mountains and at an average distance of four to five kilometres from each other. Relatively little is known about their physical aspect. The houses of the villagers were probably rudimentary constructions and were surrounded by gardens, orchards or small fields. Wealthier houses were arranged around a courtyard (*aule*). The villages possessed their own extensive territory.³³ Towards the middle of the fourteenth century, a wall was erected to protect a settlement including at least 73 houses in Agios Mamas. Such fortified villages may have been more common than our sources allow us to see, especially in the late Byzantine period.³⁴ As already noted, by the eleventh century, most peasant land had been incorporated into estates that thus occupied what used to be village territory. This, of course, did not mean the end of villages as settlements or as organised communities.³⁵

From the tenth century up until the middle of the fourteenth century numerous hamlets were created in Halkidiki. In the entire region of Macedonia documented by the Athonite archives the number of settlements thus doubled in this period. The hamlets were typically founded by landowners in relation to the creation of an estate. In the earlier part of our period, the tenth to twelfth century, they seem to have been primarily founded on low-lying lands and relatively near the sea within estates oriented towards the production of cereals. In the thirteenth and fourteenth centuries, we see hamlets founded on higher and less fertile lands whose purpose was animal rearing and forest exploitation. The population of hamlets was usually smaller than that of villages and so was their territory. Their relatively limited natural resources may explain why hamlets proved less durable than villages in the long term.³⁶

Another type of settlement created in connection to estates but usually distinct from the hamlets were the administrative centres (*kathedrai* or *metochia*) of these exploitation units. They comprised a few buildings providing shelter to managers, workers and animals, and storage space for equipment and produce. These administrative cen-

³³ Lefort, *Société rurale*, pp. 69–71, 232, 491–4.

³⁴ *Vatopédi II*, nos. 111 and 112; Kostis Smyrlis, “Our Lord and Father”. Peasants and Monks in Mid-fourteenth-century Macedonia,” *Travaux et Mémoires*, 16 (2010), 786–90. On other possible instances of fortified villages in this period, see the cases of Ravenikeia and Ierissos above.

³⁵ Lefort, *Société rurale*, pp. 72–80, 234–5.

³⁶ *Ibid.*, pp. 71–2, 234–8, 247, 494; Lefort, “The Rural Economy”, p. 273.

tres were sometimes fortified with towers and circuit walls, especially in the fourteenth and fifteenth century when insecurity was greatest in the countryside.³⁷

4. Agriculture, Animal Rearing and Fishing

Apart from edaphic and climatic conditions, economic factors played a major role in the choice of cultures.³⁸ Whereas peasant farms primarily aimed at securing self-sufficiency in foodstuffs and secondarily at producing a marketable surplus, estates were mainly geared towards creating surpluses that could be exported to the household of the landowner or the market. Peasants thus engaged in polyculture and “poly-activity”, cultivating, apart from cereals and vines, gardens and fruit trees, keeping animals and bees, producing silk or linen, exploiting forest resources, fishing and working for wages. Estate owners, on the contrary, focused on specific products, especially cereals and wine.³⁹ While the needs of peasant households made sure that polyculture remained a characteristic aspect of Halkidiki throughout our period, the predominance of estates in the peninsula since the eleventh century put emphasis on certain cultures as well as on greater productivity, making thus the agrarian economy more export oriented. As already noted, the role of Thessaloniki and Athos was significant in this respect, because the landowners based in these two places came to possess a large part of the lands in Halkidiki, and because of the demand for agricultural products the city and the monastic centre generated. Since the early eleventh century, Athos housed a monastic population of a few thousand, becoming in effect a middle-sized Byzantine town whose needs had to be covered primarily through imports from Halkidiki and especially the region of Ierissos which, as noted, was dominated by the Athonites. In addition, the monks, who displayed a sufficient degree of entrepreneurial spirit, transported to markets, often on their own boats, agricultural surpluses from the peninsula and elsewhere, selling wine as far away as Constantinople. Even greater was the demand coming from Thessaloniki, a city that housed a significant population and, at least in the late Byzantine period, was exporting cereals to the western Balkans and Venice.⁴⁰

³⁷ Kostis Smyrlis, “Estate Fortifications in Late Byzantine Macedonia: The Athonite Evidence”, in Falko Daim and Jörg Drauschke (eds), *Hinter den Mauern und auf dem offenen Land: Neue Forschungen zum Leben im Byzantinischen Reich* (forthcoming).

³⁸ On cultures and natural vegetation in modern era Halkidiki, see Bellier et al., *Paysages de Macédoine*, pp. 87–98.

³⁹ On this division, see Angeliki E. Laiou, “The Economy of Byzantine Macedonia in the Palaiologan Period,” in John Burke and Roger Scott (eds), *Byzantine Macedonia: Identity, Image, and History. Papers from the Melbourne Conference, July 1995*, Melbourne: Australian Association for Byzantine Studies, Australian Catholic University, 2000, pp. 200–3; *eadem*, “The Agrarian Economy”, pp. 319, 347–8.

⁴⁰ Laiou, “The Economy of Byzantine Macedonia”, pp. 203, 207; *eadem*, “I Thessaloniki, I endochora tis kai o oikonomikos tis choros stin epochi ton Palaiologon” [Thessaloniki, its Hinterland and Economic Space in the

Cereals were indeed one of the main products of the peninsula with wheat probably representing half of the production, the rest being barley, rye, millet and oats.⁴¹ Grain was produced in all coastal regions and was particularly dominant in Kalamaria and parts of Kassandra, the main provisioning areas for Thessaloniki.⁴² Viticulture, too, was omnipresent. Small plots of vineyard were a very common possession of peasants. The wine they produced provided a crucial supplement to their diet and was a source of revenue in cash.⁴³ Although large pieces of vineyard are seldom attested in the sources, great landowners produced wine on a large scale which they sold. The thirteenth- and fourteenth-century cases of Theodosios Skaranos, a landowner near Ermileia, and Theodore Karavas and the monastery Iviron, both owning important vineyards outside Thessaloniki, are revealing in this respect.⁴⁴ The demand of this city explains the existence of a zone around it which was dominated by gardens and orchards as well as vineyards. In the villages and hamlets, peasants often owned gardens and fruit trees situated inside and around the settlements.⁴⁵ Olive trees are also attested in the coastal areas but their cultivation appears to have been relatively limited, a phenomenon that probably reflects the local diet rather than a colder climate.⁴⁶

Animals were a common possession of peasants in Halkidiki.⁴⁷ Peasant livestock included poultry, pigs, sheep and goats, horses, mules and donkeys, cows and oxen. However, with the exception of those well-off peasants who had dozens of sheep and several other beasts, peasants generally owned very few animals and many none at

Era of the Palaiologoi], in *Diethnes Symposio Vyzantini Makedonia 324-1430 A.D. Thessaloniki 29-31 October 1992*, Thessaloniki, 1995, pp. 187–8.

⁴¹ Lefort, *Société rurale*, pp. 204–7, 495–96; *idem*, “The Rural Economy”, pp. 250–1, 257–60. On wheat production in Halkidiki, also see Ioakeim A. Papaggelos, “O sitos sti mesaioniki Halkidiki” [Wheat in Medieval Halkidiki], in *O artos imon. Trito trimero ergasias, Pelio 10-12 April 1992*, Athens: Politistiko Technologiko Idryma ETBA, 1996, pp. 89-111.

⁴² See the evidence for imports of grain from southern Kalamaria in the middle of the fourteenth century in Peter Schreiner, *Texte zur spätbyzantinischen Finanz- und Wirtschaftsgeschichte in Handschriften der Bibliotheca Vaticana*, Vatican: Biblioteca Apostolica Vaticana, 1991, pp. 86-7. On Kassandra, see Laiou, “Thessaloniki”, p. 190. On western Halkidiki in the modern era, see Bellier et al., *op.cit.*, p. 89, 112-3.

⁴³ Laiou-Thomadakis, *Peasant Society*, pp. 32-3, 158-60; Lefort, *Société rurale*, p. 496; *idem*, “The Rural Economy”, pp. 249-50, 254-6. On viticulture in Halkidiki, also see the detailed study of Ioakeim A. Papaggelos, “Ambelos kai oinos sti mesaioniki Halkidiki” [Vine and Wine in Medieval Halkidiki] *Istoria tou ellinikou krasiou. Deftero trimero ergasias. Santorini, 7-9 September 1990*, Athens: Politistiko Technologiko Hidryma ETBA, 1992, pp. 219-55.

⁴⁴ Lefort, *Société rurale*, p. 208; Laiou, “The Economy of Byzantine Macedonia”, p. 205; Smyrlis, *La fortune*, p. 218. Vineyards were quite common around Thessaloniki in this period: *ibid.*, pp. 185, 223, 226.

⁴⁵ Lefort, *Société rurale*, pp. 219, 221; *idem*, “The Rural Economy”, pp. 248, 253-4. On the products of the gardens, see Laiou-Thomadakis, *Peasant Society*, p. 29.

⁴⁶ Laiou-Thomadakis, *Peasant Society*, pp. 27-8; Lefort, *Société rurale*, p. 219; *idem*, “The Rural Economy”, p. 256; Ioakeim A. Papaggelos, “Elaia kai elaion sti mesaioniki Halkidiki” [Olive and Oil in Medieval Halkidiki], in *Elia kai ladi. Tetarto trimero ergasias, Kalamata, 7-9 May 1993*, Athens: Politistiko Technologiko Hidryma ETBA, 1996, pp. 177-9, 184-5.

⁴⁷ On animals and pasturage in Byzantium, see Lefort, “The Rural Economy”, pp. 252, 263-6; George C. Maniatis, “The Byzantine Cheesemaking Industry”, *Byzantion*, 84 (2014), 259-61.

all.⁴⁸ Animal rearing was especially important in certain villages, such as Gomatou in the region of Ierissos, where peasants owned a total of 1,193 sheep around 1300.⁴⁹ Powerful institutions sometimes possessed large numbers of livestock, thousands of sheep or goats and hundreds of cattle, which were reared for the market and for the estates' exploitation.⁵⁰ Our documents mention pasturelands in practically all coastal regions, especially in Longos and Kassandra, in eastern Halkidiki and the wider Athos isthmus area.⁵¹ In the early fourteenth century, the Athonite monasteries possessed winter pastures (*cheimadeia*) in the peninsula to which they brought every year their flocks of sheep from summer grazing grounds (*planinaï*) situated in the north, beyond the Strymon delta. Chilandar transferred its flocks from Melnik to its *cheimadeion* in Kassandra, and Vatopedi moved its animals from the north to its *cheimadeion* in Hermeleia.⁵²

Information on fishing in Halkidiki often concerns the fishing rights (*aleia*, *paraleia*, *parathalassion*) monasteries had on strips of the coast in many parts of the peninsula.⁵³ One document also mentions the right to seasonal fishing in the river of Arsenikeia.⁵⁴ The *aliotopia* belonging to monasteries probably also refer to fishing grounds.⁵⁵ What people fished is rarely mentioned. Towards the end of the fifteenth century, Vatopedi had the right to a strip of coast at Hermeleia which was dedicated to the catching of octopuses.⁵⁶ Permanent installations (*apostatoi*, *alieutika stasidia* or *staseis*) were common at Kometissa, in the isthmus of Athos, where the fishing of tunny

⁴⁸ In 1300-1, in certain villages of the district of Thessaloniki, peasants owned on average one pig, five sheep or goats, 0.7 cows and 1.2 beehives; Laiou-Thomadakis, *Peasant Society*, p. 159, table v-1; on oxen, *eadem*, "The Agrarian Economy," pp. 340-2.

⁴⁹ Laiou-Thomadakis, *Peasant Society*, pp. 30-1 and Laiou, "The Economy of Byzantine Macedonia", pp. 200-1, 202. These sheep were very unequally distributed: in a village of 130 households, eight households owned 928 animals.

⁵⁰ See the example of the monastery of Xenophon in 1089; Denise Papachryssanthou (ed.), *Actes de Xénophon*, Paris: P. Lethielleux, 1986, no. 1, ll. pp. 153-5 (hereafter *Xénophon*).

⁵¹ On the dominance of pasturelands in Kassandra and Longos, especially after the depopulation of the fourteenth century, see Kolovos, *op.cit.*, vol. 1, pp. 87-97.

⁵² Mirjana Živojinović, Vassiliki Kravari, Christophe Giros (eds), *Actes de Chilandar I, des origines à 1319*, Paris: CNRS Éditions - P. Lethielleux, 1998, no. 42 (1319); *Vatopédi II*, no. 78 (1332). On the winter pastures of Longos, see Papaggelos, *Sithonia*, vol. 1, pp. 163-4. On transhumance in Halkidiki in the modern era, see Bellier et al., *op.cit.*, p. 96.

⁵³ See for example Paul Lemerle, André Guillou, Nicolas Svoronos, Denise Papachryssanthou (eds), *Actes de Lavra II, de 1204 à 1328*, Paris: P. Lethielleux, 1977, no. 109 (1321), vol.1, p. 973; *Xénophon*, no. 5 (1300), l. 5; *Iviron III*, no. 75 (1318), l. 436. On fishing and hunting in Byzantium, see Lefort, "The Rural Economy", pp. 262-3.

⁵⁴ *Iviron I*, no. 9 (995), l. 47-8.

⁵⁵ See for example *Vatopédi II*, no. 147 (1375); on *Haliotopion*, see also below n. 57.

⁵⁶ *Vatopédi III*, app. XI, no. 29 (1496).

(*orkynoi*) is mentioned in the late period.⁵⁷ A monastic fishpond (*vivarion*) is also attested in Longos.⁵⁸ Finally, we know that certain peasants of Kato Volvos, on the coast of Kalamaria, owned boats (*monoxyla*) that were obviously used for fishing.⁵⁹

5. Forests, Deforestation and Extraction Activities

As noted, our documentation mainly concerns the coastal zone where, with the exception of the upland regions, there was relatively little in terms of natural vegetation in our period. Moreover, our documents give only occasional information on forests or isolated trees and other types of vegetation.⁶⁰ A much fuller image of the vegetation in the peninsula emerges from the study of the accounts travellers wrote in the modern era. These texts note, in particular, the existence of forests of oak and chestnut trees, as well as of other northern type trees in the mountainous interior, and of Mediterranean vegetation near the eastern coast, on the western slopes of Chortiates and Kalavros, and in Longos and the southern part of Kassandra, where one encountered pine and oak forests.⁶¹

We can sketch the evolution of the natural vegetation coverage in our period by combining the textual evidence, certain palynological and soil studies and what we know about climate change.⁶² Forests were expanding between the fifth and the ninth or tenth centuries thanks to the greater humidity that characterised this period and the decrease of the population after the sixth century. The subsequent warming of the climate and the population growth that lasted until the fourteenth century reversed this trend. Though rarely mentioned in our sources, land clearing can be inferred from the multiplication of the settlements and the important expansion of the cultivated zone. It seems that in the thirteenth century this sometimes led to the clearing of lands that were hardly suitable for cultivation. In certain areas it is possible to trace the disappearance of a forest to the medieval period.⁶³ This process came to an end in the fourteenth century on account of the severe depopulation that followed the arrival of the plague. In the uplands, natural vegetation started expanding again especially after the climate cooled again in the sixteenth century.

The forests were exploited for their products. Wood cutting and charcoal making is mentioned at Peristerai in the eleventh century. In 1300, the monastery of Xenophon

⁵⁷ See for example *Vatopédi I*, no. 29 (1300); *Xéropotamou*, no. 24 (1331); Pavlikianov, *Zographou*, no. 37 (1348). On the terms *stasídion*, *apostatos* and *alíotopion*, also see *Vatopédi III*, no. 198 and the notes to this document.

⁵⁸ *Xénophon*, no. 1 (1089), l. 147.

⁵⁹ *Ivion III*, nos. 59 (1301), l. 85; 75 (1318), l. 431.

⁶⁰ Lefort, *Société rurale*, pp. 371-2.

⁶¹ Bellier et al., pp. 87-94, 98.

⁶² For what follows, see *ibid.*, pp. 103-5.

⁶³ Lefort, *Société rurale*, pp. 215-6, 225-6, 494; Bellier et al., *op.cit.*, p. 114.

was given a forest of pine- or fir-trees in Longos, which could be exploited for the extraction of resin and pitch.⁶⁴ Another significant extraction activity concerned salt production. Saltworks, owned by the state or monasteries, were ubiquitous in Halkidiki.⁶⁵ The saltworks in Kassandra appear to have produced significant revenue for the state in the fifteenth century.⁶⁶ Mining of iron first appears in our sources in 1346, when the fiscal *siderokavseion* of Kontogrikou, in eastern Halkidiki, is mentioned. The name of nearby Siderokavseia, a locality attested since the ninth century, suggests that this activity was practiced in the region already in the early middle ages.⁶⁷

6. Conclusion

The geomorphology and location of Halkidiki, its proximity to Thessaloniki and Athos, two major centres of power and culture, and its remaining under the control of Constantinople for most of our period, made sure that the peninsula was always at the forefront of economic and social developments in the empire. Halkidiki in fact gained in centrality and importance with the shifting of gravity to Europe, from the eleventh century, and to Macedonia and Thrace, from the thirteenth century. Because of all these factors, most significant of which was the impact of Thessaloniki and Athos, the peninsula must have been one of the most densely inhabited, intensively exploited and open to the world areas of the empire. The unique survival of the monasteries of Athos and of their medieval archives makes Halkidiki a truly exceptional Byzantine province in terms of documentation.

⁶⁴ On these cases and on the exploitation of the incultum in Byzantium, see Lefort, *Société rurale*, pp. 223-4, 496; Archibald Dunn, "The Exploitation and Control of Woodland and Scrubland in the Byzantine World", *Byzantine and Modern Greek Studies*, 16 (1992), especially pp. 274-5, 292-3.

⁶⁵ See for example *Xénophon*, no. 1 (1089), l. 146; Franz Dölger, *Aus den Schatzkammern des Heiligen Berges*, Munich: Münchner Verlag, 1948, no. 45/46 IV (1415); Lefort, *Chalcidique occidentale*, p. 31; *Vatopédi III*, app. XI, no. 29 (1496). On saltworks and saltmaking in Byzantium, see George C. Maniatis, "Organization and Modus Operandi of the Byzantine Salt Monopoly", *Byzantinische Zeitschrift*, 102.2 (2009), 661-96.

⁶⁶ See Thiriet, *Régestes des délibérations*, nos. 1980, 2111.

⁶⁷ *Xéropotamou*, no. 25; cf. Papaggelos, *Sithonia*, p. 127.

Halkidiki in the Early Modern Period: Towards an Environmental History

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In the case of Halkidiki, the early modern period coincides with the centuries of Ottoman rule. The Ottoman conquest of Halkidiki took place in two stages within the broader context of the Ottoman conquest of the Balkans after the mid-fourteenth century. The Ottomans first conquered Halkidiki in 1384, following a battle on the Chortiatis Mountain and kept it until 1403. The second conquest occurred in 1423 in the context of their preparations for the final siege of Thessaloniki (1430). A twenty-year interlude (1403-23) saw the peninsula revert to Byzantine rule, following the catastrophic defeat of Sultan Bayezid I by Tamerlane at Ankara in 1402. The first Ottoman conquest, in the late fourteenth century, led to the settlement of Muslim populations, particularly *Yürük* pastoralists, around Thessaloniki and in Halkidiki. These newcomers, to a certain extent, transformed the patterns of settlement and land use in the areas they had settled. At the same time, the peasants of Halkidiki and the monks of Mount Athos had to renegotiate their status in the area under the Ottomans. The final Ottoman conquest, after the first quarter of the fifteenth century, paved the way for the most important change that marked the period of Ottoman rule in Halkidiki, as well as the region's environmental history, our research topic in this collective volume: the operation of the mines at Siderokavsia (Ott. Sidrekapsı) in the mountains of western Halkidiki.

1. Settlement Patterns: Continuity and Change

Through studying the archives of the Athonite monasteries, we know a great deal about settlement patterns and the rural economy of Halkidiki during the late Byzantine times.¹ Now, for the first time, the Ottoman tax registers provide us with an almost complete picture of the population and the region's settlements as a whole during the early modern period. The combined study of these sources shows us both continuities

¹ Jacques Lefort, *Villages de Macédoine. I: La Chalcidique occidentale*, Paris: De Boccard 1982. See also the chapter on the Byzantine period in this volume.

and changes during the transition from Byzantine to Ottoman rule and, more broadly, within the historical context of the transition from the Middle Ages to the beginning of the early modern period.

Our research shows that during the transition to Ottoman rule Halkidiki preserved a considerable number of its settlements, a fact that is well reflected in the preservation of many of its medieval place-names. In western Halkidiki (the Byzantine Kalamaria), whose history has been particularly well studied, some of the largest villages in the hilly part of the peninsula, such as Galatista, Portarea, Agios Mamas and Zombatoi, were preserved (and still exist today), together with a considerable number of smaller villages, numbering almost thirty in all.² In the plain of Ormylia, the old Byzantine villages (Ormylia, Agios Sozon or Agios Dimitrios, Vatopedini Ermileia or Vatopedi) continued to survive until the seventeenth and the eighteenth centuries, when the population concentrated in the settlement of Maroula or Kalyvia (present-day Ormylia).³ Further to the east, the main population centre is still Ierissos, which has existed since Middle Byzantine times, although up until the earthquake of 1932 it lay on the acropolis of ancient Akanthos. In the vicinity of Ierissos, the Byzantine agricultural village of Gomatou was continuously inhabited up until the earthquake of 1932.⁴

On the other hand, the late medieval settlement in Halkidiki underwent a serious decline, which had begun even before the Ottoman conquest. It is debatable whether this fact can be connected with the more general demographic crisis that marked the end of the medieval period.⁵ In any case, the crisis led to some serious depopulations of villages in the area. In the case of the peninsula of Kassandra, there appears to have been no organised settlement after the invasion by the Catalan Company in 1307, while

² For the settlements in western Halkidiki during the Byzantine period, see Lefort, *op.cit.* For the Ottoman period, see Elias Kolovos, "Chorikoi kai monachoi stin othomaniki Halkidiki, 15os-16os aiones" [Peasants and Monks in Ottoman Halkidiki, 15th-16th c.], unpublished PhD thesis, Aristotle University of Thessaloniki, 2000, vol. 1, pp. 78-86; and vol. 2, for a list of the settlements of Halkidiki during the 15th and the 16th centuries.

³ Cf. Ioakeim A. Papaggelos, "I istoria", in *Ormylia. Iero koinovio Evaggelismou tis Theotokou* ["History", in *Ormylia. Holy Coenobion of the Annunciation of the Virgin*], Athens: Interamerican, 1992, pp. 29-68 and especially the topographical sketch in p. 28; Kolovos, "Chorikoi kai monachoi", vol. 2, pp. 42, 83-4, 91-2, 118-9; for the 17th and 18th century, see the unpublished Ottoman tax registers in Istanbul, Başbakanlık Osmanlı Arşivi (hereafter: BOA), Maliyeden Müdevver (hereafter: MAD) 3461, p. 184; MAD 4609, p. 47; BOA, Kamil Kepeci (hereafter: KK) 2869, p. 9.

⁴ The present day village of Gomatou, however, is situated to the south east of the old site in the same plateau. In the Provlakas area there existed also in the late Byzantine and the early Ottoman period the settlements of Eladiava and Komitissa, along with the settlements founded by the *paroikoi* of the Athonite monasteries (Iviron, Alypiou); see Ioakeim A. Papaggelos, "Eidiseis gia ta iviritika metochia tis Ierissou" [Notices for the metochia of Iviron monastery in Ierissos], *Byzantina*, 13 (1985), 1569-1618; Kolovos, "Chorikoi kai monachoi", vol. 2, pp. 48-9, 61, 67-8, 83.

⁵ The conclusion that the population of the monastic *paroikoi* declined during the 14th century was drawn from the study of Aggeliki Laiou-Thomadaki, *I agrotiki koinonia stin ysteri byzantini epochi* [Peasant Society in the Late Byzantine Empire], Athens: MIET 1987, p. 392; cf. Konstantinos Moustakas, "I dimographiki krisi tou ysterou Mesaiona ston elliniki choro: I periptosi tis notio-anatolikis Makedonias" [The demographic Crisis of the late Middle Ages in the Greek lands: the Case of the South-Eastern Macedonia], *Mnimon*, 25 (2003), 9-33.

it is likely that the raids of pirates from the Turkish emirates of Anatolia and the first Ottoman conquest during the fourteenth century further contributed to the desolation. After repairing the wall of Kassandreia, in 1407-08 the despot of Thessaloniki John VII Palaeologos attempted to reorganise agricultural production on the peninsula by making donations to the Athonite monasteries. Subsequently, Kassandra appears to have been occupied by the Ottomans before 1425, when it was temporarily retaken by the Venetians.⁶ In the Ottoman registers of the fifteenth and sixteenth centuries and prior to its repopulation in 1588, the Kassandra peninsula is recorded as “grazing land” and “winter pastureland” (*otlak, kışla*) with no villages at all. Similarly, the peninsula of Longos (present-day Sithonia) was also classified as winter pastureland during the same period, without any organised settlement until the second half of the sixteenth century. Its Byzantine villages (Longos, Sarti, Koskinas) were recorded as “old villages” (Gk. *paleochoria*, i.e. abandoned villages) already from 1346, probably as a result of the activity of pirates from the Turkish emirates of Anatolia in the previous year.⁷

2. The Athonite Monks and their Properties

After the devastating raids by the Catalan Company, the Athonite peninsula appears to have also been raided from the sea by pirates from the Turkish emirates of Anatolia in the first half of the fourteenth century.⁸ In the second half of that century, however, it appears that Mount Athos ceased to be the target of raids. On the basis of a reference by Patriarch Philotheos Kokkinos regarding the Turks’ respect for the Holy Mountain, Elizabeth Zachariadou has claimed that the monks had probably secured their protection probably through the mediation of John VI Kantakuzenos, Sultan Orhan’s father-in-law.⁹

The Athonite monks continued to preserve a kind of independence on the peninsula during the first Ottoman conquest, while in 1423-24 they hastened to “pay their

⁶ See the relevant documents in Paul Lemerle et al. (eds), *Actes de Lavra*, vol. 3, Paris: P. Lethielleux 1979, no. 159; Jacques Bombarre (ed.), *Actes de Xéropotamou*, Paris: P. Lethielleux 1964, no. 28; Phokion Kotzageorgis, *Archeio tis I.M. Agiou Pavlou. Epitomes eggrafon, 1010-1800* [Archive of the Holy Monastery of Agios Pavlos. Summary of Documents], Athens: National Hellenic Research Foundation 2008, no. 19; Konstantinos Mertzios, *Mnimeia makedonikis istorias* [Monuments of Macedonian History], Thessaloniki: Etaireia Makedonikon Spoudon 1947, pp. 62-7.

⁷ For the Byzantine habitation in Sithonia, see Ioakeim A. Papaggelos, “I Sithonia kata tous vyzantinous chronous: Istorია-Mnimeia-Topografia” [Sithonia in Byzantine Times: History-Monuments-Topography], unpublished PhD thesis, Thessaloniki: Aristotle University 2000. For the Ottoman period, see Kolovos, “Chorikoi kai monachoi”, vol. 1, pp. 94-9.

⁸ Mirjana Zivojinovic, “Concerning Turkish Assaults on Mount Athos in the 14th Century Based on Byzantine Sources”, *Prilozi za Orijentalnu Filologiju*, 30 (1980), 501-16.

⁹ Elizabeth A. Zachariadou, “A Safe and Holy Mountain: Early Ottoman Athos”, in A. Bryer and M. Cunningham (eds), *Mount Athos and Byzantine Monasticism*, Aldershot: Variorum 1996, p. 127.

respects” to Sultan Murad II at Adrianople,¹⁰ immediately after the beginning of the blockade of Thessaloniki. A few days after the fall of the city in 1430, they met the Sultan in person and were granted a decree guaranteeing protection of their properties in Halkidiki, the Strymon valley and Mount Pangaion, which ratified previous decrees by his predecessors on the same subject.¹¹

The monastic properties in Halkidiki constitute a case of continuous – albeit partial – land use in the region during the transition between the Byzantine and Ottoman periods.¹² We will present some examples below.¹³ The monastery of Esphigmenou retained its *metochion* at Portarea, despite the fact that some of its lands had been confiscated in the first Ottoman conquest (1383/87-1403). As can be seen in this case, the Ottomans had indeed confiscated lands during their first conquest of Halkidiki. The monastery’s lands at Portarea had been confiscated before 1388, together with the lands of Georgios Anatavlas, so that they could be handed over to a Muslim, perhaps a *timar*-holder. However, the monks of Esphigmenou, after appealing to the Sultan and the Vizier Ali Paşa, “at no little expense and with considerable haste”, managed to recover them,¹⁴ retaining, as can be seen from the Ottoman tax registers, an estate (*çiftlik*) at Portarea during the sixteenth century, together with five *dönüm* of vineyards and meadows, according to the list of monastic *vakıf* properties in 1568.¹⁵ As a result of the granting of *timars* by the Ottomans, the monasteries lost the tax revenues from their *paroikoi*, which now passed to the *timar*-holders; nevertheless, they were able to retain, at least in many cases, their main monastic estates (*domaines*) by paying taxes. Thus, we observe that while Lavra owned Vromosyrta (now Agios Panteleimon) during the Byzantine era and had a number of *paroikoi*, who paid tax to the monastery, according to the Ottoman tax register of 1445 in that year the monastery was no longer entitled to the tax revenues from the 36 families living in the village; the taxes were

¹⁰ Peter Schreiner, *Die byzantinischen Kleinchroniken*, Vienna: Österreichischen Akademie der Wissenschaften 1983, vol. 1, p. 473.

¹¹ See Elias Kolovos, “The Monks and the Sultan outside Newly Conquered Ottoman Salonica in 1430”, *Journal of Turkish Studies*, 40 (2013), 271-81.

¹² For losses of real estate properties during the first Ottoman occupation of Central Macedonia, with examples from the Halkidiki and Serres regions, see Kostis Smyrlis, “The First Ottoman Occupation of Macedonia (ca. 1383-ca. 1403): Some Remarks on Land Ownership, Property Transactions and Justice”, in A. D. Beihammer, M. G. Parani, C. D. Schabel (eds), *Diplomatics in the Eastern Mediterranean 1000-1500*, Leiden-Boston: E.J. Brill 2008, pp. 331-339. These losses might be related mainly with the colonisation of Muslim peasants and Yürüks pastoralists, for which see below.

¹³ See, in detail, Elias Kolovos, “Katalipsi tou chorou kai monastiriaki gaioktisia stin othomaniki Halkidiki (15^o-16^o ai.)” [Settlement and Monastic Land Properties in Ottoman Halkidiki (15th-16th c.)], in *To Agion Oros ston 15o kai 16o aiona. Praktika synedriou*, Thessaloniki: Agioreitiki Estia 2012, pp. 107-25.

¹⁴ Jacques Lefort (ed.), *Actes d'Esphigmenou*, Paris: P. Lethielleux 1973, no. 29 and the interpretation of the document in Smyrlis, “The first Ottoman occupation”, p. 334 and fn. 25. For the Byzantine estate, see Lefort, *Chalcidique*, p. 129.

¹⁵ Kolovos, “Chorikoi kai monachoi”, vol. 2, pp. 160-1. Unfortunately, we do not have enough data on the size of the real estates in the Ottoman tax registers so as to compare them with those from the Byzantine period.

shared between two *timars* held by the “royal slaves” (*gulam-ı mir*) Sofi Hızır and Uzun İlyas. Nevertheless, the monastery of Lavra retained its lands as an estate by paying a lump sum tax (*mukataa-ı çiftlik*).¹⁶ Similarly, it appears that the monastery of Vatopedi also retained its Byzantine *metochion* at Agios Mamas as an estate (now Georgikos Stathmos Halkidikis) by paying a lump sum tax.¹⁷

During the reign of Mehmed II, Şihabeddin Paşa, the former commander of the Sultan’s forces in Rumelia who ended his career in honourable pension as governor of Thessaloniki by issuing numerous documents in favour of the Athonite monasteries, granted a favourable tax arrangement, involving the payment of dues at a lump sum (*mukataa*), to the Athonite *metochia* at Ormylia (held by the monasteries of Vatopedi, Lavra and Xeropotamou). Indeed, this arrangement appears to have been respected by Şihabeddin’s successors too, as he had requested in the relevant documents.¹⁸ In the same area, the monasteries of Docheiariou and Zographou also retained their Byzantine *metochia*. On the other hand, the fate of Esphigmenou’s Byzantine *metochion* remains unknown.

Almost all of the Athonite monasteries possessed estates from the Byzantine era on the Isthmus of Ierissos, which survived through the Ottoman period.¹⁹ It is characteristic that the oldest Ottoman document relating to Mount Athos, a decree issued by the *beylerbey* of Rumelia Hacı Firuz bin Abdullah in 1401, ratifies the collection of dues from Prosfhorion by the monks of Vatopedi.²⁰

After the Ottoman conquest, the Athonite monasteries did not cease to invest in land by creating new *metochia*. In the Portarea area, for example, the monks of Dionysiou monastery appear to have created a new *metochion* during the fifteenth century (before 1474) at Katakali (now Dionysiou), which is recorded in the Ottoman registers as an agricultural area (*mezraa*), under the title ‘Dionysiatiko’ (*Dyonışad*).²¹ On the other hand, Docheiariou monastery’s Byzantine *metochion* of Mariana, a village which monks from that monastery had repopulated by settling *paroikoi* in 1373-75 and continued to exist in the Ottoman era, may not have been preserved in its entirety, since in 1568 the Ottoman registers mention only the monastery’s water-mills – two mills with

¹⁶ See in detail the comparison that Nicos Oikonomides attempted in his “Ottoman Influence on Late Byzantine Fiscal Practice”, in H. W. Lowry & R. S. Hattox (eds), *IIIrd Congress on the Social and Economic History of Turkey*, Istanbul-Washington-Paris: Princeton University Press-Isis 1990, pp. 252-7. See the complete data in the Ottoman tax registers in Kolovos, “Chorikoi kai monachoi”, vol. 1, pp. 115-8, 120, 135-7 & vol. 2, pp. 184-5.

¹⁷ Kolovos, *op.cit.*, vol. 2, pp. 139-40. For the Byzantine *metochion* of Agios Mamas and the relations of the monks of Vatopedi with their *paroikoi*, see Kostis Smyrlis, “Our Lord and Father’: Peasants and Monks in mid-Fourteenth-Century Macedonia”, *Travaux et Mémoires*, 16 (2010), 786-91.

¹⁸ Kolovos, “Katalipsi tou chorou”, pp. 114-6.

¹⁹ *Ibid.*, pp. 116-8.

²⁰ Elias Kolovos, “Early Ottoman Diplomats Revisited: An Order of the *Beglerbegi* of Rumeli Hacı Firuz ibn Abdullah in Favour of the Athonite Monastery of Vatopedi (1401)”, *Turcica*, 45 (2014), 187-208.

²¹ See Elizabeth A. Zachariadou, «Ottoman Documents from the Archives of Dionysiou (Mount Athos) 1495-1520», *Südost Forschungen*, 30 (1971), 1-36.

two millstones each – as well as a vineyard and a vegetable garden.²² In the case of the *metochion* of Agios Pavlos monastery at Avramites (now Agios Pavlos), which was granted to the monastery in 1405 by Radoslav Sabias, the monks exploited the lands of villages that had been previously abandoned.²³

To sum up: The Athonite monasteries were in a position to expand their possessions with grants from the Ottomans, the most characteristic example being the exploitation of the Longos peninsula for their flocks, from the fifteenth century onwards, and the partial exploitation of the Kassandra peninsula. We will discuss these developments further below.

3. The Newcomers: Yürüks in Halkidiki

In a region that had suffered from a demographic crisis in the fourteenth century, the Ottoman conquest appears to have offset the demographic losses caused by the military operations, partly by the settlement in the countryside around Thessaloniki of Muslim populations that had taken part in those operations, and partly through the forced resettlement (*sürgün*) of *Yürük* pastoralists, who, under Murad I in the 1380s and Bayezid I in the 1390s, were transferred from Western Anatolia (Sarukhan) to the countryside around Thessaloniki, forming a semi-circle around the city in order to bolster its defences.²⁴ On the basis of the later Ottoman registers, it is possible to chart these settlements, as far as they relate to Halkidiki, as follows: A small number of Muslim agricultural villages were created in the Vasilika valley, namely the settlements of Ilica, Turhanlu, Tuzcılar, Karaçulhali, which had Turkish names, and the settlements of Sarantarea and Agathi, which preserved their Byzantine names despite the Turkish colonisation of the area. Agathi, it should be noted, enjoyed special immunity from extraordinary taxes in exchange for the villagers' guarding of the coastline and the revenues from the sale of salt. In two other villages that preserved their Byzantine names, Panagia and Karkara, Muslim farmers were settled in the area between Vavdos and Portaria. The *Yürük* pastoralists, on the other hand, were recorded in the tax registers under the broad title of 'Yürük subjects' (*reaya Yürükler*), and were subjects of Kalamaria, which indicates that at least until the sixteenth century they were still in a seminomadic state. It is clear that they moved around with their flocks between Mount Ver-tiskos, more northerly-lying grazing grounds and western Halkidiki (summer pastures).

²² Kolovos, "Katalipsi tou chorou", p. 114.

²³ For Avramites, see in detail Phokion Kotzageorgis, *I athoniki moni Agiou Pavlou kata tin othomaniki periodo (14os ai.-1830)* [The Athonite Monastery of Agios Pavlos during the Ottoman Period (14th c.-1830)], Thessaloniki: University Studio Press 2002, pp. 56-96.

²⁴ See Nevra Necipoğlu, *Byzantium between the Ottomans and the Latins: Politics and Society in the Late Empire*, Cambridge: Cambridge University Press 2009, pp. 99-100. For the *Yürüks* in general, see H. İnalçık, "The *Yürüks*: Their Origins, Expansion and Economic Role", in his *The Middle East and the Balkans under the Ottoman Empire: Essays on Economy and Society*, Bloomington: Indiana University Press 1993, pp. 97-136.

Their temporary settlements, which are recorded in the registers as “neighbourhoods” (Ott. *mahalle*) (43 in the first few years of the reign of Suleiman the Magnificent and 81 in the early part of the reign of Selim II, for the largest group of them) with Turkish anthroponyms, were noted by the registrars as being spread out over the areas of Kalamaria, Thessaloniki, Mount Vertiskos (Boğdan), Serres, Sidirokastro, Stroumtza, Gynaikokastro (near present-day Kilkis) and Vardaris, and as far away as Philippoupolis/Plovdiv.²⁵

The winter settlements of the *Yürüks* in western Halkidiki appear to have been located mainly on Mount Kalavros and in the semi-mountainous zone to the south, and less on the southern slopes of Mount Chortiatis. This arrangement is corroborated from the distribution of their settlements in the nineteenth and early twentieth centuries.²⁶ It is very interesting to note that the settlements of the *Yürük* pastoralists correspond exactly with the present-day *maquis* zone. It should also be noted that a *Yürük* settlement also existed at Eğri Buçak, present-day Nea Apollonia. In this case, it is possible to trace, in a relatively clear manner, the evolution of the *Yürük* communities through the registers, beginning with their initial settlement, moving on to their transformation into farmers of the land and ending finally in their establishing of villages, though the latter does not mean they lost their semi-nomadic character (as seen in the movement of their flocks to nearby summer pastures to the west of Eğri Buçak).²⁷

A note should also be made of the tension that was caused by this category of pastoralists as they moved along the borders of cultivated areas or in areas that comprised a mixture of farmland and *maquis* (as in the case of the land to the north of present-day Nea Kallikrateia). This tension may have led to the abandonment of the village of Sigilou in the period 1527-68 and the relocation of its inhabitants to Rossaiou (which took the name Sigilou), with *Yürüks* settling on the land of the old Sigilou at the same time.²⁸

4. Demographic Growth, 15th to 16th Century

At the beginning of the early modern period Halkidiki experienced the kind of large demographic increase that characterised the Mediterranean and European worlds as a whole in the sixteenth century.²⁹ Thanks to the data provided by the Ottoman tax registers, it is possible to make relatively sound calculations for this “demographic revolution”.

²⁵ Kolovos, “Chorikoi kai monachoi”, vol. 2, p. 106.

²⁶ Paul Bellier et al., *Paysages de Macédoine*, Paris: De Boccard 1986, map no. 2 at the end of the book.

²⁷ See the relevant sections in Kolovos, “Chorikoi kai monachoi”, vol. 2, pp. 34, 93-4 and 58.

²⁸ *Ibid.*, p. 109.

²⁹ Fernand Braudel, *The Mediterranean and the Mediterranean World in the Age of Philip II*, vol. 1, Berkeley and Los Angeles: University of California Press 1995, pp. 402 ff.

A starting-point for the demographic history of Halkidiki during the Ottoman period is an abridged Ottoman poll tax register from 1490-91.³⁰ Given that Halkidiki was a region with an overwhelmingly Christian population and that the fiscal units in this survey generally corresponded to the geographical area covered by the later surveys of the sixteenth century, it is possible to compare the figures. The register of 1490-91 mentions the “fiscal provinces” (*vilayet*) of Kalamaria, Chortiatis, Mount Bogdan, and the Sidrekapsi mines, which made up the region. The total number of Christian households in 1490 was 5,736, while in the following year it was 5,991. Table 1 illustrates how these figures evolved according to the Ottoman tax registers of the sixteenth century.

Table 1
The tax-paying population of Halkidiki in the sixteenth century

Year	Muslims		Christians			Totals		
	Households	Unmarried	Households	Unmarried	Widows	Households	Unmarried	Widows
1519	627	380	5,235	777	541	5,862	1,157	541
1527	653	314	7,568	1,522	715	8,311	1,836	715
1568	584	426	6,462	3,352	292	7,046	3,788	292

Note: households = *hane*; unmarried = *mücerred*; widows = *bive*.

Source: The database made by Christos Kyriakopoulos, assistant researcher, for the project. Cf. Kolovos, “Chorikoi kai monachoi”, vol. 2. These data emerge from the figures given for 111 settlements in 1519 (or earlier), 113 settlements in 1527 and 107 settlements in 1568. The *Yürüks* and the Muslim or Christian *çiftlik*s have not been included.

On the basis of the number of households, it is possible to observe a 41.77% increase in the size of the taxed population in a relatively short period, between 1519 and 1527. The same increase may also be observed if the calculations are based on the number of adult males (unmarried and households combined show an increase of 44.56%) or the total number of households (unmarried males and widows show an increase of 43.67%). However, we should note that the register of 1519 did not record the salt-workers (*tuzciyân*), nor did the registers of 1527 and 1568. This means that the actual increase in the tax-paying population was not so large. In the period 1527-68, on the other hand, there was a drop in the number of households (-15.22%), but an increase in the number of unmarried males (a 6.67% increase for households and unmarried males combined) and in the total number of households (a 2.33% increase for unmarried males and widows). This was the result of a twofold increase in the number of unmarried males between the registers of 1527 and 1568. Overall, on the basis of

³⁰ Nikolai Todorov & Asparuh Velkov, *Situation démographique de la péninsule balkanique (fin du XVe s.-début du XVIe s.)*, Sofia: Bulgarian Academy of Sciences 1988, pp. 264-5 and 274.

the above figures, it is possible to conclude that the tax-paying population of Halkidiki generally increased during the sixteenth century.³¹

As the villages of Halkidiki form a sizeable sample, it has been possible to identify the settlements in the various registers. Assuming that migration was a negligible factor, we have deduced the region's overall population from the number of adult males on the basis of a set of different factors.³²

Table 2

Estimates on the population of Halkidiki in the sixteenth century

Year	Adult males	Coefficient	Estimated population
1519	7,019	4.31	30,251.89
	7,019	2.72	19,091.48
1527	10,147	4.31	43,733.57
	10,147	2.72	27,599.84
1568	10,824	4.31	46,651.44
	10,824	2.72	29,441.28

Source: Table 1 with the coefficients in Faroqi-Erder, "Population rise".

According to the data in Table 2, the average annual rate of demographic growth in the fifty-year period 1519-68 was 0.89%, which is considered to be generally satisfactory, though not particularly impressive, for a pre-industrial society.³³

The above estimates can be indicatively compared with the data provided by the first few censuses of the twentieth century. However, it should be borne in mind that while today much of the region examined in this study falls under the former Prefecture of Halkidiki, a part of it falls under the former Prefecture of Thessaloniki. According to the 1920 census, the semi-urban and rural population of the Halkidiki prefecture was 48,859, while in 1928 it was 60,618 and in 1940 74,523. The semi-urban and rural

³¹ For increases in the population of the Ottoman Empire during the 16th century, see Ömer L. Barkan, "Essai sur les données statistiques des registres de recensement dans l'Empire Ottoman aux XV^e et XV^e siècles", *Journal of the Economic and Social History of the Orient*, 1 (1958), 9-36; Suraiya Faroqi (in collaboration with Leila Erder), "Population Rise and Fall in Anatolia, 1550-1620", *Middle Eastern Studies*, 15.3 (1979), 322-45. However, not all Greek lands experienced such a demographic growth. For example, in western and central Macedonia (districts of Horpište and Karaferye) the average annual rate of growth fluctuated from -1.8% (1519-1530) to 0.8% (1530-1542), before dropping again to -0.75% (1542-1568); see Vassilis K. Gounaris, "Dimografikes paratiriseis" [Demographic remarks], in J.S. Koliopoulos (ed.), *Opseis tou Argous Orestikou (Chroupistas) kata tin Tourkokratia (1400-1912)* [Aspects of Argos Orestikon during Turkish Rule, 1400-1912], Thessaloniki: Adelphoi Kyriakidi 2013, pp. 54-5 and fn. 55 and Table 1.

³² For the method, see: Faroqi-Erder, *op.cit.*, p. 33 fn 3.

³³ The average annual rate of demographic growth in the Greek towns of that period fluctuated between 0.8%-1.2%; see: Machiel Kiel, "Das türkische Thessalien: Etabliertes Geschichtsbild versus Osmanische Quellen. Ein Beitrag zur Entmythologisierung der Geschichte Griechenlands", in R. Lauer-P. Schreiner (eds), *Die Kultur Griechenlands in Mittelalter und Neuzeit*, Göttingen: Akademie der Wissenschaften in Göttingen 1996, p. 133.

population of the whole of the Thessaloniki prefecture was 74,458 in 1920, 116,952 in 1928 and 147,265 in 1940.³⁴

The figures that exist for the settlement and population of Halkidiki in the fifteenth century are not complete, since the relevant tax surveys have only been partially preserved; consequently, it is not possible to calculate overall figures that may be compared with those we have for the sixteenth century. Below, we have chosen to make a comparison between smaller samples, consisting of the same villages that occur in the tax surveys of both the fifteenth and sixteenth centuries. Excluding those villages that were also inhabited by salt-workers, in as much as the latter were not recorded in earlier tax surveys, we have selected a sample of twenty-five Christian and one Muslim village, which appear in the surveys of 1445 and 1519.

Table 3

The tax-paying population of 26 villages of Halkidiki in 1445 and 1519

Year	Muslim		Christian			Totals		
	Households	Unmarried	Households	Unmarried	Widows	Households	Unmarried	Widows
1445	8		836	56	111	844	56	111
1519	103	58	2,047	271	233	2,150	329	233

Source: Kolovos, "Chorikoi kai monachoi", vol. 2.

The results are impressive. A 154.73% increase in the number of households that is calculated, a 175.44% increase in the number of adult males (households and unmarried men combined), a 168.24% increase in the total number of households, adult males and widows. The increase in the size of the tax-paying population is in excess of 150% and almost threefold. It represents actually a "demographic increase of 100 per cent".³⁵ The annual rate of demographic growth for the total number of households, unmarried men and widows is 1.34%, a high percentage for this type of society. By comparing two samples from the same villages that appear in the registers for the periods 1445-78 and 1478-1519, respectively, it is possible to form a more accurate picture of the increase in the size of the tax-paying population between the late fifteenth and the early sixteenth century. For the first period the sample that was used includes 24 Christian and one Muslim village, while the sample used for the second period includes 52 Christian and ten Muslim villages.

³⁴ Michail Chouliarakis, *Exelixeis tou plithismou ton agrotikon periochon tis Ellados, 1920-1981* [The Evolution of the Population in Rural Areas of Greece, 1920-1981], Athens: EKKE, 1988, p. 17.

³⁵ Braudel, *op.cit.*, p. 402.

Table 4

The tax-paying population of 25 villages in Halkidiki between 1445-78

Year	Muslim		Christian			Totals		
	Households	Unmarried	Households	Unmarried	Widows	Households	Unmarried	Widows
1445	8		820	54	111	828	54	111
1478	30	10	815	46	127	845	56	127

Source: Kolovos, "Chorikoi kai monachoi", vol. 2.

Table 5

The tax-paying population of 62 villages in Halkidiki between 1478-1519

Year	Muslim			Christian			Totals		
	Households	Unmarried	Widows	Households	Unmarried	Widows	Households	Unmarried	Widows
1478	157	55	1	1,409	56	213	1,566	111	214
1519	463	313		3,603	494	384	4,066	807	384

Source: Kolovos, "Chorikoi kai monachoi", vol. 2.

A comparison of the above tables reveals that the tax-paying population in the sample of 25 villages remained extremely stable during the period 1445-78. By contrast, the sample of 62 villages displays a particularly high increase in the period 1478-1519. In respect of households, the increase is in the order of 159.64%, in respect of adult males 190.57%, and in respect of households, unmarried men and widows as a whole 178%. The annual rate of demographic growth in the first period is 0.105%, displaying a real stability in the population, while the annual rate of demographic growth in the second period is 2.525%, an impressively high increase for this period and this type of society. This observation concurs completely with the findings of a study conducted for the Strymon area, which, like Halkidiki, possesses sufficient historical sources for the transitional period between Byzantine and Ottoman rule. In this study it is argued that in the period 1454-78 the demographic increase was negligible (the population remained more or less stable), while in the period 1478-1519 large-scale demographic changes occurred.³⁶

In order to calculate the density of the calculated population in the sixteenth century, it was necessary to calculate the total size of the area under examination on the basis of the figures provided by the National (Greek) Statistical Service in 1962 for every municipality and community. To be precise, the figures for all the municipalities and communities in the Prefectures of Halkidiki and Thessaloniki below the line of the lakes (which is the northernmost limit of the area examined in this study) were

³⁶ Moustakas, "I dimografiki crisi", especially pp. 32-3. Similarly, from a sample of ten villages in the district of Horpiste between 1445 and 1500 (or 1519) an annual rate of growth of 1.6% (or 1.3%) is observed; Gounaris, "Dimografikes paratiriseis", pp. 54-5 and table 2.

added together, while the Sithonia and Kassandra peninsulas were excluded as they had no villages during the period under consideration.³⁷ The total land area was calculated at 3,203.9 km². On the basis of this figure, and the highest and lowest calculated figures for the total population in Table 2 above, the population density in the whole of the area under examination has been estimated to be as follows:

Table 6
Density of the estimated population of rural Halkidiki in the sixteenth century
(in a total land area of 3,203.9 km²)

Year	Estimated population	Inhabitants per km ²
1519	30,251.89	9.44
	19,091.48	5.95
1527	43,733.57	13.65
	33,688.04	10.51
1568	46,651.44	14.56
	35,953.68	11.22

Source: Based on Table 2.

The above calculations represent minimum values as they do not include the *Yürüks*, the monks or the population of Sidrekapsi and the two mining villages nearby (Izvor and Piavitsa). In comparative terms, in 1920 the population density of the Halkidiki prefecture was 16.96 inhabitants per km², while in 1928 it was 21.04 and in 1940 25.87.³⁸

5. The Resettlement of Kassandra and Sithonia

Evidence of the large demographic increase that occurred in the sixteenth century, which certainly led to a fuller occupation of the land area of Halkidiki, is to be found in the resettlements, during the last quarter of the sixteenth century, of the Kassandra and Longos (Sithonia) peninsulas, which, as we saw earlier, had had no organised habitation up until that point.

³⁷ National Statistical Service of Greece, *Katanomi tis ektaseos tis choras kata vassikas kategorias chriseos. Proapografika stoicheia* [Allocation of the Land Area of the Country According to Basic Categories of Use. Pre-Census Data], Athens: Ethniki Statistiki Ypiresia Ellados 1962, pp. 182-5 and 150-4.

³⁸ For the area of the Prefecture of Halkidiki, see *idem*, p. 4. The data of 20th-century censuses are in Chouliarakis, *op.cit.*, p. 17. Cf. the population density of the Peloponnese in 1700 (8.4 inhabitants/km), in contrast with the later data (1879: 34.0, 1907: 44.0, 1940: 55.6), in Vassilis Panagiotopoulos, *Plithysmos kai oikismoi tis Peloponnisou, 13os-18os aionas* [Population and Settlements of the Peloponnese, 13th-18th centuries], Athens: Istoriko Archeio Emporikis Trapezas Ellados 1987, pp. 170-82. We should underline that the average density in the Greek peninsula at the beginning of the 19th century was 13.3 inhabitants/km²; Dimitris Anogiatis-Pele, "Dimografikes plirofories gia tin Ellada apo periigites (1800-1820)" [Demographic Information on Greece Based on Travellers' Accounts], *Mnimon*, 10 (1985), 5-6 and 15.

In the Ottoman tax registers of the fifteenth and sixteenth centuries Kassandra was classified as grazing land. In the tax register of 1478 the revenues from the *hass* of the then governor of Thessaloniki included the “dues from the grazing land of Kassandra in the district of Kalamaria” (*resm-i otlak-ı Kesendire der vilayet-i Kelemerye*). The same “dues from the winter pasture of Kassandra” (*resm-i kışla-ı Kesendire*) were also mentioned in the tax register of 1519. In 1527 these also included dues from beehives, fish and resin. In 1568 the dues from the winter pasture of Kassandra (together with the dues from beehives, buffalo, sheep, pigs, fish and resin) were recorded together with other revenues from the *hass* of the governor of Thessaloniki.³⁹ The partial continuity of the exploitation of Kassandra, as in the case of Longos, was aided by the presence of certain monasteries based on Athos and at Serres which, according to the Ottoman tax registers, maintained winter pastures on Kassandra (the Athonite monasteries of Vatopedi, Philotheou, and Dionysiou, of Timios Prodromos at Serres, Kossifoinitsa on Mount Pangaion, Agia Anastasia in the Thessaloniki area).⁴⁰

The Kassandra peninsula was resettled in the late sixteenth century on the initiative of a high-ranking Ottoman official, Gazanfer Ağa (d. 1602-03), the head of the White Eunuchs (*Kapu Ağası*), to whom the peninsula had been granted, with full ownership (*temlik*), in 1588 by Sultan Murad III, according to a document granting tax immunity to the Kassandra peninsula (*suret-i muafname-i cezire-i Kesendire*). Gazanfer was later to convert the holding into a *vakıf*.⁴¹ In order to attract settlers, the Sultan decreed that the *reaya* of the peninsula and their descendants should be granted immunity (*muaf ve müselleme*) from extraordinary taxes (*avarız*) and a set of obligations to provide mandatory services.⁴² Of particular interest are the exemptions from the obligations to work in the mines or on the galleys, to pay the tax on postal services and the taxes on barley, hay and tree-felling, and to provide boys for the *devşirme*. The fact that the “exemption document” included a tax on tree-felling indicates that the Ottoman State was concerned about the uncontrolled felling of trees in the peninsula.

The establishment of Gazanfer Ağa's *vakıf* in Kassandra led to the settlement of those villages that still account for the majority of the peninsula's population today. It is not known where the new inhabitants came from. It seems quite likely, however, that the peninsula was settled by people from other parts of Halkidiki. The lack of any evidence to the contrary and the peninsula's smooth demographic development since

³⁹ BOA, Tapu Tahrir Defteri (hereafter: TT) 7, p. 560 and 590; TT 70, p. 103; TT 403, p. 781; TT 723, p. 250.

⁴⁰ Kolovos, «Katalipsi tou chorou», pp. 121-3. See also : Kotzageorgis, *I athoniki moni*, p. 116, for a grant of uncultivated lands in 1542 by the Patriarch of Constantinople Ieremias I to the monastery of Stavronikita; however, this property is not registered in the catalogue of 1568.

⁴¹ For a similar resettlement project of the same years on the island of Samos, see Sophia N. Laiou, *I Samos kata tin othomaniki periodo* [Samos in the Ottoman Period], Thessaloniki: University Studio Press 2002, pp. 33-8.

⁴² BOA, TT 723, p. 250 (copy). A copy of the document is also held in the archive of the Agios Pavlos monastery; see Kotzageorgis, *I athoniki moni*, p. 116 fn. 166.

then both lead to this conclusion. Moreover, it should be borne in mind that in the second half of the sixteenth century Halkidiki, like other parts of the Balkans, came to have a demographic surplus and thus there was enough population surplus for people to be resettled in Kassandra. The first evidence we have of village settlements during this period concerns the villages of Valta in 1589-90, Pinakas in 1593-94, Paliouri and Agia Paraskevi in 1596-97, Polychrono in 1597-98, Aphytos in 1615, Kapsochora and Kalinikou in 1623, and Kalandra in 1629.⁴³ At the same time, almost all of the Athonite monasteries hastened to re-establish their Byzantine *metochia* in Kassandra, whose ownership was safeguarded with the issuing of deeds and boundary documents by the administrators of the *vakif* or Gazanfer Ağa. The *metochia* of Agios Pavlos, Esphigmenou and Dionysiou monasteries had already been founded in 1591, while those of Xeropotamou, Zographou and Koutloumousiou were established in 1597-98, 1599 and 1608, respectively.⁴⁴

Already in documents dating from the fifteenth century there is considerable evidence of the extensive use of the Longos peninsula by the Athonite monasteries as a winter grazing land. Due to its immediate proximity to the Mount Athos peninsula, almost all of the monasteries held winter pastures on Longos from the early Ottoman period onwards. The Ottoman tax register of 1478 contains a list of the Athonite monasteries which at that time paid taxes to the *timar*-holder of Nikiti, relating to their holdings on Longos, in the form of dues on beehives (*resm-i kovan*) and on winter pastures (*resm-i kışlak*),⁴⁵ according to the list of *vakif* estates held by the Athonite monasteries in 1568, winter pastures on Longos were held by 15 out of the 20 monasteries.⁴⁶

In the second half of the sixteenth century the peninsula of Longos became part of the Sultan's *hasses*, a source of tax revenue for the Sultan himself.⁴⁷ It is likely that during this period certain villages on the peninsula were reconstituted as fiscally accountable units. From this period we have the first reference to the village of Sykia, in

⁴³ See in detail, Kolovos, "Chorikoi kai monachoi", vol. 1, 87-94. Aphytos was a village in the 14th century. For the movement of peasants from Athitos to Agios Mamas in 1346-48, obviously evacuating their former village for unknown reasons, see Smyrlis, "Peasants and Monks", p. 787 and fn. 87.

⁴⁴ Kolovos, "Chorikoi kai monachoi", vol. 3, no. 191, 201, 223, 224; Kotzageorgis, *I athoniki moni*, p. 116. For the topography of the villages and the metochia in Kassandra after the colonization of the 1590s, see Bellier et al., *Paysages de Macédoine*, passim; Johannes Koder, "Die Metochia der Athos-Klöster auf Sithonia und Kassandra", *Jahrbuch der Österreichischen Byzantinistik*, 16 (1967), 211-24.

⁴⁵ BOA, MAD 17748, p. 6. Cf. the special Ottoman regulation for the "winter pasture of Longos" (*kışla-ı ada-ı Longoz*) in John C. Alexander, *Toward a History of Post-Byzantine Greece: The Ottoman Kanunnames for the Greek Lands, circa 1500-circa 1600*, Athens 1985, p. 45 and 217.

⁴⁶ Kolovos, "Katalipsi tou chorou", pp. 119-21.

⁴⁷ Vassilis Dimitriades, "Forologikes katigories ton chorion tis Thessalonikis kata tin Tourkokratia" [Tax categories of the villages of Thessaloniki during the Ottoman Period], *Makedonika*, 20 (1980), 429-30.

the vicinity of the Byzantine village of Longos, while Sarti is also mentioned once again as a village.⁴⁸

Apart from having demographic repercussions, the resettlements described above may also have had an environmental impact in the medium term. The hilly region in the north-west part of the Kassandra peninsula is now cultivated with large tracts of cereals, separated by areas of pine forest. Nineteenth-century records show that the areas of pine forest were probably larger, and coexisted with areas of cultivated land and *maquis*. The situation was very different in the fourteenth century, where records show that oak forests existed instead of the pine forests and that most of the land was used for stockbreeding. The disappearance of oak forests between the fourteenth century and the modern era has also been noted in the case of the region to the south-west of Ormylia and the Vourvourou area on the Longos peninsula.⁴⁹

6. Rural Economy and the Environment

The rural economy in the Late Byzantine era has been analysed by Angeliki Laiou, mainly on the basis of the example of the Halkidiki countryside. In the case of the village of Gomatou, the peasants cultivated only a small proportion of the land, which may reasonably be assumed to have been the village's small plain (the rest of the land was mountainous and barren). The peasants owned vineyards and fruit trees, oxen to plough the land (an average of 0.62 each in 1300), pigs (an average of 0.8 each), sheep and young goats (an average of 8.0 each), which grazed on the barren land or in the fields after harvest-time. A system of crop rotation was used, and the fields were sown with winter seeds (wheat and rye) and spring seeds (wheat, millet, oats and legumes).⁵⁰ We have no reason to believe that this situation changed during the period of Ottoman rule. In 1527, for example, the peasants of Ierissos were cultivating for food cereals (wheat, barley, oats and rye) and legumes (broad beans and bitter vetch). A considerable part of their diet consisted of fish, which were taxed quite heavily. They also had pigs for meat and fat (they had no olive trees), bees for honey and, of course, sheep and goats. They were also taxed on the figs and flax they cultivated. Of course, they also cultivated vineyards and produced must and wine, which, together with cereals, were the principal goods taxed by the Ottomans at the time. Similarly, in 1527, the

⁴⁸ Kolovos, "Chorikoi kai monachoi", vol. 3, no. 146 (1577), 161 and 162 (1583). See also Ioakeim A. Papaggeolos, "To telos tis Teronis" [The End of Teroni], in G. Karadedos (ed.), *Doron. Timitikos tomos ston kathigiti Niko Nikonano* [Volume in Honour of Professor Nikos Nikonanos], Thessaloniki: 10th Ephoreia Byzantinon Archaioitten 2006, p. 182-183, with a reference on donors' names from Teroni and Sykia in the old "vrevion" of the monastery of Pantokrator from the second half of 16th century. Thus, it is probable that Teroni was also re-colonised in the second half of 16th century.

⁴⁹ Bellier et al., *Paysages de Macédoine*, pp. 112-3. For travellers' evidence of 19th- and early 20th-century *maquis* (yews, arbutus, and wild olive-trees) in the region southwest of Ormylia, see p. 89. For evidence of the retreat of forests in the northern part of Kassandra, see p. 90; for Longos, see p. 94.

⁵⁰ Laiou, *I agrotiki koinonia*, pp. 94-100.

inhabitants of Ormylia cultivated for food cereals (wheat, barley, oats, rye and millet) and legumes (broad beans). Their diet also included fish. In addition, they had pigs for meat and fat (they had no olive trees either), although they had no bees, sheep or goats, living as they did in the middle of the plain. However, on the outskirts of the village there was a winter pasture for large animals (buffalos), probably near the river mouth. The inhabitants of Ormylia were even taxed on their figs and pears. An important “commercial” crop that was grown in the fertile plain was hemp and flax. Of course, vineyards were also cultivated. The inhabitants of Agios Sozon, in the same plain of Ormylia, also cultivated cereals and vineyards, and cotton as well. Unlike Ormylia, this village had olive trees and bees. The inhabitants also bred pigs, and they too had a winter pasture. The inhabitants of near-by Kalyvia, like those of Agios Sozon, cultivated most of their crops – cereals, vines and flax – within the boundaries of the Ormylia estates. Apart from these crops, the people of Kalyvia also had bees. On the other side of the river of Ormylia, the inhabitants of the village of Vatopedi had similar crops: cereals, vines, hemp, flax, and cotton. They were also taxed on their cocoons, figs, beehives and pigs. This village also possessed a winter pasture. The inhabitants were also fishermen, and they were also taxed on the potteries that existed in the village.⁵¹

A special category of the rural population in Halkidiki was that of the salt-workers. The two largest villages in the plain of Vasilika were the Christian villages of Vasilika and Agia Paraskevi.⁵² Most of their inhabitants, along with the majority of the inhabitants of another five Christian villages that lay further to the south (Zombatoi, Mesimeri, Koumoutzoulou, Krini and Kalarinos), were salt-workers and worked on the state’s saltpans. Saltpans appear to have existed in Halkidiki at an earlier date and further to the south, in the areas of Agios Mamas, Portaria and Vromosyrta; in the sixteenth century some of the inhabitants of these villages were described as “former salt-workers”. The revenue from the salt monopoly was the most important source of state income from the city of Thessaloniki in the sixteenth century.⁵³

Peregrine Horden and Nicholas Purcell have recently approached the history of the Mediterranean from the standpoint of a “new ecological economic history”,⁵⁴ studying rural history with an emphasis on the diversification that is evident in the Mediterranean. As they have argued, “the omnipresence of the marginal has enforced diversity, flexibility and opportunism in managing the environment”.⁵⁵ Even through the selective

⁵¹ See the relevant entries in the tax register TT 403, p. 1028, 677, 746-7, 678, 682.

⁵² TT 403, pp. 117 and 90 respectively.

⁵³ TT 403, pp. 128, 85, 77, 75, 69; p. 126, 98 and 120.

⁵⁴ Peregrine Horden & Nicholas Purcell, *The Corrupting Sea: A Study of Mediterranean History*, London: Blackwell Publishing, 2000, pp. 175-7.

⁵⁵ *Ibid.*, p. 180.

presentation made above, this diversification is particularly evident in the case of the rural economy of Halkidiki.

In this diversified economy and ecology, the settlement of the semi-nomadic *Yürüks* added yet another level of complexity to the rural economy of Byzantine Halkidiki. According once again to Horden and Purcell, the schematic distinction between pastoralism and agriculture is pointless: "When interdependence is high and intensification desirable, animals not only make it possible to exploit zones of forest, steep slope, or marshland which would otherwise yield much less nutriment, but through the addition of labour into the processing and marketing of animal products, they can readily take their place in the world of storage and redistributive gain. Hence the importance of the recognition that pastoralism as a system does not indicate underdevelopment, but rather the opposite".⁵⁶ In addition, 'mountain pastoralism, and above all long-distance transhumance, is a novel opportunistic exercise extending the reach of the producers of the more comfortable landscapes – a kind of displaced intensification.'⁵⁷ The *Yürüks* of Halkidiki, though not a typical example of a mountain population engaged in long-distance transhumance, introduced a new element into the Halkidiki environment. Purely nomads at first, they gradually adapted to a region of age-old villages and a terrain that did not possess the extensive grazing grounds of the Anatolian plateaus. They moved between a form of short-distance transhumance and a form of agriculture practised by settled populations. Gradually, losing their nomadic character, they became integrated in the local exchange networks and accumulated capital through extra-agricultural activities as well (money-trading).

7. Post-Sixteenth-Century Halkidiki: Crisis and Climate Change

Post-sixteenth-century European history has been described by historians as an era of "General Crisis";⁵⁸ recently, Geoffrey Parker argued that the seventeenth century was an era of "Global Crisis".⁵⁹ The historiographical concept of crisis has been applied also to the post-sixteenth-century Ottoman history, which had been conventionally, and somewhat ethically, described also as an era of "decline".⁶⁰ In any case, however, the seventeenth century was a century of significant political, economic, and social change

⁵⁶ *Ibid.*, p. 199.

⁵⁷ *Ibid.*, p. 198.

⁵⁸ Eric Hobsbawm, "The Crisis of the Seventeenth Century", *Past and Present*, 5-6 (1954), 33-53, 44-65.

⁵⁹ Geoffrey Parker, *Global Crisis: War, Climate Change and Catastrophe in the Seventeenth Century*, New Haven and London: Yale University Press, 2013.

⁶⁰ Linda T. Darling, *Revenue-Rising and Legitimacy. Tax Collection and Finance Administration in the Ottoman Empire, 1560-1660*, Leiden: E.J. Brill 1996, p. 1-21.

for the Ottomans. Baki Tezcan has even argued that from 1600 onwards we should talk of an actual “Second Ottoman Empire”.⁶¹

As far as environmental history is concerned, Faruk Tabak has recently described the post-sixteenth-century era as the “autumn” of the Mediterranean, when the centre of the world economy left the Inner Sea for the north of Europe; at the same time, settlement in the Mediterranean moved from the plains up to the hills and the mountains.⁶² The latter was the result of the climate change, alias called the “Little Ice Age” (1550-1870), which, in the Mediterranean, produced increased rain and snow in higher altitudes during the cold months and opposite phenomena of big draughts during the warm months; hence, the abandonment of the plains in favour of the mountains. More recently, Sam White studied extensively the outbreak of the “Little Ice Age” in the Eastern Mediterranean, focusing especially on the great draught of the 1590s. White made a strong argument in favour of a connection between climate change and social unrest, i.e., the Celali rebellions in Anatolia.⁶³ In the case of Halkidiki, however, an area of hills and mountains, without major plains, we should not expect to find a similarly strong impact of climate change onto cultures and yields, as in the case of Anatolia.⁶⁴ We will discuss in some detail this argument in the following pages. Moreover, for the case of Anatolia, there is strong evidence that climate change and social unrest coincided also with a “big flight” of the population from the countryside. As we will show in the following paragraphs, there is evidence of a population decline in post-sixteenth-century Halkidiki. However, we cannot locate a similarly extreme demographic catastrophe in Halkidiki, where settlement was expanding still in the last decades of the sixteenth century (see above, on the resettlement of the Kassandra peninsula, and a quite similar case in the peninsula of Longos).

8. Population and Settlement (17th–18th Centuries): Decline and Recovery

The Ottoman tax surveys constitute the basis for our research into the history of seventeenth- and eighteenth-century Halkidiki. Notwithstanding significant changes to their format, the registers of these surveys are considered to provide important information

⁶¹ Baki Tezcan, *The Second Ottoman Empire: Political and Social Transformation in the Early Modern World*, Cambridge: Cambridge University Press 2010.

⁶² Faruk Tabak, *The Waning of the Mediterranean, 1550–1870: A Geohistorical Approach*, Baltimore: The Johns Hopkins University Press, 2008, pp. 22-35.

⁶³ Sam White, *The Climate of Rebellion in the Early Modern Ottoman Empire*, Cambridge: Cambridge University Press 2011, esp. pp. 126-39 for the “Little Ice Age” and pp. 140-62 for the big draught of the 1590s in the Eastern Mediterranean.

⁶⁴ White, *The Climate of Rebellion*, p. 80, mentions a famine in Dubrovnik in 1564, which was alleviated with grain from Chios, Rodos, Limnos, Kos, Mytilene, Tarhanyat, Sığacık and Seferhisar. White mentions also a famine in Thessaloniki at the same year; however, he has misread the Mühimme 6/266, as Thessaloniki actually provided grain to Anatolia.

for both the history of settlement and demographic history.⁶⁵ Evidence from the Ottoman poll-tax (*cizye*) registers indicates a decrease of the population in Halkidiki in the first half of the seventeenth century. We have already seen that in 1568 the Christian tax households in Halkidiki comprised a total of 10,106 (Table 1). In 1620-21, the sum of the poll-tax households (*cizyehane*), which were recorded in the two "tax provinces" of Siderokavsia/Thessaloniki (*vilayet-i Sidrekapsı tetimme-i Selanik*) and Siderokavsia/Gynaikokastro (*vilayet-i Sidrekapsı tetimme-i Avrethisarı*), were only 5,759,⁶⁶ the former *vilayet* included only 25 villages of Halkidiki, whereas the latter included also a lot of villages outside Halkidiki.⁶⁷ We can use more comparable data from the registers of 1620-21 and 1642, when the poll-tax households in the "tax province" of the *vilayet-i Sidrekapsı tetimme-i Selanik* dropped from 2,675 to 1,890; 1,824 poll-tax households were counted in the same "tax province" in 1644.⁶⁸ In sum, these figures indicate a downward trend in the population of Halkidiki in the first half of the seventeenth century, consistent with the general "demographic crisis" in the Ottoman Empire at the time.⁶⁹

In the second half of the seventeenth century, this trend seems to have been reversed. A register of 1692 recorded 5,830 poll-tax payers in Halkidiki, not including the Cassandra peninsula. A few years later, in 1697, another register counted 8,172 poll-tax payers, including this time 871 men in the Cassandra peninsula; however, 664 from the aforementioned poll-tax payers were "dispersed" (*perakendegân*).⁷⁰ The number of these *cizye* registers is corroborated by the number recorded in an *avarız* register of 1722 for Halkidiki; 3,231 *avarızhanes*, both Muslim and Christian, comprising an estimated 10,000 tax-payers.⁷¹ To sum up, the evidence from the Ottoman tax registers

⁶⁵ Oktay Özel, "Avarız ve Cizye Defterleri", *Osmanlı Devleti'nde Bilgi ve İstatistik*, Halil İnalçık & Şevket Pamuk (eds), Ankara 2001, pp. 35-50.

⁶⁶ S. Dimitrov, E. Grozdanova & S. Andreev (eds), *Turski izvori za balgarskata istorija*, vol. 7, Sofia: Bulgarian Academy of Sciences 1986, p. 390. The division of Halkidiki between two "tax provinces" was a fiscal practice of the first half of the seventeenth century; Bistra Cvetkova (ed.), *Opis na dzizie registri*, Sofia: National Library "Cyril and Methodius" 1983, no. 216 (1639-40), and no. 273 (1642-43). A poll-tax register dated 1666 refers to the *vilayet-i Sidrekapsı* as a whole (*ibid.*, no. 427).

⁶⁷ It is interesting to note that in these tax districts in 1620-21 14.3% of the total *hanes* paid their poll-tax in the reduced price of 215 *akçes*, when the remaining *hanes* paid 245 *akçes*.

⁶⁸ Dimitrov, Grozdanova & Andreev, *Turski izvori*, p. 390 (abridged register of 1620-21); BOA, MAD 1209 (detailed register of 1642); Cvetkova, *Opis*, no. 273 (abridged register of 1644).

⁶⁹ Oktay Özel, "Population Changes in Ottoman Anatolia during the 16th and 17th Centuries: The 'Demographic Crisis' Reconsidered", *International Journal of Middle East Studies*, 36.2 (2004), 183-205.

⁷⁰ Cf. BOA, MAD 4609 (1692) and MAD 3461 (1697). It has been suggested that around 20-30% of the tax-paying population was not registered in the Ottoman *defters* (Darling, *op.cit.*, p. 101). If we accept a minimum percentage of 20%, then the total number of taxpayers can be estimated at 10,215, a figure that almost equals the number of Christian taxpayers in 1568.

⁷¹ See BOA, KK 2869, p. 2-23 and 81-116. The survey of 1722 has both an advantage and a disadvantage for the researcher. It includes both Christians and Muslims, however, only those who had to pay the extraordinary taxes (*avarız*). Moreover, the register does not indicate a fixed equivalence between *hane* and *avarızhane*. We would suggest a minimum equivalence of 1:3, whereas an equivalence of 1:5 was standard in the mid-

provide some indications for a population decrease in the last decades of the sixteenth and in the first half of the seventeenth century, a trend which was reversed in the second half of the seventeenth century. Around 1700, it seems that Halkidiki had recovered its sixteenth-century population. Interestingly, the ratio between Muslims and Christians remained the same as in the register of 1568, i.e. 1:10.⁷²

On the other hand, it should be emphasised that in the case of Halkidiki the demographic crisis of the late sixteenth and early seventeenth century did not result in a radical change of the settlement network in the region. The bigger settlements, as one would expect, survived the crisis. In the western part, the Christian villages of Vasilika (97 Christian poll-tax payers in 1697) and Agia Paraskevi (115) continued to be the biggest settlements in the area. Travelling further to the south in the district of Kalamaria, one finds all the old Byzantine villages in this area, for example Kalarinos (23 poll-tax payers in 1692), Portaria (35) and Agios Mamas (135), together with the new settlement of Epanomi (125).⁷³ Further to the east, one finds Ormylia-Kalyvia (36 poll-tax payers in 1692), Nikiti (125) and, of course, Ierissos (71). Up on the mountains, Polygyros (159 Christian poll-tax payers) had already become in 1692 one of the bigger settlements in Halkidiki. This evolution might partially indicate, for Halkidiki as well, a population movement from the plains up to the hills and the mountains. The near-by settlement of Galatista, in the borderline of the plain of Vasilika and the mountainous area, was the most populous settlement in Halkidiki (321 Christian poll-tax payers in 1697).⁷⁴ In total, Halkidiki had 107 settlements according to the register of 1568 and 100 according to the register of 1722.⁷⁵ The deserted settlements during the seventeenth century are not many. Most were abandoned as a result of settlement regrouping around modern Ormylia/Kalyvia, which should have regrouped the villagers of the deserted settlements of Byzantine Ormylia, Agios Sozon or Demetrios, and Vatopedi); around Ierissos, where one assumes that the population from the deserted settlements of Eladiava,⁷⁶ Komitissa, Alypiou, and Ivires had moved; and around the new town of Bazar-ı Cedid/Pazargâh (mod. Apollonia) in the area of the lakes, which was founded

seventeenth century. See Darling, *op.cit.*, p. 107; Phokion Kotzageorgis, *Mikres poleis tis ellinikis hersonissou kata tin proimi neoteri epohi. I periptossi tis Xanthis (15os-17os aionas)* [Small Towns of the Greek Peninsula in the Early Modern Period. The Case of Xanthi (15th-17th centuries)], Xanthi: Iera Mitropolis Xanthis kai Peritheoriou 2008, pp. 68-71.

⁷² Cf. Table 1 (esp. the survey of 1568) with the data from the detailed *avarız* register of 1722. The latter, where tax-payers were explicitly noted, recorded 189 Muslims and 1,745 Christians (9.77%-90.33%) villagers.

⁷³ Nine villages in the district of Kalamaria formed a group of villages producing salt (*tuzcıyan*). Dimitriadis, "Forologikes katigories", pp. 419-20.

⁷⁴ Six villages around Galatista belonged to the *vakıf* of İshak Paşa (*ibid.*, pp. 428-31).

⁷⁵ Cf. the registers TT 723 and KK 2869.

⁷⁶ Eladiava was mentioned as a village at least until 1676 and as an uninhabited cultivated place (*mezraa*) in 1722; see respectively Kolovos, "Chorikoi kai monachoi", vol. 3, no. 331, and BOA, KK 2869, p. 106. According to Papaggelos ("Eidiseis", pp. 1599 and 1609) the residents of Eladiava moved to Hierissos and formed a quarter which they named "Ladiava".

by Sokollu Mehmed Paşa⁷⁷ and where most probably the villagers of the nearby deserted settlements of Rendina, Akrotiri, Roglateia, and maybe Rachova, Kournofolia, and Souda had regrouped.⁷⁸

The Kassandra peninsula, which, as we have already seen, was resettled in the second half of the sixteenth century, retained its villages throughout the period under consideration. At the end of the seventeenth century Kassandra was registered with nine villages and in 1722 with 15, exactly as in 1851.⁷⁹ The villages that appeared in the registers of 1697 and 1722 were Valta, Athytos, Fourka, Pazaraki, Tsaprani, Kalandra, Agia Paraskevi, Paliouri, and Kapsochora. Moreover, the Ottoman registers counted ten monastic *metochia* in Kassandra (nine belonging to the monasteries of Mount Athos and one to the Monastery of Agia Anastassia) in 1697 and 12 (11 and one respectively) in 1722. As we have already noted, the peninsula of Kassandra belonged to the *vakif* of Gazanfer Ağa, and was fiscally and administratively separated from the rest of Halkidiki; Kassandra formed a separate *nahiye* and was administered by the *voyvoda* of the *vakif* of Gazanfer Ağa. The special status of Kassandra might have shielded the tax-payers,⁸⁰ but the opposite might have also been the case. In one instance, there is evidence that some of its inhabitants moved to the area of Larissa (Ott. Yenişehir) to escape from the fiscal pressures of the Ottomans.⁸¹

To the east of Kassandra, the peninsula of Longos had since the second half of the sixteenth century only two villages, Sykia and Parthenonas (71 and nine Christian tax-payers respectively in 1722). The village of Sarti, near the sea, which was revived by the end of the sixteenth century, was not recorded afterwards as it probably had

⁷⁷ Machiel Kiel, "Ottoman Building Activity along the Via Egnatia, the Cases of Pazargah, Kavalla and Ferecik", in Elizabeth A. Zachariadou (ed.), *The Via Egnatia under Ottoman Rule 1380-1699*, Rethymnon: Institute for Mediterranean Studies 1996, pp. 147-9.

⁷⁸ For more detailed evidence on abandoned settlements, see Kolovos, "Chorikoï kai monachoi", vol. 2, passim.

⁷⁹ For 1697, see BOA, MAD 3461, p. 127-130; for 1722, see BOA, KK 2869, p. 110-115; and for 1851, see the table in Dimitriadis, "Forologikes katigories", p. 431. William Martin Leake (*Travels in Northern Greece*, vol. 3, London: J. Bodwell 1835, pp. 163-4) mentioned that the peninsula of Kassandra had 12 villages.

⁸⁰ I. Vasdravellis (ed.), *Istorika archeia Makedonias. A: Archeion Thessalonikis, 1695-1912* [Historical Archives of Macedonia. A: Archive of Thessaloniki], Thessaloniki: Etaireia Makedonikon Spoudon 1952, nos., 14 (of 1696), 47 (1705), 52 and 54 (1706), 59 (1707), 75 (1709).

⁸¹ K. Kambouridis, *I neoteri Ellada mesa apo othomanikes archeiakes piges. Oikonomia, thesmoi kai koinonia sti Thessalia tou 17ou aiona* [Modern Greece through Ottoman Archival Sources. Economy, Institutions and Society in Seventeenth-Century Thessaly], Thessaloniki: A. Stamoulis 2009, p. 259 (of 1662), 350 (1663), 477-8 (1666).

been deserted.⁸² It seems, however, that the monasteries of Mount Athos had expanded their cultivated lands around 1600.⁸³

On the other hand, the mountainous peninsula of Longos remained mostly a pasture and forest area. The peninsula did not form a separate entity, as in the case of Kassandra. It belonged to the fiscal entity of the *hass* of Longos or Langadas, which included around 15 villages in different areas in Halkidiki (including villages such as Zombatoi to the west, Agios Mamas to the south and Polygyros to the north).⁸⁴ On an administrative level, Longos belonged to the *nahiye* of Pazargâh, which included 37 villages around 1700.⁸⁵

The *Yürük* pastoralists, which settled in Halkidiki at the end of the fourteenth century, remained an important element in the region's countryside during the seventeenth and the eighteenth centuries; their numbers, however, gradually decreased. In 1691, the Ottoman state tried to re-organise the *Yürük* militia through a general survey. According to this survey, the *Yürüks* in Halkidiki were recorded in 27 temporary settlements (*mahalles*) in north-eastern Halkidiki (*nahiye* of Pazargâh), 14 *mahalles* in north-western Halkidiki, and 32 *mahalles* in western Halkidiki. All three groups of settlements consisted of a total of 1,306 militia soldiers.⁸⁶

Being semi-nomadic pastoralists, the *Yürüks* were often in conflict with the villagers and the monks concerning the use of land along settlement boundaries. The cultivated lands were often trespassed by the sheep herds of the *Yürüks* during the summer. In the case of the *metochion* of the monastery of Agios Pavlos in Kalamaria, which had common borders with the summer settlements of the *Yürüks*, conflicts were often recorded, at least from 1529 onwards. Sometimes these resulted in violent confrontations, as in a case recorded in 1562, when the monk of the *metochion* of the monastery of Agios Pavlos was wounded by *Yürük* shepherds. In another incident in 1599, two *Yürük* shepherds hit a monk of the monastery of Chilandar with a stone.⁸⁷ On the other hand, an arrangement between the monks of Agios Pavlos and their *Yürük* neighbours was recorded in 1599, whereby the former agreed with the latter to let them use their lands for winter pastures, after the payment of an annual rent. During

⁸² KK 2869, p. 2. For the village of Sarti, see Kolovos, "Chorikoi kai monachoi", vol. 1, pp. 98-9. It was not of course a coincidence that both the villages of Sykia and Parthenonas are on the mountain, whereas Sarti was on the littoral. For pirate attacks against Sarti and the area around it, see Kolovos, "Chorikoi kai monachoi", vol. 3, nos. 323 and 341.

⁸³ We have located a series of documents of sales of arable fields in Sarti to the monasteries of Agios Pavlos and Xeropotamou around 1600; Kotzageorgis, *I athoniki moni*, p. 98-104, and Kolovos, "Chorikoi kai monachoi", vol. 3, nos. 146, 161, 164, 168, 173-4, 176, 190, 195, 212, 217-218.

⁸⁴ For the Longos *hass*, see Dimitriadis, "Forologikes katigories", pp. 429-30 (table for 1804, with the same 14 villages recorded in the surveys of the end of the seventeenth century); Leake (*Travels*, vol. 3, p. 162-3) mentioned 15 villages.

⁸⁵ Cf. MAD 4609, p. 44-56 and KK 2869, p. 2-23.

⁸⁶ Totals drawn from the tables published by Dimitriadis ("Forologikes katigories", pp. 404-6).

⁸⁷ Kotzageorgis, *I athoniki moni*, pp. 94-5.

the seventeenth century, arrangements of this kind were common practice, due to the economic problems encountered by the monasteries. In one such case it is recorded that the arable fields of the monks had been left uncultivated for a long time and had been transformed to pasture lands; thus, the monks rented them to the *Yürüks*.⁸⁸

Another development in the settlement patterns in Halkidiki during the late seventeenth and the eighteenth century was the expansion of Muslim-owned agricultural estates (*çiftlik*s), sometimes simply through the renting of the monastic estates in the area. The register of 1697 records seven *çiftlik*s in the district (*nahiye*) of Pazargâh and 23 in the district of Kalamaria; nine of the latter were actually monastic estates then "belonging" (*tabi*) to Muslim officials. From the case of the *metochion* of the monastery of Agios Pavlos in Kalamaria, which was actually held as a pledge by a certain Hüseyin Ağa and his son, we can understand that these Muslim officials had been exploiting the monastic estates without having acquired full ownership of them.⁸⁹

9. The Expansion of Olive Cultivation

The expansion of olive cultivation has been observed in the case of Crete from the end of the sixteenth century onwards, prior to which Crete was "the island of wine".⁹⁰ Moreover, olive cultivation does not seem to characterise the agricultural production of Greek lands before the seventeenth century.⁹¹ A similar case might be that of Halkidiki, where the Ottoman tax registers of the fifteenth and the sixteenth century do not record almost anywhere the systematic cultivation of olive trees. According to the detailed register of 1568, a tithe of olives was collected only from the *metochia* of Agios Pavlos in Provlakas, of Iviron in the village of Gomatou (although it was recorded since 1500), and of Koutloumousiou in Tristinika, in the Longos peninsula. Other sources mention also olive trees in the village of Kalyvia/Ormylia in 1560. All these references, however, are scarce. In addition, we have located a source that shows that in 1566 the monks of the monastery of Xeropotamou requested permission to extirpate their olive trees in

⁸⁸ *Ibid.*, pp. 85-6, 92-5, 112-3; Kolovos, "Chorikoi kai monachoi", vol. 3, no. 228. For the relations between *Yürüks* and Athonite monks, see Vančo Boškov, "Jurucite i svetogorskite manastiri", in *Etnogeneza Jurucite i nivnoto naseluvanje na Balkanot*, Skopje: MANU 1986, pp. 57-67; Vassilis Dimitriadis, "The Yuruks in Central and Western Macedonia", *op.cit.*, pp. 9-15.

⁸⁹ MAD 3461, p. 119-121, 125; Kotzageorgis, *I athoniki moni*, p. 88-89; Historical Archive of Macedonia, Ottoman Court Registers, no. 1, #66.1 (of 1697).

⁹⁰ Molly Greene, *A Shared World. Christians and Muslims in the Early Modern Mediterranean*, Chichester: Princeton University Press 2002, pp. 118-9.

⁹¹ In the Peloponnese and the island of Thassos olive cultivation intensified from the end of the sixteenth century onwards; Evangelia Balta, "I elaiokalliergeia ston tourkokratoumeno Moria" [Olive Cultivation in Ottoman Morea], in *O de topos ... elaioforos. I parousia tis elias stin Peloponnisso*, Athens: Politistiko Idryma Omilou Peiraios 2007, pp. 91-4; eadem, "I Thassos stis othomanikes apografes tou 16ou kai tou 17ou aiona" [Thassos in the Ottoman Tax Surveys of the Sixteenth and the Seventeenth Century], *Thassiaka*, 10 (1996-97), 512 and Tables 1b and 2b.

the small port of Dafni, Mount Athos, and plant instead sour orange trees.⁹² *Argumentum ex silentio*: There was no systematic cultivation of olive trees in Halkidiki during the fifteenth and the sixteenth centuries. Unfortunately, the registers of the seventeenth and the eighteenth centuries do not record data on agricultural production. An exception is the tax survey of 1764 only for the peninsula of Mount Athos, which, however, records around 35,000 olive trees.⁹³ We are inclined to assume that this shows an impressive increase in the cultivation of olive trees, similar to that of Crete. We do not, however, have comparable data from the sixteenth century, since Mount Athos paid then a fixed sum for the taxes of the monasteries. Travellers, however, like Mehmed Aşık, had noticed already from the sixteenth century the increased cultivation of olive trees on Mount Athos, an observation that is not made with regard the rest Halkidiki countryside.⁹⁴ One final observation we can extract from our sources is that olive trees in Halkidiki of the eighteenth century were present in all altitudes, like Galatista (mass bequests of olive trees in 1741) or Liarigkovi (today Arnaia, in 1773).⁹⁵ In sum, since the Ottoman tax registers do not mention taxes on olive cultivation in a large scale way, we argue that, although olive trees had not been absent from the landscape of Halkidiki, the intensification of the production was a phenomenon of the seventeenth or even the eighteenth century. This argument is supported by the results of the pollen analysis in Tristinika (Sithonia peninsula).⁹⁶ According to these findings, olive cultivation seems to have declined between 1450 and 1650, compared to the Byzantine period. It also looks that olive cultivation became dominant in modern Halkidiki only after the end of the seventeenth century, particularly during the last two centuries.

⁹² See respectively Sofia, National Library of Kyril and Methodii, OAK 83/85, 16b; BOA, TT 723, p. 118, 1055, 146, 1052; Archive of the Monastery of Agios Pavlos (hereafter: AMAP), f. 4, P/9; AMAP, f. 9, A/26; Kolovos, "Chorikoi kai monachoi", vol. 3, nos. 146, 135, 105.

⁹³ Evangelia Balta, "Landed Property of the Monasteries on the Athos Peninsula and its Taxation in 1764", *Arab Historical Review for Ottoman Studies*, 19-20 (1999), 149, 151, 153.

⁹⁴ Aşık Mehmed, *Menâzirü'l-Avâlim*, ed. Mahmut Ak, Ankara: Türk Tarih Kurumu 2007, vol. 2, p. 250; Robert Walpole (ed.), *Memoirs Relating to European and Asiatic Turkey. Edited from Manuscript Journals*, London: Longman 1817, pp. 198-203 (for Vatopedi monastery), p. 215 (for Xeropotamou), and p. 195 (for Daphni on Mount Athos); Leake, *Travels*, vol. 3, p. 118 (Xeropotamou), p. 124 (Koutloumousiou), p. 129 (Lavra), p. 131 (Vatopedi); M. E. M. Cousinéry, *Voyage dans la Macédoine, contenant des recherches sur l'histoire, la géographie et les antiquités de ce pays*, Paris: Imprimerie Royale 1831, vol. 2, p. 152 (Palaiokastro of Nea Roda), p. 156 (*metochion* at Pyrgadikia and the way to Metangitsi); Pierre Belon du Mans, *Les observations de plusieurs singularitez & choses memorables, trouvées en Grece, Asie, Judée, Egypte, Arabie, & autres pays estranges*, Anvers: Imprimerie de Christophe Plantin 1555, ff. 89v-90r, 91r (for Siderokavasia).

⁹⁵ Paris Gounaridis, *Arheion I.M. Xiropotamou. Epitomes metavyzantinon eggrafon* [Archive of Holy Monastery of Xeropotamou. Registries of Post-Byzantine Documents], Athens: Hellenic National Research Centre 1993, nos. 76, 79, 82, 84-88, 90; N. Giannakopoulos, *Arheion I.M. Stavronikita. Epitomes eggrafon, 1533-1800* [Archive of Holy Monastery of Stavronikita. Registries of Documents], Athens: Hellenic National Research Centre 2001, no. 47.

⁹⁶ See the article of Sampson Panagiotidis in this volume.

10. The “Little Ice Age”

The closing years of both the sixteenth and the seventeenth century are considered to be two of the crucial phases of crisis during the long “Little Ice Age” (1550-1870). These two phases were characterised by temperature instability and weather unpredictability as a whole.⁹⁷ In the case of Anatolia and the Middle East in general, the most visible characteristics of the climate were very cold winter seasons and, in sharp contrast, summer draughts.⁹⁸ Draughts, especially, made very hard the survival of populations that were based on grain production. As a result, during the “Little Ice Age” the phenomenon of peasants turning to pastoralists was widespread. On a micro-level, this meant that peasants left their fields uncultivated, which consequently were transformed to pastures. In the case of Halkidiki, our sources for the seventeenth and the eighteenth century indicate a significant presence of pastures. Several sources show the presence of village pastures and, in some cases, their mortgage when the communities were in debt.⁹⁹ The sources, however, of the same period testify to the granting of titles for cultivation of arable fields as well; and we have already observed above that the settlement patterns did not change abruptly during the seventeenth and the eighteenth century, as was the case in Anatolia.¹⁰⁰ Therefore, we can not be sure if and to what degree there was really a gradual abandonment of arable fields, and, consequently, a decline of agriculture, in favour of pastoralism, as was the case during the “seventeenth century crisis”.¹⁰¹ According to the same pollen analysis, the pollen indicators Chenopodiaceae, Plantago, Caryophyllaceae, Asteraceae, Ranunculus acris type, and Cichoriaceae reached their maximum in the period after the second half of the seventeenth century. Such findings fully comply with our evidence for abandoned arable fields and expansion of the grazing areas.

In theory, the “Little Ice Age” should have contributed to a reversal of the earlier (i.e. Late Medieval) period of deforestation. However, Faruk Tabak has observed, the population flight from the plains up to the hills and the mountains during these centu-

⁹⁷ O. Miszaros & G. Serlegi, “The Impact of Environmental Change on Medieval Settlement Structure in Transdanubia”, *Acta Archaeologica Academiae Scientiarum Hungaricae*, 62 (2010), p. 214, quoting M. E. Mann, *Little Ice Age. 1: The Earth System. Physical and Chemical Dimensions of Global Environmental Change*, Chichester: Princeton University Press, 2002.

⁹⁸ White, *The Climate*, pp. 126-39.

⁹⁹ See, for example, the case of the village pasture of Palaiochorion, which was rented to the monastery of Xeropotamou for 38 years, in order to settle a debt of the community to the monks; Kolovos, “Chorikoi kai monachoi”, vol. 3, no. 302 (of 1640).

¹⁰⁰ See Oktay Özel, “The Question of Abandoned Villages in Ottoman Anatolia (Seventeenth to Nineteenth Centuries)”, in E. Kolovos (ed.), *Ottoman Rural Societies and Economies*, forthcoming.

¹⁰¹ White, *The Climate*, pp. 229-48.

ries should have created new pressures upon the forests.¹⁰² Our sources offer some indications for the deforestation in Halkidiki as well.¹⁰³

Forests were an essential element of the region's landscape, covering the slopes of Mount Holomontas in the centre of the peninsula. Even the three smaller peninsulas in the south had forests. In fact, the medieval Slavic name of the middle one, "Loggos", translates as "dense forest". In our sources, we have not located any references to state or communal forests in Halkidiki. There is, however, some information on forests belonging to Athonite monasteries, which were struggling to protect them from trespassing by pastoralists or lumberjacks. In 1591, for example, the monks of the monastery of Agios Pavlos protested to the Sultan against their Christian neighbours, who had entered without permission into their forest in Sykia, in the peninsula of Longos. The reply of the central authority was that since the forest was not in common use, the trespassers should be impeded from entering into it. The same protest by the monks of the monastery of Agios Pavlos was repeated in 1620 and in 1759, a sign that villagers were constantly trespassing into the monastic forest.¹⁰⁴ In another case, from 1725, two Christian *katrancis* from Florina entered illegally into the forest of the Xeropotamou monastery in Longos and cut 1,000 pine trees in order to make wood tar. Eventually, they had to negotiate a settlement with the monks for the compensation of the latter in cash.¹⁰⁵ As everywhere in the Mediterranean, timber was also important for ship building. In 1624, a Muslim was in conflict with the monks of the Xeropotamou monastery for the compensation of the timber he had cut for the building of a ship.¹⁰⁶ These examples show that forests were exploited at the time, both by their owners and their trespassers. More generally, tree-felling for timber and overgrazing in forest areas (a phenomenon derived from the shortage of pastures and/or from the rising numbers of animals) should have been more than usual in early modern Halkidiki. Together with the tree felling for the mines and the furnaces in Siderokavsia, which we will examine immediately below, these factors led to the deforestation of Halkidiki during the period under consideration.

¹⁰² See, in detail, Vaso Seirinidou, "Dasi ston elliniko choro (15os-18os ai.): Anapsilafontas mia istoria katastrofis" [Forests in Early Modern Greece: Reviewing a History of Catastrophy], *Mesaionika kai Nea Ellinika*, 11 (2014), 74-5.

¹⁰³ For the deforestation in early modern Europe, cf. Lajos Rác, "The Price of Survival: Transformations in Environmental Conditions and Subsistence Systems in Hungary in the Age of Ottoman Occupation", *Hungarian Studies*, 24 (2010), 26-7.

¹⁰⁴ AMAP, f. 13, S/23; AMAP, f. 6, 10; AMAP, f. 13, 27.

¹⁰⁵ Kolovos, "Chorikoi kai monachoi", vol. 3, nos. 386 and 387 (1725).

¹⁰⁶ *Ibid.*, no. 267 (1624).

11. The Making of an Ottoman Mine

The Ottoman story of mining in Halkidiki originates from the very beginning of the establishment of the Ottoman Empire during the fifteenth century. In the struggle for financing their emerging empire, the Ottomans applied a policy of imperial fiscalism, aiming at controlling precious metals and coinage. In this context, Sultans Murad II and Mehmed II went to war with Hungary and the Italian states for control of the mining areas of the Balkans, principally in Serbia and Bosnia.¹ At the same time, the Ottomans invested in opening new mines in the Balkans, like the mines of Siderokavsia (Sidrekapsı) in Halkidiki.

The place name “Siderokavsia” means in Greek “smelting iron”, “ironworks”, or “siderurgy” (*sidero* means iron in Greek).² We encounter it for the first time in the ninth century, when a monk by the name of Ioannis Kolovos left Mount Athos and settled in Siderokavsia together with his disciples. Later on, there are references to Siderokavsia as a “village” (*chorion* in Greek).³ The Byzantine tax registers (*praktika* in Greek) enumerate the villagers in the area as peasants, with fields, vineyards, and animals. There is only one reference, from the mid-fourteenth century, to a “public ironworks” (*demosiakon siderokavseion* in Greek) in the nearby village of Kontogrikou,⁴ which might suggest that some kind of metallurgical activity was active in the area during Byzantine times. However, there is no reference in mining at all before the arrival of the Ottomans.⁵

Sultan Murad II probably ordered the opening of the mines in Siderokavsia, a place-name that the Ottomans kept in the form of “Siderokapsı” (and, simplified in Turkish, “Sidrekapsı”), after his conquest of Thessaloniki in 1430. According to the surviving pages of an Ottoman tax register dating from 1445, Siderokavsia was by then a silver mine (*maden-i nukra*). Its revenues had been recently transferred from the fief (*zeamet*) of the head of the Treasury (*defterdar*) Murad Bey to the imperial demesne

¹ Halil İnalçık with Donald Quataert (eds), *An Economic and Social History of the Ottoman Empire, 1300-1914*, Cambridge: Cambridge University Press, 1994, pp. 58-9. For the Balkan mines, see also Sima Cirković, “The Production of Gold, Silver, and Copper in the Central Parts of the Balkans from the 13th to the 16th Century”, in H. Kellenbenz (ed.), *Precious Metals in the Age of Expansion*, Stuttgart: Klett-Cotta 1981, pp. 41-69.

² Ioakeim Papaggelos (“To ‘koinon’ tou Mademiou”, in *I diachroniki poreia tou koinotismou sti Makedonia*, Thessaloniki: Kentro Istorias Thessalonikis 1991, p. 257, fn. 1) has located archaeological evidence of metallurgical activity in Skouries, dating from Roman times, and in the plain southwest of Megali Panagia, dated maybe earlier.

³ D. Papachryssanthou, *O Athonikos monachismos. Arches kai organosi* [Athonite Monasticism. Beginning and Organisation], Athens: MIET 1992, p. 123 and fn.233, p. 124 and fn. 238. The names of two more villages in the area are connected with metallurgy: Metallin (“metallo”: metal in Greek) and Rudava (“ruda”: metal in the Slavic languages).

⁴ Bombaire, *Actes de Xéropotamou*, no. 25 (1346), l. 29-31 and no. 27 (1351).

⁵ Spyros Vryonis (“The Question of Byzantine Mines”, *Speculum*, 37 [1962], 13-14) suggested that the Ottoman mines had Byzantine precedents in the area. It is a suggestion, however, that is based on no other evidence than the place-name “Siderokavsia” itself.

(*hassa-ı padişah*).⁶ Murad II had also issued a regulation (*kanunname*) for the mines of Siderokavsia, which does not survive itself, but was renewed by his son, Sultan Mehmed II, and is partially reproduced in an order issued after a request by the infidel miners (*madenci gâvurları*) themselves.⁷ This important text was written according to the regulation for the mines of Kratova (Karatova in Ottoman), located to the east of Skopje. This might suggest that the Ottomans, in their effort to open the new mines in Siderokavsia, had transferred here by force (*sürgün*) skilled miners from the mines of Kratova.⁸ The connection between the two mines is established also by the fact that in 1471 the mines of Kratova and Siderokavsia were farmed out together as a *mukataa* worth of 2,250,000 *akçes* (51,136 ducats).⁹ Moreover, we know that in the beginning of the eighteenth century, when the Ottomans attempted to reorganise mining activity in Siderokavsia, they transferred there some skilled miners from Kratova.¹⁰

The “village” (*karye*) of Siderokavsia, as it was registered in the Ottoman tax register of 1445, by 1478 had developed into a town (*nefs-i Siderokapsı*) that, together with the neighbour settlements of İzvor and Piyavica, constituted the “imperial demesne of the mine of Siderokavsia” (*hasshâ-yı maden-i Siderokapsı*). The three settlements of the miners included then a total of almost 600 tax households (*hane*). Their numbers remained almost the same in the tax surveys of the first years of the reign of Süleyman the Magnificent (1520-66), but increased to reach almost 1,000 tax households by the reign of Selim II (1568). The miners were Christians in their majority, including, however, a Muslim community, which developed from 20 tax households in 1478 to 62 in 1519, 50 in 1527, and 136 in 1568.

⁶ N. Todorov & B. Nedkov (eds), *Fontes Turcici Historiae Bulgaricae, series XV-XVI* [=Turski izvori za Balgarskata istorija, serija XV-XVI], vol. 2, Sofia: National Academy of Sciences 1966, p. 343. A Greek document of 1445, written in Siderokavsia, makes a clear reference to “trochous ergastikous”, i.e., smelting activity, and Muslim and Christian inhabitants, with names of both Greek and Slavic origin; Bombaire, *Actes de Xéropotamou*, no. 30.

⁷ Robert Anhegger & Halil İnalçık (eds), *Kanunname-i Sultani Ber Muceb-i Örfi Osmani, II. Mehmed ve II. Bayezid Devrilerine Ait Yasakname ve Kanunnameler*, Ankara: Türk Tarih Kurumu 1956, pp. 66-7; Nicoara Beldiceanu, *Les Actes des premiers Sultans conservés dans les manuscrits turcs de la Bibliothèque Nationale à Paris*, vol. 1: *Actes de Mehmed II et de Bayezid II du ms. fonds Turc ancien 39*, Paris – Hague: Mouton 1960, p. 138; Ahmet Akgündüz (ed.), *Osmanlı Kanunnameleri ve Hukuki Tahlilleri*, vol. 1, İstanbul: FEY Vakf Yayınları 1990, pp. 524-6.

⁸ For the Ottoman policy of forced migration (*sürgün*), see Ö. L. Barkan, “Osmanlı İmparatorluğunda bir iskan ve kolonizasyon metodu olarak sürgünler”, *İstanbul Üniversitesi İktisat Fakültesi Mecmuası*, 11 (1949-50), 524-70, 13 (1951-52), 56-78 & 15 (1953-54), 209-37.

⁹ İnalçık & Quataert (eds), *An Economic and Social History*, p. 59, table 1:12.

¹⁰ Mustafa Altunbay, “Osmanlı döneminde bir maden işletmesinin tarihi süreci: Sidrekapsı”, unpublished PhD thesis, İstanbul: İstanbul Üniversitesi 2010, pp. 225, 227-8, and below this chapter.

Table 7
The population of Siderokavsia, Izvor, and Piyavica
according to the Ottoman registers of the fifteenth and sixteenth century

	1478			1519			1527			1568		
Siderokavsia	H.	B.	W.	H.	B.	W.	H.	B.	W.	H.	B.	W.
Muslim quarters:												
<i>Cami-i Şerife</i>										28	6	
<i>Üveys Çelebi</i>										31	19	
<i>Hüsam Halife Cedid</i>										32	24	
<i>Hüseyin Çelebi</i>										17	1	
<i>Kurucızade nam-ı diğer Yeni Tarla</i>										14	12	
<i>İzzet Hacı</i>										14		
Muslims	20	1		62	12		50	32		136	73	
Christian quarters:												
<i>Protopapas</i>	55	2	5				100	18	8	109	46	
<i>Pop İvlad</i>	80	2	7				161	26	13	154	73	
<i>Pop Yan</i>	72	3	7				73	16	6	98	27	
<i>Yani Yerasna</i>	10											
<i>Papa Yani</i>	12		1									
<i>İstamad İslav</i>	14											
<i>Todor Vasil</i>	11		1									
<i>Yani Kirko</i>	70	2	5									
<i>Rosotova</i>	11		2									
<i>Yani Markovik</i>	14											
Christians, total:	349	9	28	305	31	37	334	60	27	361	146	
Jews										40	19	
Izvor												
<i>Pop Yovan</i>							79	22	4	142	47	5
<i>Pop Radoslav</i>							61	11	2	73	31	
<i>Pop Dimitri</i>							46	9	5	77	19	
Christians, total:	164		8	167	16	13	186	42	11	292	97	5
Piyavica												
Christians	75	8	1	91	5	10	89	18	8	129	69	
Total	608	18	37	625	64	60	659	152	46	958	404	5

H.: Households (*hane*). B: Bachelors (*mücerred*). W: Widows (*bive*).

Source: Kolovos, "Chorikoi kai monachoi", vol. 2, pp. 27-9.

Table 7 shows that, apart from the increase in the number of households, the number of unmarried men in the three settlements of the mines of Siderokavsia increased as well during the sixteenth century, comprising a considerable proportion of the population (from 10.2% in 1519, to 23% in 1527, and to 42.1% in 1568). These

men should have been the unskilled labour force working in the mines, most possibly migrants. After 1527, a Jewish community from Thessaloniki had also settled in Siderokavsia, which included 40 tax households and 19 unmarried men in 1568.

The mines of Siderokavsia were described extensively by the French traveller and botanist Pierre Belon du Mans (1517-64), who had visited them in 1547 in the course of his *Voyage au Levant* (first published in Paris in 1553).¹¹ According to Belon, “le village était auparavant mal bâti, mais maintenant il semble à une ville”. He compares it to the famous mining town of Joachimstal in Bohemia, and maintains that it had developed in the last 12-15 years, reaching a population of more than 6,000 miners, who had been forced migrants (*gens ramassés*). They were Albanians, Greeks, Jews, Vlachs, Circassians, Serbians and Turks, who spoke Slavic, Bulgarian, Greek and Albanian. Further below in his narrative, Belon states that the metal workers were in their majority of Bulgarian origin (*de nation bulgare*), a possible reference to the origins of the miners from Kratova. On the other hand, the inhabitants of the two neighbouring villages were mostly Christians, speaking Serbian and Greek. Belon refers also to the Jews of Siderokavsia, who spoke Spanish (Ladino).¹² Actually, according to Jewish sources, the first Jews of Siderokavsia were Ashkenazim, followed shortly after by Sephardim.¹³

The population increase in Siderokavsia, which peaked in the mid-sixteenth century, corresponded to the increase of the production of the mines. According to Belon, “c’est un village d’aussi grand revenu au Turc, pour la grande quantité de l’or et de l’argent qu’on y fait, que la plus grande ville de toute Turquie”.¹⁴ He estimates the revenues for the Sultan between 9-10,000 and 30,000 gold ducats per month, 18,000 ducats on average (216,000 ducats per year). The practices of metallurgy had been transferred to the Balkans by Saxons in the mid-thirteenth century. As a result, the technical terms describing mining and metallurgy used by the Ottomans in the regulations for the Balkan mines, and in actual practice, as Belon corroborates, were German.¹⁵

¹¹ Alexandra Merle (ed.), *Voyage au Levant (1553). Les observations de Pierre Belon du Mans*, Paris: Chandeigne 2001, pp. 156-76.

¹² *Ibid.*, pp. 156-7 and 159.

¹³ For the Jewish community of Siderokavsia, see H. Jakobsohn, “The Story of A Lamb: The Jewish Community of Sidrokapsi in the Late 16th and Early 17th Centuries”, in I. K. Hassiotis (ed.), *The Jewish Communities of Southeastern Europe*, Thessaloniki: Institute for Balkan Studies 1997, p. 214. In 1568, the Jews of Thessaloniki were financing the operation of the mines in Siderokavsia with a sum of 50,000 *akçes*, paid as “sarraflik”. We can assume that they had earlier been assigned the duty of the exchange of coins in Siderokavsia, which can explain their migration to Siderokavsia. See M. Rozen, “The Corvée to Operate the Mines in Sidrekapsı and its Effects on the Jewish Community of Thessaloniki in the 16th century”, *The Jewish Communities of Southeastern Europe*, pp. 453-71.

¹⁴ *Voyage au Levant*, p. 156.

¹⁵ See Nicoara Beldiceanu, *Les Actes des premiers Sultans conservés dans les manuscrits turcs de la Bibliothèque Nationale à Paris*, vol. 2 : *Règlements miniers*, Paris – Hague : Mouton 1964, pp. 59-66 ; Circović, “The

Belon is the first to describe in detail the operation of the Ottoman gold and silver mines of Siderokavsia. The ore, in some cases found out even in the open, was usually extracted in pits or galleries. When it was found in middle depth, it was extracted by four miners. Sometimes, however, it was so deep in the ground, that they had to extract it with the use of machinery based on horse-power. When the lead ore was extracted (Belon makes a special reference to the common galena lead ore extracted in Siderokavsia), silver was separated from the compound through smelting and cupellation, in furnaces of high temperature, where air flow made possible the oxidation of the lead and the removal of silver and gold. Belon describes in detail these furnaces, 500-600 in Siderokavsia, owned by private individuals (*particuliers maitres*), and states that for the separation of silver from the lead ore they did not use charcoal (that they used for smelting the galena lead ore) but thick wood. Air flow for the furnaces was provided by bellows, operating with water power from nearby streams.¹⁶ On the other hand, the separation of gold from silver, an operation, says Belon, carried out by an Armenian expert, was made through the process of salt cementation.¹⁷

Belon's testimony is corroborated by the information from the Ottoman regulations of the mining activity in Siderokavsia, dating from the fifteenth century.¹⁸ According to these texts, the state claimed a share of 1/12 (8.3%) from the refined metal at the time of Murad II and the early years of Mehmed II. Before 1478, however, the taxation system had changed. A tithe of 10% was collected from the ore, and a second tithe was imposed later on the refined silver and gold after cupellation (*öşr-i cevher* and *öşr-i nukra*). After the collection of the tax, the miners took their share from the ore, which around 1478 was divided in half between them and their contractors,¹⁹ the owners of the pits (Turkish *kuyu sahipleri* or *varak*, from the German *Gewerke*).²⁰ Actually, it was the skilled miners who were actually operating the mine through an assembly called *sabor*, arbitrating justice according to the Saxon mining code, and presided by a pre-

Production of Gold", pp. 42-3; Şevket Pamuk, *A Monetary History of the Ottoman Empire*, N. York : Cambridge University Press 2000, p. 27 ; *Voyage au Levant*, p. 159.

¹⁶ Note that the Slavic place name Izvor for the village of miners near Siderokavsia means "source of water".

¹⁷ In 1546, Eliezer son of Abraham, a Sephardic Jew from the congregation of the Old Catalan synagogue (*Köhne Katalan cemaati*) of Thessaloniki, farmed out (*iltizam*) for 11,000 *akçes* the right to search for gold in the water streams of Siderokavsia, and, further to the north, on the mountain of Beles. See Altunbay, "Sidrekapsı", p. 22, fn. 21.

¹⁸ See above fn.112 and especially the detailed report published by Beldiceanu (*Les Actes*, vol. 2, pp. 183-7) and Akgündüz (*Osmanlı Kanunnameleri*, pp. 518-23). This report has to be dated around 1478, since it was ordered probably in connection with the survey of that date by Kasım Paşa, *sancakbey* of Thessaloniki between 1472-83.

¹⁹ According to the report, in earlier years, the miners gave only 1/6 of the ore to the proprietors of the pits, and later, they sold the rest to them. It has to be noted also that the agreement between contractors and miners changed when the galleries had to take the water from the winter season out.

²⁰ Beldiceanu, *Les Actes*, vol. 2, pp. 184-5. For the property status of these individuals in Balkan mines, see in detail *ibid.*, pp. 89-94.

ate (*knez*).²¹ They should have also included the owners of the furnaces, who were called *vatrok*.²² The workers in the mines worked in groups of eight men and were led by skilled miners, elected by the assembly. They were named *hutman* (“Hutmann” in German) and *şafar* (“Schaffer” in German); *şafars* were Muslims in 1568.²³

The Ottoman state had the monopsony of the ore extracted in mines. After the refinement of silver and gold with bellows (*çarh*), the ore was sold to the mint (*darbhane*), which operated in Siderokavsia already from the times of Mehmed II.²⁴ However, silver and gold coins issued in Siderokavsia have been located only from the early sixteenth century.²⁵ The Ottomans farmed out both tax collection and the monopsony of the ore to farmers (*âmil*), who had also the right to collect agricultural revenues, like the tithe on vineyards. The mint was also farmed out separately.²⁶ However, the state oversaw the whole operation of the mines through a superintendent (*emin-i maden*), appointed by the Sultan, who was supervised by the judge (*kadı*) of Siderokavsia.²⁷

The remains of the mining town of sixteenth-century Siderokavsia are still visible today on the slope of Mount Stratoniko to the north of the village of Stageira.²⁸ The village of Izvor (now Stratoniki) was situated one km to the southeast of Siderokavsia. Finally, Pyavica, according to Belon, was a small village over Siderokavsia, on the top of the mountain to the east of the town, with small houses.²⁹ According to the register of 1478, the three settlements of the miners were also taxed for their vineyards, cereals, sheep, and hives, being exempt from the poll-tax (*haraç*), the *ispence*, the *salarlık*, the due from the wine barrels (*fuçı resmi*) and the service for the transportation of sheep (*celeb*).³⁰ However, we can assume that what they produced did not suffice to meet their needs. These were met from the surrounding countryside. A tax regulation written around 1478 reports in detail the products that

²¹ *Ibid.*, pp. 117-8. For the *knez* in Siderokavsia already in 1444, see *Actes de Xéropotamou*, no. 30.

²² According to a report of 1537; see Papaggelos, “To ‘koinon tou Mademiou’”, pp. 269-70. For the *vatrok* in detail, see Beldiceanu, *Les Actes*, vol. 2, pp. 95-7.

²³ *Ibid.*, pp. 184, 109-11 (*hutman*), 111-12 (*şafar*).

²⁴ See fn. 113.

²⁵ Pamuk, *A Monetary History*, p. 37.

²⁶ Papaggelos, “To ‘koinon tou Mademiou’”, pp. 269-70.

²⁷ For the administration of the Balkan mines in general, see Beldiceanu, *Les Actes*, vol. 2, pp. 127-40. For the role of the *kadı*, see *ibid.* p. 187, a case of a *kadı* asking for the replacement of the *emin*.

²⁸ For archaeological research in the area, see Ploutarchos L. Theocharidis, “The Consolidation Works on the South Tower at Siderokavsia, Halkidiki”, in N. K. Moutsopoulos (ed.), *Pyrgoi kai Kastrá*, Thessaloniki: Patriarchiko Idryma Paterikon Meleton 1980, p. 77 (a map of the site on p. 76). For the excavation, see also J.-M. Pesez, “Études de maçonnerie à Siderokavsia”, in *Structures de l’habitat et occupation du sol dans les pays méditerranéens, les methodes et l’apport de l’archéologie extensive*, Rome-Madrid: Ecole Française de Rome 1988, pp. 319-23.

²⁹ *Voyage au Levant (1553)*, p. 173.

³⁰ BOA, TT 7, p. 557 and Beldiceanu, *Les Actes*, vol. 1, p. 138.

reached the market of Siderokavsia, including flour, wheat, barley, rice, lentils, greens and fruits, fat and cheese, honey, fish, sheep, swine, salt, wine, etc.³¹

The Ottoman traveler Âşık Mehmed described in 1586-87 the town of Siderokavsia, where, he explains, he stayed for more than two years after an invitation from his local friends, as follows:

Sidrekabsi is the town of the district of the silver and gold mines. It's a small town. It has one mosque³² and two public baths (hammams).³³ One of the hammams is a double one, with separate quarters for men and women respectively. The town does not have many streets. There is a mint there which strikes silver and gold coins from the mine of the district. The climate of Sidrekabsi is very pleasant during the summer and moderately cold during the winter. The water is coming from pipes and it is mild. Sidrekabsi has winter pastures near the seaside. During the winter of [99]4 and [99]5 (AD 1586-87) the goats had kids and we enjoyed goat milk during all this season. This was a delicious drink which cannot be found in any other town of these parts. It is their special product and the people of Sidrekapsi use to send this goat milk as a gift to their friends in the towns of Serres and Thessaloniki and the other neighbouring towns.³⁴

Âşık Mehmed described also the "mountain of Siderokavsia" (*cebel-i Sidrekabsi*):

The mountain is located to the south of the town of Siderokavsia, which is a silver mine. It is a high and wide mountain. Its length and width are of equal size and its total surface is over three parasangs (fersah) at a rough estimation. The mountain is at the border of the silver mine. Big and small trees on this mountain are innumerable. These trees are under the protection of the miners. They are protected from the villagers, so that they use them for the operation of the mine. On this mountain there are many places for hiking, full of sources and wells. The people of Siderokavsia have build in a tongue-shaped corner of the mountain a simple kiosk, named Çardak, with view to the Sea of Romania (Bahr-ı Rum).³⁵

The testimony of Âşık Mehmed includes the information that wood cutting on the mountains surrounding Siderokavsia was prohibited to the villagers, because it was used for the operation of the furnaces of the mines.³⁶ According to the regulation of Mu-

³¹ Beldiceanu, *Les Actes*, vol. 2, p. 186.

³² The mosque of Siderokavsia was registered for the first time in the register of 1568 (see above). The remains of the minaret can still be found today among the ruins of Siderokavsia.

³³ One of the *hammams* is also in ruins today on the site of Siderokavsia.

³⁴ Âşık Mehmed, *Menâzirü'l-Avâlim*, pp. 995-6.

³⁵ *Ibid.*, p. 406.

³⁶ The same information is repeated by Evliya Çelebi, who had visited shortly Siderokavsia in 1668: "Such big trees as the trees of the mountain of Siderokavsia cannot be found in any other country. Maybe only in the mountains of Ravna, in the vilayet of Bosna. But in the case of the trees of Siderokavsia, nobody is allowed to cut them. This is because the mountain and the trees are the property of the state (*mîrî kûhistân ve dıraht-istândır*) and are being used for the smelting of the silver ore. If someone cuts a tree, he pays a fine"; *Evlyâ*

rad II and Mehmed II, the Christian miners of Siderokavsia had the right to make charcoal in the mountain (*dağdan kömür etmeğe mâni olmayalar, kim dilerse ede*).³⁷ The need for charcoal, which was used, as we have described above, for the furnaces that separated silver from lead, was much bigger of course. Around 1500, a group of villages in Western Halkidiki had become “villages of charcoal producers” (*kömürçiyân-ı maden-i Sidrekapsı*) and they had been assigned the task of supplying the mines with charcoal. In return, the charcoal producers were exempt from the extraordinary taxes (*avarız ve tekâlif-i divaniye or teklifât-ı örfiyye*). In the first years of the reign of Süleyman the Magnificent and during the reign of his son, Selim II, these were the old Byzantine villages of Revenikeia (Ravenik, today Megali Panagia) and Palaiochori (Palyohor), as well as the villages of Yeniköy (later Novoselo, today Neochori), Raligovi (Raliğova, later Liarigovi, today Arnaia) and Varvara, which had been settled after the Ottoman conquest. By 1634, however, the Ottomans had established a much bigger group of villages in the *sancak* of Thessaloniki (including villages in Serres, Drama, Zichni, Avrethisar, Demirchisar, and of course Sidrekapsı), which had been assigned the provision of 338 full loads and 25 quarter-loads of charcoal (*kömür beygiri*) for the mines of Siderokavsia; these services, however, could be exchanged with payments in cash.³⁸

12. Decline and Re-Organisation of the Mining Activity

As a result of the arrival of large amounts of silver from the Americas, from the beginning of the seventeenth century the Ottoman mints in the Balkans and Anatolia began to decrease their production until, by the 1640s and 1650s, they virtually stopped the production of silver *akçes*, which were replaced in circulation with European silver coinage.³⁹ During the reign of Ibrahim I (1640-48), the mints all over the empire had closed, leaving only four still producing *akçes*, in Istanbul, Diyarbakir, Damascus, and Cairo.⁴⁰ Evliya Çelebi, who visited Siderokavsia shortly after, in 1668, testifies to the closure of the mint:

In the years of the previous Sultans, pure silver *akçes* used to be struck in Siderokavsia. Actually, the mint is still standing in downtown Siderokavsia. In the reign of Sultan Murad IV, the mint stroke pure coins which circulated with the inscription ‘Sultân Murâd ibn Ahmed Hân ızze nasruhu duribe Sidirkapsi’. Afterwards, however, during the reign of Sultan Ibrahim, Kara Mustafâ Paşa banned their production [...]. The mint

Çelebi Seyahatnâmesi, ed. S. A. Kahraman, Yücel Dağlı, Robert Dankoff, vol. 8, Istanbul: Yapi ve Kredi Bankası, 2003, p. 44.

³⁷ Beldiceanu, *Les Actes*, vol. 1, p. 138.

³⁸ Altunbay, “Sidrekapsı”, pp. 133-5 and Table 22 in pp. 143-4 (including only the villages of the *sancak* of Thessaloniki).

³⁹ Pamuk, *A Monetary History*, pp. 131, 139.

⁴⁰ *Ibid.*, p. 145.

of Sidrekapsi, together with other mints, they have been all closed since the reign of Ibrahim Han; the silver mine, however, is still in full operation.⁴¹

The archival evidence shows that the Siderokavsia mines were still farmed out in the second half of the seventeenth century at an annual rate of 1,600,000 *akçes* (around 6,000 gold *sultani*) in 1670. This figure shows a sharp decrease in revenues from Siderokavsia after the closure of the mint. Most probably, this was also the reason behind the transfer of the *mukataa* of Siderokavsia to the *mukataa* of the Customs of Thessaloniki in 1673.⁴² According to a local report reproduced in an order dated 1700, the silver mines of Siderokavsia were then almost abandoned.⁴³

During the difficult years of the long wars of the end of the seventeenth century, the Ottomans began once more to mint Ottoman silver coins, resulting, in the beginning of the eighteenth century, in the circulation of a new silver coin, the Ottoman *ku-ruş*.⁴⁴ In this context, it is of no coincidence that the Ottomans tried to revive silver production in the provincial mints, like Siderokavsia. According to the study of Mustafa Altunbay, in 1703 a Sultanlic *ferman* ordered Çavuşzade Hüseyin Ağa of Thessaloniki, the tax-farmer of the mines since 1698, to revive the production in Siderokavsia. Çavuşzade Hüseyin Ağa was appointed Superintendent (*emin*) of the mines and reported to the Porte on the abandoned mines, as well as on his efforts, with the assistance of the remaining skilled miners, to register and bring together the *reaya* for work in the mine and in the production of charcoal. Some of the old pits and galleries of the mines were repaired and new ones were opened. The Ottoman government mobilised as day-workers in the mine the villagers of Sidrekapsi, İzvor, Arnavudköyü, Revenik (Megali Panagia), Varvara, Yeniköy (Neochori), Yerise (Ierissos) and Liarigova (Arnaia), as well as villagers (*reaya*) from the neighbouring district (*nahiye*) of Pazargâh.⁴⁵ Some of the villagers, however, were not happy at all with their mobilisation and agitated for an uprising among workers, aiming at abandoning the mines.⁴⁶

Despite the efforts for the revival of the mines, the town of Siderokavsia seems to have never regained its lost population, after the abandonment of production in the closing years of the seventeenth century. According to a sultanlic order of 1707, Siderokavsia, the seat of the mining villages, was not anymore an important settlement. In fact, the neighbouring village of İzvor, where some Muslims also lived, was

⁴¹ *Evlîyâ Çelebi Seyahatnâmesi*, vol. 8, p. 44.

⁴² Altunbay, "Sidrekapsi", p. 26.

⁴³ A. Refik, *Osmanlı Devrinde Türkiye Madenleri (967-1200)*, 2nd ed., İstanbul: Enderun Kitabevi 1989, p. 47 (*halî ve harab*).

⁴⁴ Pamuk, *A Monetary History*, pp. 159-60.

⁴⁵ See in detail Altunbay "Sidrekapsi", pp. 34-46 and 69-71. The register of the survey of 1702 is the BOA, KK 5189.

⁴⁶ *Ibid.*, p. 108, fn. 411. Some of the agitators were caught and imprisoned in Thessaloniki.

much bigger than Siderokavsia.⁴⁷ This is corroborated by Ottoman surveys of the eighteenth century. According to one of 1743, Siderokavsia had 72 miners, and Izvor 184. The same figures, more or less, are reported for 1773 as well.⁴⁸ In 1806, when the English military expert William Martin Leake visited the mines of Siderokavsia, he mentions only the settlement of Nísvoro (i.e. Izvor), with 300-400 houses, divided in two nearly equal *mahalles* of Greeks and Turks (i.e., Christians and Muslims), situated half a mile apart.⁴⁹

On the other hand, between 1704 and 1707 a fort was built in Siderokavsia for the protection of the mine and the precious metals from bandit and pirate raids. The fort had a guard of 40 *sekban* and 20 cannons, sent from Istanbul.⁵⁰ Leake describes in 1806 the fort (*Kastro*) as the place where the silver was separated.⁵¹ We should maybe identify the tower which survives today in the centre of the village of Stageira with this fort.⁵²

After the reorganisation by Çavuşzade Hüseyin Ağa, the mines of Siderokavsia continued to be controlled by his family for the most part of the eighteenth century. Çavuşzade Ali Ağa, grandson of Hüseyin Ağa, was the Superintendent of the Mines (*emin-i maden*) between 1726 and his death in 1751. He was succeeded by his son, Çavuşzade Ahmed Ağa, until 1784.⁵³ This was a development consistent with the general evolution of eighteenth-century Ottoman society, the Ottoman “age of the *ay-ans*”, when the Ottoman provincial elites asserted important power at the local level.⁵⁴ In 1784, however, Çavuşzade Ahmed Ağa resigned from the directorate of the mines of Siderokavsia, which were farmed out to the retired vizier Seyyid Mustafa Paşa. In

⁴⁷ Vasdravellis, *Istorika Archeia Makedonias*, pp. 67-8. According to a report of the *nazır* of the mine Süleyman, the Muslims of Izvor were then forced to move to Siderokavsia, where there was a mosque, together with the *reaya*, who had come to Izvor from other districts.

⁴⁸ Altunbay, “Sidrekapsi”, p. 124. In 1773, Siderokavsia had 71 miners and Izvor 182.

⁴⁹ Leake, *Travels*, vol. 3, p. 160.

⁵⁰ Altunbay, “Sidrekapsi”, p. 107. According to a document of 1705, the villagers of Halkidiki were held accountable also for the protection of the mines. The same document testifies to an attempt for the farming out of the mines by the villagers themselves, just after the first three years of lease by Çavuşzade Hüseyin Ağa; Papaggelos, “To ‘koinon tou Mademiuou’”, pp. 260-1, according to Vasdravellis (*Istorika Archeia Makedonias*, no. 43 [1705]). However, the mines were farmed out in 1705 to Süleyman Ağa from Istanbul.

⁵¹ Leake, *Travels*, p. 164.

⁵² See Theocharidis, “The Consolidation Works”.

⁵³ Altunbay, “Sidrekapsi”, pp. 69-96. For a short interval, from 1772 to 1774, Ahmed Ağa was dismissed and the mines of Siderokavsia were directed by a Superintendent of the Imperial Mint (*darbhane-i amire*). Ahmed Ağa was able to regain his appointment, despite the miners' protestations. For the latter and the miners' efforts to farm out the mines themselves, see the document published by Refik (*Osmanlı Devrinde Türkiye Madenleri*, pp. 42-3).

⁵⁴ Bruce McGowan, “The Age of the *Ayans*, 1699-1812”, in Inalcık & Quataert (eds), *An Economic and Social History*, pp. 637-738.

1807 Seyyid Mustafa Paşa was still farming out the mines⁵⁵ and his sons, Seyidi İsmail and Yusuf Beyzade, took over after his death. Finally, in 1820, after an important rebellion which resulted in the dispersion of the miners and the abandonment of the mines, they were farmed out to the *reaya*, following a letter of the Greek Patriarch promising that the miners would not revolt again. The state retained, however, the control of the mines through the appointment of Mehmed Emin as director.⁵⁶

Mustafa Altunbay has studied in detail the surveys of the Siderokavsia mines and of the villages that had been attributed to them during the eighteenth century.⁵⁷ According to the survey of 1702 (BOA, KK 5189), 3,461 Christians and 775 Muslim *reaya* from more than 150 villages in the *sancak* of Thessaloniki (which included the *kazas* of Selânik, Siroz, Drama, Zihne, Demirhisarı, Avrethisarı) were registered as miners (*madenci*). They actually had to provide the mines of Siderokavsia with 360 $\frac{3}{4}$ full loads of charcoal (*kömür beygiri*) or pay a cash equivalent. Another survey was made in 1722 by Kapucıbaşı Ahmed Ağa, the *maden emini* of Siderokavsia (BOA, KK 5187). In this case, the 3,410 Christian and 872 Muslim mine workers (*madenci*) registered in the *sancak* of Thessaloniki were forced to deliver annually 459 $\frac{1}{2}$ loads of charcoal or their equivalent in cash, an increase which created much resentment among the miners, especially in the villages of Serres.⁵⁸ As a result in 1726, when Çavuşzade Ali Ağa farmed out the mines as an independent contractor, a new survey was ordered. In this register (BOA, MAD 22135), an increased total of 4,669 Christians and 851 Muslims were imposed a reduced annual rate of 397 $\frac{1}{2}$ loads of charcoal or their equivalent in cash. The new register, moreover, introduced a distinction between the 12 villages of the actual miners of Siderokavsia (*cevherkeşan*), which no longer had to deliver charcoal or pay a cash equivalent, like the other villages of the charcoal producers (*kömürkeşan*) in the *sancak* of Thessaloniki.⁵⁹ This was the first formation of the later called "Koinon tou Mademiu" (Mademochoria) in Greek. The villagers of the miners and charcoal producers of Siderokavsia enjoyed a special status (*serbestiyet*) of tax exemptions from the extraordinary taxation, a status which was defended by the superintendants of the mines.⁶⁰ According to Leake's testimony, in 1806 the *maden ağası*

⁵⁵ Leake (*Travels*, pp. 160-61), however, mentions as the *maden ağası* a certain Rüstem Ağa, a client of İbrahim Bey of Serres. Previously Rüstem Ağa had been expelled from his post after a complaint of the villagers, but he succeeded to overrule his dismissal, come back and take revenge upon the Greek notable of Izvor.

⁵⁶ Cf. Altunbay, "Sidrekapsi", pp. 96-99 and Papaggelos, "To 'koinon tou Mademiu'", pp. 262-65, according to Vasdravellis (*Istorika Archeia Makedonias*, no. 302).

⁵⁷ For the surveys, see in detail Altunbay, "Sidrekapsi", pp. 135-9, including also tables of the villages involved.

⁵⁸ In 1722, 92 villages of Halkidiki were registered as mining and only four as charcoal producers; BOA, KK 2869.

⁵⁹ Altunbay, "Sidrekapsi", p. 149. The register of 1752 (BOA, KK 5196), made by Çavuşzade Ahmed Reşid Ağa, counted a total of 3,426 Christians and 605 Muslim *reayas* in 88 villages in the *kaza* of Thessaloniki, who had to deliver 194 $\frac{3}{4}$ loads of charcoal or their cash equivalent to the *maden emini*.

⁶⁰ Altunbay, "Sidrekapsi", p. 194. For the tax privileges of the miners, cf. Vasdravellis, *Istorika Archeia Makedonias*, no. 156 (1733) and no. 191 (1762). According to the latter document, the villages of the miners were

had to deliver to the state 200 okes of silver from the mines, but he never made more than 100 okes; thus he had to supply the difference in cash. However, the “Greeks of the Sidherokapsika” (the 12 villages of the miners of Siderokavsia, called “eleutherochoria” by Leake, i.e., *serbest* villages), were “well content to make good the deficiency for the sake of the advantages they derive from belonging to the government of the mines”.⁶¹

Leake describes also the operation of the mines, in 1808, which seems to have been restricted by then to a single deposit, soon to be exhausted:

The mines now wrought are about half an hour from Nizvoro, between two hills, in a deep ravine, where a stream of water serves for the operations of washing, as well as to turn the wheel for working the bellows of the furnace. The whole is conducted in the rudest and most slovenly manner. The richest ore is pounded with stones upon a board by hand, then washed and burnt with charcoal; the inferior ore is broken into larger pieces, and burnt twice without washing. The lead, when extracted from the furnace, is carried to Kastro, where the silver is separated, in the proportion of two and three drams to an oke of 400 drams. When the present shafts are exhausted, the mines will probably be abandoned.⁶²

As the actual farmer of the mines in 1820, the “Community of the Mine” (*to koinon tou Mademiou* in Greek) participated in the Greek Revolution of 1821 as a legal entity, having initially one and by June 1821 five representatives signing documents on behalf of the revolutionaries. With the outbreak of the revolution, the Ottoman director of the mines (*maden ağası*) had to evacuate the fort, which was burnt down a bit later, having lost almost all of his men but two after an ambush near the village of Stanos. However, soon after, the Ottoman army marched into Halkidiki and crushed the rebels, who had to leave their villages for Mount Athos and the islands of the Aegean. In 1823, the *kocabaşıs* of the 12 villages of the mines had to accept their tax debts from previous years.⁶³ The events of 1821 seem to have sealed the mines in Siderokavsia. From an Ottoman document of 1830, we learn that the Ottomans have again tried to revive production, and that in 1832 they had appointed *vali* Vecihi Paşa as the director of the mines.⁶⁴ However, the mines were closed until the end of the nineteenth century.⁶⁵

the following: Sidrekapsi, Izvor, Arnavudkoy, Vrašta, Gomatou, Revenikia, Larigkova, Stanos, Neochori, Varvara, and Modi.

⁶¹ Leake, *Travels*, p. 161.

⁶² *Ibid.*, p. 164.

⁶³ Papaggelos, “To ‘koinon tou Mademiou’”, pp. 267-8. In 1829, 43 families of refugees on the island of Skopelos were from the Mademochoria.

⁶⁴ Vasdravellis, *Istorika Archeia Makedonias*, pp. 474, 521, 523.

⁶⁵ Papaggelos, “To ‘koinon tou Mademiou’”, p. 268 fn. 43.

13. Mining and Deforestation

How did the operation of the Ottoman mines of Siderokavasia contribute to the deforestation of Halkidiki?⁶⁶ There is some scattered evidence that the need for timber, both for the galleries and for the production of charcoal, distributed among 150 villages in the area of Thessaloniki, had serious implications for the forest. First of all, we have detailed information for the timber used for the galleries of the mines during the first years of the eighteenth century; almost 7,500 trees in 1703, over 35,000 in 1706 and almost 20,000 in 1707.⁶⁷ Moreover, in 1731, according to an Ottoman report, there were not enough trees around the village of Liarigova for the production of charcoal. As a result, its inhabitants were ordered to offer their services as miners.⁶⁸ In 1782, the villagers of Peristera, Galatista, Ravna, Megala Vrasta, Livaditsi, Ardameri, and Loukova, reported to the *emin* of the mines that the mountains in the vicinity of their villages had no more timber for the production of charcoal. After an inspection, which corroborated the report, the production of charcoal was imposed on villages that had enough forests, i.e., Larigkova, Nichori, Revenikia, Gomatou, Varvara, and Stanos.⁶⁹

In light of the above information, it is interesting to note the disappearance of the forest in the area of the village of Peristera, in the southern slopes of Mount Chortiatis. We have evidence from the eleventh century, but none from the nineteenth century.⁷⁰ Likewise, we have evidence from the fourteenth century for the forest on Mount Kalavros, but none from the nineteenth century, at least for a part of it.⁷¹ The deforestation in these two areas might be attributed to the production of charcoal for the needs of the mines of Siderokavasia. In conclusion, the function of the Ottoman mines seems to have transformed the environment of Western Halkidiki through the exploitation of both the subsoil and the forest. This exploitation would intensify from the second half of the nineteenth century onwards.

⁶⁶ For the deforestation in the Greek lands, see Seirinidou, "Dassi ston elliniko choro".

⁶⁷ Altunbay, "Sidrekapsi", p. 56.

⁶⁸ *Ibid.*, p. 123.

⁶⁹ *Ibid.*, p. 129.

⁷⁰ Bellier et al., *Paysages de Macedoine*, pp. 114 and 91-92.

⁷¹ *Ibid.*, pp. 114 and 90, 92: In 1901, Adolf Struck found a thick forest of beeches and oak-trees to the west of the village of Vavdos, which he crossed for two hours.

The Fragmented Environment of Interwar Halkidiki

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1. Geographic Fragmentation

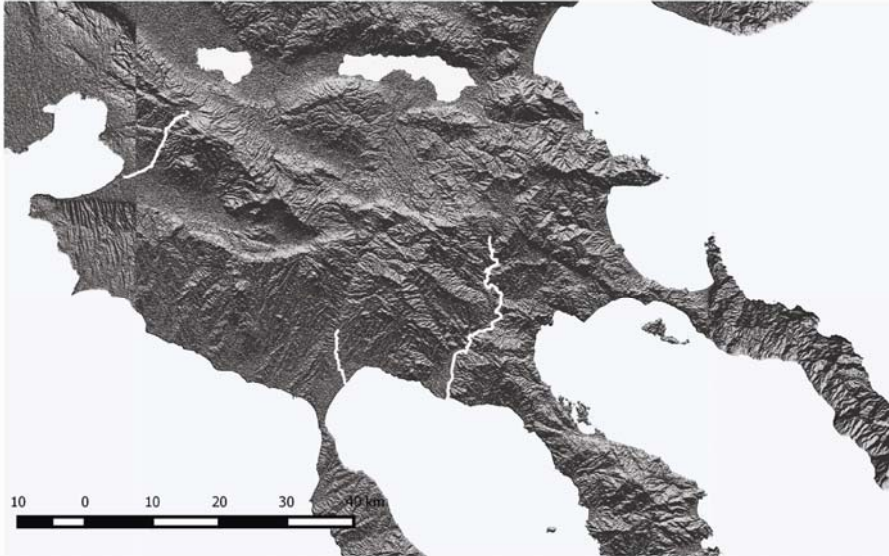
In the geographic fragmentation of the lands that enclose the Mediterranean into micro-ecologies, Peregrine Horden and Nicholas Purcell see one of the defining features of Mediterranean history;¹ one that characterises the Greek peninsula with its archipelago of islands, and, no less, Halkidiki. Geographic fragmentation into micro-ecologies prescribes the circulation of people, goods, winds, waters and disease in more than one way, enabling and guiding circulation on some occasions and restricting it on others. As they put it:

There is the distinctive regime of communications made possible by the geography of the sea, with its complex coastlines and numerous islands, interlocking coastal lowlands, and frequently navigable lagoons and rivers. The effect of such a regime is primarily on the character and significance of redistribution, and through that it feeds back into the whole system. It could thus be claimed that the key variable in assessing the social and economic character of any Mediterranean microecology at a given historical moment is its “connectivity” [...] The fourfold model – of risk regime, logic of production, topographical fragmentation, and internal connectivity – is deliberately so: it is intended to embrace the characteristic variability of Mediterranean human ecology.²

The digital elevation model of Halkidiki in Figure 1 indicates the great degree of fragmentation of the region, most notably in its northeastern zone, to which I shall return below. Indeed, it will be shown that this area was one of continuous mobility.

¹ Peregrine Horden and Nicholas Purcell, *The Corrupting Sea: A Study of Mediterranean History*, Oxford: Blackwell, 2000, p. 79.

² Peregrine Horden & Nicholas Purcell, “The Mediterranean and ‘the New Thalassology’” *American Historical Review*, 111.3 (June 2006), 732–33. See also G.B. Dertilis, *Istoria tou ellinikou kratous, 1830–1920* [History of the Greek State, 1830–1920], Athens: Hestia, 2005, vol. 1, p. 233–4.



Halkidiki Digital Elevation Model

Figure 1

Halkidiki. Digital Elevation Model.

The effects of geographical fragmentation are visible in the irregular distribution of malaria, the environmental disease *par excellence*, as shown by Ioannis Kardamatis, the leading Greek malariologist of his time, in the nationwide survey he conducted between 1915 and 1919 on the basis of information he collected from local physicians, mayors and engineers, and published several years later, in 1924.³ Figure 2 shows the distribution of lakes, swamps and malaria prevalence in Halkidiki according to Kardamatis's survey.

³ Ioannis P. Kardamatis, *Statistikoi pinakes ton elon kai tis sychnotitos tis elonosias en Elladi* [Statistical Tables of Swamps and the Frequency of Malaria in Greece], Athens: Ypourgeion Syngkoinonias, Tmima Ygeionomikon, 1924.



Halkidiki 1915-1919. Marshes and malaria

Figure 2

Halkidiki. Lakes, marshes, malaria prevalence, 1915-1919.

Source: Kardamatis, *Statistikoi pinakes ton elon kai tis sychnotitos tis eloniasias en Elladi*, pp. 44–45.

Malaria was the most prevalent disease in Halkidiki, much like in the rest of the country.⁴ Its overall prevalence in the region between 1915 and 1919 (of 29.86%) differed neither from the nationwide average (27.99%) nor from that of wartime Macedonia (27.42%). Moreover, as in the country in general, average percentages concealed a wide variance of local morbidity figures that ranged from 90% in Kapsokhora (Pefkochori) in the Kassandra peninsula, which was the most heavily affected area of Halkidiki, and 75% in Ormylia, to five percent in Liarigovi (Arnaia) and other mountainous locations. This variance was indeed one of the corollaries of the geographic fragmentation of the region. However, it is not possible to go beyond these averages and estimate the variability of malaria prevalence from one year to the next. Still, considering that great between-years variability was one of the staple features of

⁴ *Ibid.* This was the first time that malaria statistics also included New Greece, or the lands acquired after the Balkan Wars in 1913. Furthermore, thanks to the time-frame of Kardamatis's survey, it also includes the region of Eastern Thrace. The earlier malaria surveys conducted in 1901, 1905, 1906 and 1907 were obviously limited to Old, that is southern Greece.

malaria epidemiology in Greece, it would be quite safe to assume that this was also true of Halkidiki.⁵

The coastal zone of the Kassandra peninsula was particularly affected, owing to the extensive destruction of its forests. Already in the 1880s a Greek officer had found the peninsula treeless. According to his evidence, it had suffered from the plundering of its forests for charcoal by monks from the local Athonite estates.⁶ Marshes also existed by the estuaries of rivers Anthemous, Chavrias and Vatonia as well as small collections of surface water scattered in the interior of Halkidiki, which, according to Kardamatis, presented the most serious cause for the spread of malaria throughout the country.⁷

Malaria, or fevers, in Halkidiki do not appear in narrative sources to the same extent that they do in the statistics and surveys. The few exceptions, however, indicate that malaria fevers, suffering and death were indeed a very common experience. Non-immune, or naive, visitors and seasonal workers contracting malaria drew attention in some accounts precisely when their experience differed from the underlying common, often symptomless, response to the disease of immune, yet infective, locals. Thus, groups of rural workers who travelled with their wives and children over six days from Mount Orvilo near the Bulgarian border, north of Serres, for the harvest on the Agios Pavlos estate, or *metochi*, near Nea Kallikrateia on the Kassandra peninsula suffered heavy losses from malaria.⁸ During their first year in the coastal settlements of Halkidiki in 1923, the non-immune Asia Minor refugees of Halkidiki suffered heavy losses, with

⁵ Katerina Gardikas, "Landscapes of Disease. Malaria in Modern Greece", unpublished manuscript; M.C. Balfour, "Some Features of Malaria in Greece and Experience with Its Control", *Rivista di Malariologia*, 1.2 (1936), 4–5.

⁶ Nikolaos Th. Schinas, *Odoiporikai simeioseis Makedonias, Ipeirou, neas orothetikis grammis kai Thessalias, syntachtheisai ti entoli tou epi ton Stratiotikon Ypourgou* [Itinerary Notes from Macedonia, Epirus, the New Frontier Line and Thessaly Written by Order of the Minister of War], Athens: Messenger d'Athènes, 1887, vol. 3, p. 534.

⁷ Kardamatis, *op. cit.*, p. 247. Halkidiki may have shared the same average percentage of malaria prevalence with the rest of Greece. Nonetheless, the prefecture of Halkidiki displayed the highest percentage of patients with the sickle-cell trait in the country (9.96%), far above the national average (1.03%). N. Schizas et al., "Sychnotis kai katanomi mesogeiakis anaimias kai pathologikon aimosfairnon eis ton ellinikon choron. Erevnai epi 15.500 neosyllektion" [Frequency and Distribution of Thalassaemia and Haemoglobinopathies in Greece. Investigation on 15,500 Army Recruits], *Iatriki Epitheorisis Enoplon Dynameon*, 11, supplement 1 (1977), 197–209. This haematological disorder originated from the selective pressures of falciparum malaria on populations in areas with a high level of endemic malaria. The sickle-cell trait benefits heterozygous carriers in areas of high malaria endemicity by protecting them, not from the disease itself, but from death and severe symptoms. Robert W. Snow and Herbert M. Gilles, "The Epidemiology of Malaria", in David A. Warrell and Herbert M. Gilles (eds), *Essential Malariology*, London: Arnold, 2002, p. 121; David J. Weatherall, *Thalassaemia: The Biography*, Oxford: OUP, 2010, p. 183. Thus, even if heterozygous carriers of the sickle-cell trait fell ill with malaria, they remained infective for their communities. The Greek strain of the sickle-cell polymorphism has its origin in African Benin. The question how and when the sickle-cell arrived in Greece has not been resolved yet.

⁸ B. Nicolaidy, *Les Turcs et la Turquie contemporaine. Itinéraire et compte-rendu de voyages dans les provinces ottomans*, Paris: F. Sartorius, 1859, vol. 2, pp. 66–7.

deaths, mainly from malaria, but also from dysentery and typhoid fever, outnumbering births by three to one. By the time of the 1928 census, however, the situation had improved due to the mobilisation of Greek and foreign institutions and to the build-up of acquired immunity by the settlers thanks to frequent exposure in the meantime.⁹

Similarly, the increased mortality figures observed among men in the mountain town of Arnaia,¹⁰ who travelled to other locations in Macedonia in the interwar years, may be attributed, to a considerable degree, to the travels of these non-immune mountain dwellers to areas of high malaria morbidity during the dangerous summer months. For instance, carpenters, loggers, workers and muleteers left Arnaia, which, according to Kardamatis's wartime figures, suffered from five percent malaria morbidity, to Mount Pangaion east of the Serres plain, where their mules transported water for the irrigation of the tobacco plants. They also travelled around the peninsula to sell the output of the Arnaia looms, to Nigrita as wage labourers, while the carpenters found employment at the military defence works in Sidirokastro for three to four months after August, precisely during the most dangerous months for contracting malaria. Therefore, much of the malaria in Halkidiki may be attributed to the mobility of its inhabitants.¹¹

As in the rest of the country, the overall sanitary situation in Halkidiki was destabilised once again during the Axis occupation in WWII, after a severe nationwide malaria epidemic in the summer and autumn of 1942. As a result, two years later and shortly after their arrival in Greece, in November 1944 the members of the Sanitary Section of the UNRRA (United Nations Relief and Rehabilitation Administration) witnessed levels of malaria morbidity as high as 40 to 60 percent in the "coastal villages of Halkidiki".¹²

As for diseases other than malaria, the civilians of Halkidiki did not escape the cholera epidemic of the Second Balkan War that afflicted the Greek, but mostly the

⁹ League of Nations Archive, C 1130 file 9 Salonica office, RVCS Letters In: I. Karamanos, Secretary General for Colonisation, Ministry of Agriculture, to Arthur J. Bertholf., American Farm School, Thessaloniki (7 November 1923). K.A. Dimissas, "Eisigisis epi tis epidimiologias tis elonosias en Makedonia kai Thraki" [Introduction to Malaria Epidemiology in Macedonia and Thrace], in *Praktika tou protou synedriou ton iatron tis Voreiou Ellados me monon thema "I elonosia en Makedonia kai Thraki"*, Synedrion iatron Voreiou Ellados kata tis elonosias, 16–17–18 September 1933, Iatriki Etairia Thessalonikis, Thessaloniki, 1933, p. 38.

¹⁰ In the 1928 census, the number of women in Arnaia exceeded men by 26%. République Hellénique, Ministère de l'Économie Nationale, Statistique Générale de la Grèce, *Résultats statistiques du recensement de la population de la Grèce du 15–16 mai 1928. Population de fait et de droit. Réfugiés*, Athens: Imprimerie Nationale, 1933, p. 293. Furthermore, in 1939 Arnaia had 144 widows (18%) among the 800 families of the village. Christos Papaioannou, "Georgooikonomiki erevna tis komopoleos Arnaias" [Agroeconomic Investigation of the town of Arnaia], *Deltion Agrotikis Trapezis Ellados*, 5.2 (1940), 155.

¹¹ *Ibid.*, pp. 152, 155.

¹² United Nations Relief and Rehabilitation Administration (UNRRA), PAG-4/4.2, box 36 (UNRRA Historian subject files), folder Greece 38 "Region 'EG' Health Division Final Report", Health Division Region EG History, Conditions found in Greece on arrival, 17 Nov. 1944, Salonica region, p. 22.

Bulgarian, army in June 1913.¹³ The 1918 influenza visited the towns and villages of Halkidiki. Smallpox, typhoid fever, diphtheria epidemic outbreaks occurred in Halkidiki, like in the rest of the country, and were noted in the newspapers of Thessaloniki to alert the reading public.¹⁴ The town of Isvoro (Stratoniki) had experienced geographically contained plague outbreaks sporadically before the local Greek uprising of 1821.¹⁵

This study, however, focuses on the interwar years, a period which inherited many of the features of the wartime decades that transformed the entire political, ethnocultural, social and economic landscape of Macedonia, but also its physical and sanitary environment.

At the time of Kardamatis's nationwide survey, the British and French armies of the Macedonian front carried out extensive drainage works, diversions and channelling of streams and other malaria control works. For this, they often enlisted local labourers, who were immune to malaria on account of their annual exposure to the disease, in a futile but costly effort to protect their men, who were being decimated by malaria. Seeing the amount of labour wasted on the effort to sanitise all the streams and swamps of the Macedonian front and then to maintain the works in good condition, the director of the Malaria Enquiry Laboratory of the British Army in Thessaloniki believed that such work would be hard to justify in peacetime. For M.C. Wenyon, only the exigencies of waging a war could justify the enormous output in energy and funds in order to control malaria in the Macedonian slopes and plains. In his words:

In times of peace the country is only used as a grazing ground for sheep and goats. The rocky nature of the soil, except in patches here and there, renders it useless of other purposes so that any expenditure of lab[our] from an anti-malaria point of view is hardly worth considering. It was only when occupied by an army liable to infection that the question presented itself.¹⁶

¹³ In 1918, two thirds of the inhabitants of Galatista were infected with influenza. *Makedonia*, 21 October 1918, p. 1; Lerissos also developed a number of cases which spread to neighbouring villages such as Isvoro (Stratoniki), Mahala, Liaringovi (Arnaia), Palaiochori and Neochori: *Makedonia*, 17 November 1918, p. 2; *Makedonia*, 20 November 1918, p. 1. Isvoro registered 27 deaths due to the flu.

¹⁴ See, for instance, the news about an outbreak of smallpox that struck the children of Resetnikia in March 1893: *Faros tis Makedonias*, 20 March 1893, p. 1.

¹⁵ M.E.M Cousinéry, *Voyage dans la Macédoine, contenant des recherches sur l'histoire, la géographie et les antiquités de ce pays*, Paris: Imprimerie Royale, 1831, vol. 2, pp. 147–8; [Ioannis P. Kardamatis]. *Eortasmos Ogdokontaetiridos 1859–1939, Pentikontaetiridos 1889–1939* [Celebration of the 80th anniversary 1859–1939, of the semicentenary 1889–1939], Athens, [1939], pp. 56–7.

¹⁶ C.M. Wenyon, "Malaria in Macedonia. Part I," *Journal of the Royal Army Medical Corps*, 37.2 (August 1921), 16. Halkidiki did not become a battlefield during World War I and was thus spared the epidemiological burden of the war and the disturbance of its soil for defensive purposes. The contribution of Halkidiki in the Entente's war effort consisted in a shift in its mining works towards the supply of pyrite to the French army and magnesite to the British; see Lyda Papastefanaki, "Stis stoes. Prosengiseis stin istoria ton metalleion tis Elladas, 1860–1960" [In the Galleries. Approaches to the History of Mines in Greece, 1860–1960], unpublished

Wenyon's rationale was soon turned on its head, when Eleftherios Venizelos laid down a plan of agricultural development that was expected eventually to pay for itself. The colonisation of northern Greece with the refugees who poured into the country following the Greek defeat in 1922 and the exchange of populations in 1923 was tailored to the broader policy of social engineering that also transformed the landscape. The Macedonia settlement project extended to the Asia Minor refugees through a Refugee Settlement Committee set up in September 1923.¹⁷ In 1930, the Committee folded its operations and the newly-founded Agricultural Bank of Greece took over its responsibilities that related to the rural economy and society as the driving force behind agrarian reforms and, no less, behind the reshaping of the physical environment. The Bank's interventions though were commensurate with the expected returns from its capital investment.

The colonisation project for northern Greece adopted the national policy of political and social engineering and, at the same time, brought on environmental change. However, in order to sum up the colonisers' first few years of suffering in lands of malaria endemicity, such as the environment that prevailed in the coastal zone of the Mediterranean, Fernand Braudel ominously noted in his *Mediterranean*, "to colonise a plain often means to die there."¹⁸

Halkidiki, in particular, became home for some 11,261 Asia Minor refugees or 2.63% of the total number of refugees settled in Macedonia by 1927.¹⁹ The settlement plan involved founding new, mostly coastal, villages and distributing the lands of the Athonite *metochia* to their tenants, and to refugees and landless peasants. The policy put an end to the old, oppressive tenancy regime and created a relatively densely populated zone, following the ideas of Konstantinos Karavidas, but also due to pressures from the refugees and the mobilisation of the local tenant farmers, as suggested by Elsa Kontogiorgi in her recent article on the subject.²⁰

The transformation of Halkidiki was not uniform over the entire peninsula, while the refugees were not distributed evenly over the land. The villages in the interior presented a wide range of economic activities, a condition that was consistent with the polyvalent occupations of the Greek peasantry. A diversified small-scale rural economy

manuscript.

¹⁷ For an extensive and thorough study of the project of colonising Macedonia and, consequently, of the work of the Refugee Settlement Committee, see Elisabeth Kontogiorgi, *Population Exchange in Greek Macedonia: The Rural Settlement of Refugees, 1922–1930*, Oxford: Clarendon Press, 2006.

¹⁸ Fernand Braudel, *The Mediterranean and the Mediterranean World in the Age of Philip II*, London: Harper & Row, 1975, vol. 1, p. 66.

¹⁹ Elsa Kontogiorgi, "I pyknosis tou araiotatou vaseiyou ton kolligon' tis Halkidikis. I apokatastasi ton prosfygon kai to metochiako zitima kata ton mesopolemo" ['Increasing the Density of the Sparse Kingdom of the Tenants' of Halkidiki. The Resettlement of the Refugees and the Question of the Athonite Estates in the interwar years], *Neoellinika Istorika*, 3 (2013), 141.

²⁰ *Ibid.*, pp. 122–6.

involving multiple sources of income was the prevailing pattern among the Greek peasantry.²¹ In nineteenth-century Polygyros, for instance, the inhabitants were farmers, beekeepers, cultivated vineyards, olive trees and grew silkworm, while women spun and wove woollen artifacts.²² After 1923, the presence of Asia Minor refugees in the town of Polygyros was limited; the 1928 census recorded a mere 63 in a total population of 2,477 (or 2.0%).²³ The town of Isvoro (Stratoniki), one of the twelve mining communities that made up the *Mademochoria*, which provided workers to the mines of Halkidiki in the previous centuries, produced cereal, vegetables, cotton, olives and honey and suffered from a shortage of labour.²⁴ Like Polygyros, Isvoro also received a small number of Asia Minor refugees after 1923; among the 1,184 inhabitants recorded in the 1928 census, a mere 42 (3.5%) were refugees.²⁵ In Revenikia (Megali Panagia) the 168 Christian families were farmers, beekeepers and raised sheep, goats and pigs.²⁶ Likewise, the 165 families of Agios Nikolaos were farmers, beekeepers and fishermen, raised silkworm and rented rooms to visitors to Mount Athos.²⁷ In 1928, it housed no more than 13 Asia Minor refugees.²⁸

Refugee presence, however, was significant in Stratoniki, the village of the Cassandra Ores Company, a mining company that was taken over by the Hellenic Chemical Products and Fertiliser Company, S.A. (Anonymos Elliniki Etairia Himikon Proionton kai Lipasmaton or AEEHPL) in 1927. To the 331 inhabitants of Stratoniki in 1920 were added 119 Asia Minor refugees in 1923; thus the arrival of refugees benefited Stratoniki with an impressive increase by 36%.²⁹ Clearly, owing to the attraction of its mines, by the time of the 1928 census, the town itself had more than doubled since the last census eight years earlier, with a growth by 120%, while its 220 Asia Minor refugees amounted to thirty percent of the population.³⁰

²¹ Horden and Purcell (*The Corrupting Sea*, *op. cit.*, p. 178–9, 278) have argued that the polyvalent economy, or the pattern of drawing ones livelihood from multiple sources of income, was a feature of Mediterranean society that ensured security from exposure to risk. See also Dertilis, *op. cit.*, vol. 1, p. 70. In the case of the Halkidiki mountain region, however, there was a further determinant for this pattern, namely the fragmentation of the mountainous terrain that placed physical limitations on the size of its arable fields.

²² Schinas, *op. cit.*, vol. 3, p. 507–9.

²³ République Hellénique. Ministère de l'Économie Nationale. Statistique Générale de la Grèce, *op. cit.*, p. 293–8. The fact that six out of ten refugees were male, suggests that the small Asia Minor refugee community in Polygyros was one of single men in search for employment.

²⁴ Nicolaidy, *op. cit.*, p. 232.

²⁵ République Hellénique. Ministère de l'Économie Nationale. Statistique Générale de la Grèce, *op. cit.*, p. 293–8. Almost two thirds were male.

²⁶ Schinas, *op. cit.*, vol. 3, pp. 522–3.

²⁷ *Ibid.*, vol.3, p. 552.

²⁸ This number included two women. République Hellénique. Ministère de l'Économie Nationale. Statistique Générale de la Grèce, *op. cit.*, pp. 293–8.

²⁹ The proportion of men to women refugees was 1.2.

³⁰ *Ibid.*, p. 298.

2. Arnaia

The town of Arnaia is located on the road that connects Thessaloniki, through Galatista, with Olympias on the Gulf of Strymon and Mount Athos. It is situated at an altitude of 600 metres on Mount Cholomon, within the elevation zone that historian John R. McNeill has defined as "the ideal niche in terms of elevation [...] above the malarial stratum but low enough for tree crops".³¹ Arnaia was one of the twelve *Mademochoria* and, until the decree that gave it its new name in 1928, was called Liaringovi.³² Liaringovi, under the name Raligova, is registered in the 1478 Ottoman cadastre, while subsequent Ottoman cadastres note that its inhabitants were coal workers for the Sidirokavsia mine.³³ According to Christos Papaioannou, who reproduced the narratives of local elders in an article in the *Deltion Agrotikis Trapezis Ellados* in 1940, Liaringovi developed a "mere" 300 years earlier around hostels which served Greek, Bulgarian, Serb, Thessalian and other travellers to Mount Athos. Many of these visitors also travelled in search of a livelihood, which they found in Liaringovi.³⁴ Its growth was originally due to the silver ore, which had, nonetheless, declined before the 1821 uprising, although the mine continued to employ a few hundred inhabitants of Liaringovi, thus depleting its workforce.

The local weaving cottage industry was Arnaia's second source of wealth, which involved almost all of the town's families; the industry occupied women and tradesmen. The artifacts it produced were popular in Kavala, Drama, Nevrokopi and, particularly, in the monasteries of mainland Greece. Every Saturday, wool fabric merchants would arrive from Nigrita to the local weekly market. The output of the Arnaia looms was even imitated – from the viewpoint of the Arnaia producers, it was pirated – by competitors in Veroia, who then misappropriated the Arnaia brand-name.³⁵ In the interwar years the industry was controlled by ten merchants in all, six of whom purchased the final product from the weavers, the remaining four supplied the poorer weavers with wool for their looms and paid for their labour. On average, each family required some 50 okas of unwashed wool per year, but some used more than 100 okas, while about 20 families consumed approximately 300 okas each. The principal consumers were the poor families, whose large number of female members worked on behalf of the merchants. Thus, the total annual consumption of wool in Arnaia was about 85,000 okas worth 5,100,000 drachmae along with some 5,000 okas of cotton yarn worth around 500,000

³¹ John Robert McNeill, *The Mountains of the Mediterranean World: An Environmental History*, Cambridge: Cambridge University Press, 1992, pp. 85–6.

³² Papaioannou, "Georgoikononimiki erevna tis komopoleos Arnaias", p. 146.

³³ See the database created by a team of junior researchers for the purposes of this project.

³⁴ Papaioannou, "Georgoikononimiki erevna tis komopoleos Arnaias", pp. 146–7.

³⁵ Cousinéry, *op. cit.*, vol. 2, p. 141–2; Christos P. Papazoglou, "I oikiaki yfantiki eis tin Arnaian" [Cottage Weaving in Arnaia], *Deltion Agrotikis Trapezis Ellados*, 3.4 (1938), 362–63, 372.

drachmae. Most of the wool was purchased either in Thessaloniki or locally, from the Sarakatsanoi, the nomadic shepherds of the Pindus mountain range.³⁶

In the nineteenth century, the inhabitants of the town also manufactured boots, cultivated vineyards and produced dyes. By 1939, however, weavers had all but abandoned natural dyes and used mostly imported chemical dyes. Furthermore, Arnaia housed permanent representatives of the Thessaloniki charcoal wholesalers, who would sell charcoal to the captains of the ships that approached the coast.³⁷ The Arnaia buildings must have been particularly well-built; they withstood the devastating September 1932 earthquake, with 90% of its 599 homes being judged repairable by the authorities.³⁸

At the time of its incorporation into the Greek state in 1913, Liaringovi had 2,652 Christian inhabitants; fifteen years later, in the 1928 census, only 20 out of its 2,402 inhabitants were Asia Minor refugees, that is 0.8%.³⁹ In 1936, the population had increased to 2,807 inhabitants, or 720 families, who originated from Trikala, the villages of Mount Olympus, Galatista, and the islands of Chios and Skopelos, or were Greeks from Bulgaria, Albania and Serbia. Despite the small number of recent refugees, Arnaia emerges as a true social melting pot.

The male members of the Arnaia families practised a wide range of activities (farming, beekeeping, logging, transportation, carpentry, shoemaking, tailoring), while its numerous widows practised weaving. Regardless, however, of their main occupation, all families complemented their income with other activities. The small number of farmers may be associated with the great fragmentation of arable land on account of the mountainous environment. These farmers also possessed a small number of animals, beehives and engaged in transportation of forest products or became loggers and farm labourers.⁴⁰ The women shared in the farm work. In fact, land productivity was so low that renting out land was unprofitable. Although farmers complemented their income with small-scale animal husbandry, animals were rarely used to fertilise farms because they spent the whole year in the pastures.⁴¹ The following table demonstrates the extent of farmland fragmentation in Arnaia in 1939, with 94% of families in possession of less than 15 stremmata.⁴²

³⁶ Papazoglou, *op. cit.*, p. 366.

³⁷ Schinas, *op. cit.*, vol. 3, pp. 562–3.

³⁸ *Ibid.*, vol. 3, pp. 562–3.

³⁹ Six in ten refugees were male.

⁴⁰ Papaioannou, "Georgooikonomiki erevna tis komopoleos Arnaias", pp. 151-2, 155, 157.

⁴¹ *Ibid.*, pp. 164–5.

⁴² A stremma is a tenth of a hectare.

Table 1
Distribution of farm land in Arnaia, 1939

Number of families	Area in stremmata
75	0.5
298	1-6
122	7-15
13	16-20
13	17-30
4	31-40
3	41-50
Total 528	

Source: Papaioannou, "Georgoikonomiki erevna tis komopoleos Arnaias", pp. 157-8.

Even these small plots of farmland were scattered in non-contiguous parcels of 10-100 stremmata in the state-owned forests and pasturelands on the mountain slopes, separated by distances of 2-18 km. Locations such as Potamia, Bara, Loznos to the northwest of the town, Drevenikos to the northeast, Profitis Ilias and Mertika to the north and Kombelo and Douritsa to the southwest grew rye, maize and wheat.⁴³

These farmlands produced some 70-80,000 okas⁴⁴ of wheat of the following varieties: the better-quality *asprostaro* and the *kokkinostaro*. These amounts merely sufficed for one sixth of the local food requirements. At the same time, tomatoes, beans and other vegetables produced locally were not competitive enough and were out-priced even in Arnaia itself by cheaper produce from coastal villages such as lerissos and Agios Nikolaos.⁴⁵

Forty three percent of the total area of Arnaia was forest land, pastures occupied 33%, dry farmland 11%, grasslands 6.7% and chestnut groves 4.3%. The latter were being grafted at the initiative of the community authorities and allotted to the local inhabitants. Vineyards, which formerly occupied Mertika hill, were destroyed by phylloxera only to have the forest take over their area. In the interwar years they extended over no more than 150 stremmata, vegetable plots occupied 100 stremmata and trees, that is cherry trees and apple trees, another 100 stremmata in all.⁴⁶ Figure 3 represents the distribution of land usage in Arnaia in 1939.

⁴³ *Ibid.*, pp. 150-1.

⁴⁴ There are 1.28 kilograms to an oka.

⁴⁵ *Ibid.*, pp. 166-8.

⁴⁶ *Ibid.*, pp. 149, 168-70. There is no mention of olive trees in the detailed technical account of Christos Papaioannou.

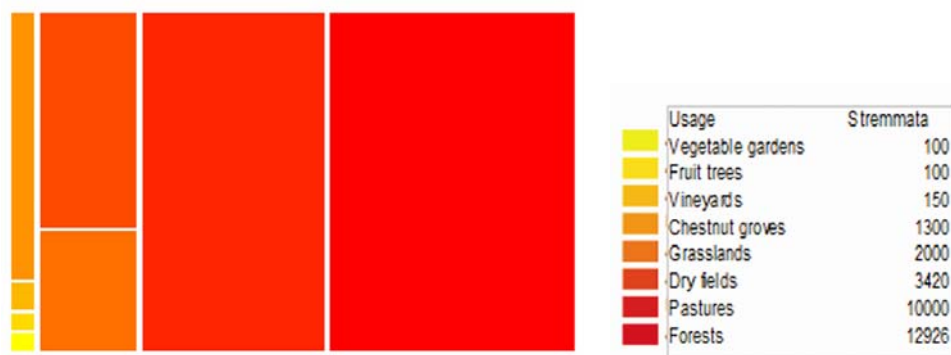


Figure 3

Arnaia. Land usage, 1939

Source: Papaioannou, "Georgooikonomiki erevna tis komopoleos Arnaias".

Similarly, the distribution of livestock in Arnaia was part of the several complementary activities of its inhabitants and must be viewed in this context. Thirty three percent of the total value of the livestock corresponded to the value of the town's mules, another 33% to that of its beehives, 15% to its cattle, 8% to its horses and donkeys, 8.5% to its goats and sheep, and 2% to its poultry; the value of a mule was twice that of a horse.⁴⁷

Cattle in Arnaia consisted of some 550 head; 100 of them were used as plough animals. The distribution pattern was the same as the other possessions and conforms to the polyvalent system already observed. Thus, Th. K., a butcher, owned 60 animals, D. X., a beekeeper, owned 40, G. A., a farmer, animal breeder and beekeeper, owned 35 and the T. brothers possessed another 30. Five more families each owned 15 animals, while three families had four to six animals. The remaining 180 animals jointly formed two herds and belonged to all the other Arnaia families, each owning between one and three head of cattle. Likewise, ten shepherds possessed 990 sheep and 13 shepherds owned 2,500 goats between them.⁴⁸

Women's labour was not a mere complement to men's work; besides helping with farm work, women had three entire sections to themselves, namely the weaving cottage industry, which put out mostly blankets and rugs, the cultivation of silkworm, and managing their household.⁴⁹ Men, on the other hand, were additionally occupied in trade, land clearing, earned wages at the mines of Stratoni, transported lumber to Mount Athos and water to the tobacco fields of Pangaion.⁵⁰

⁴⁷ *Ibid.*, pp. 162, 175.

⁴⁸ *Ibid.*, pp. 175–6.

⁴⁹ *Ibid.*, p. 153. The annual silk production in Arnaia was estimated at a mere 5,000 to 6,000 okas of cocoons. Papazoglou, *op. cit.*, p. 361.

⁵⁰ Papaioannou, "Georgooikonomiki erevna tis komopoleos Arnaias", p. 154.

The following table displays the distribution of beehives and mules among the 140 Arnaia families of professional beekeepers, who were supported by the Agrarian Bank with short-term loans of 200,000 drachmae for small “mixed” producers.

Table 2

Distribution of beehives and mules in Arnaia, 1939

Beehives	Mules	Families
700	5	1
600	5	2
400-500	4	4
300	3	11
200	3	5
200	2	20
150	3	4
100-150	2	20
100	1	20
20-100	1	53
Total	29	14051

Source: Papaioannou, “Georgooikonomiki erevna tis komropoleos Arnaias”.

The area had a long tradition in beekeeping. By the 1880s, each year in early July, after the feast of the Holy Apostles on 30 June, the beekeepers of the region would hold a fair in Olympias, where they sold some 6,000 to 7,000 hives to the islanders of Thasos.⁵² Half a century later, consistent with its efforts to improve the income of the peasantry, the Agricultural Bank tried to intervene in this tradition and promote the use of modern, more cost-effective, box-shaped beehives. Still, in 1939, the Arnaia beekeepers kept loading their mules, each animal with eight to ten traditional panniers, travelled by night and rested by daytime. Some of the beekeepers with stocks of hundreds of hives travelled over long distances from their winter locations, for instance, on Mount Athos or Neos Marmaras to the Serres plain or the Kassandra forest. They occasionally made supplementary use of cars or motorboats and could spend more than two weeks on the road at a time. Figure 4 displays the monthly movements of three such Arnaia beekeepers, namely G. Matziolis, head of a five-member family and owner of 300 hives, G.D. Samaras, head of a three-member family and owner of 150 hives and G. Papatheocharis, member of a family of two with 100 hives.⁵³

⁵¹ *Ibid.*, pp. 154, 177.

⁵² Schinas, *op. cit.*, vol. 3, pp. 564–5.

⁵³ Papaioannou, “Georgooikonomiki erevna Arnaias”, pp. 178–83. A century earlier, according to the British diplomat David Urquhart (*The Spirit of the East, Illustrated in a Journal of Travels Through Roumeli During an Eventful Period*, London: Henry Colburn, 1838, vol. 2, pp. 135–6), the mobility of the beekeepers of Halkidiki was such that it provoked tensions with other peasants. In response to these tensions, some beekeepers would mount their hives on “little yachts” and move them around the Halkidiki coastline.

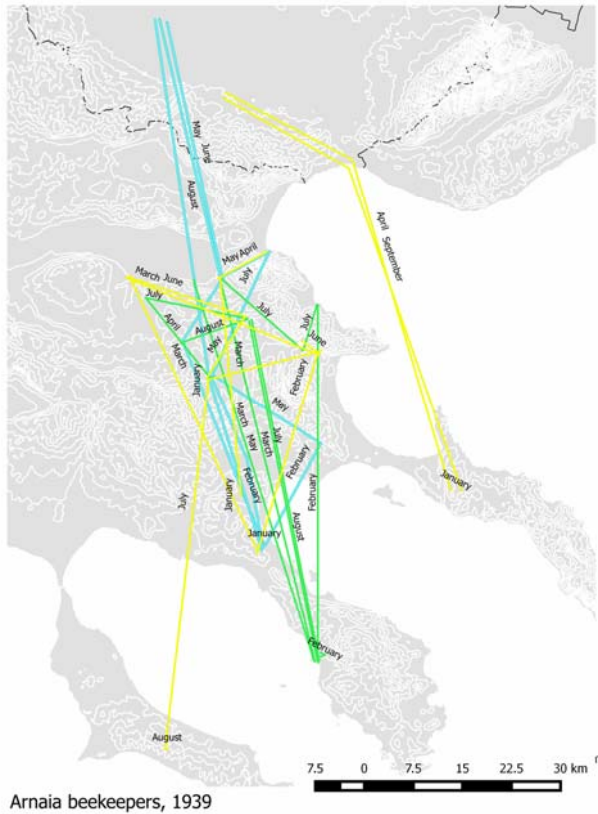


Figure 4.

Arnaia. Monthly movements of three beekeepers.

Source: Papaioannou, “Georgoikonomiki erevna Arnaias”.

Occasionally, during the idle season, beekeepers would make use of their mules to carry carpets and rugs, the output of the Arnaia weaving industry, for sale around Halkidiki or to import goods from Thessaloniki.⁵⁴

The forests of the whole of Arnaia province covered an area of 24,137.4 hectares with beech, oak and partially covered pastureland; the trees were felled for fire wood, timber and charcoal. The forestry cooperative of Arnaia and its 35 charcoal workers and 15 loggers received their instructions from the forestry service of Arnaia, which also limited the numbers of goats it permitted to graze in the forest. The charcoal workers delivered their charcoal to the cooperative storage house in Arnaia. Each

⁵⁴ Papazoglou, *op. cit.*, p. 361.

worker could produce 120-130 okas of charcoal per day, while each charcoal kiln could put out 4,000 to 5,000 okas. The charcoal wholesalers from Thessaloniki purchased the charcoal in Arnaia for 2.25 drachmae per oka.⁵⁵

Clearly, the diverse economy of Arnaia consisted of small-scale producers; in this respect, it was typical of the Mediterranean pattern of polyvalency.⁵⁶ However, its weaving industry represented a significant degree of market-oriented specialisation.⁵⁷ Thus, before the establishment of a local Agricultural Bank agency in Arnaia in April 1938, producers turned to the wealthy merchants and grocers for loans, particularly when they were short of cash to purchase wool. The merchants would provide them with cash, grocery goods or wool. Indeed, supplying wool to weavers allowed the merchants an additional margin of profit. In 1938, the price of wool in Thessaloniki had been 28-30 drachmae per oka, but the merchants sold it to the Arnaia weavers for 45 drachmae or for at least 50 percent more. Loans would then be paid back with blankets and rugs at low prices. The creditors would subsequently sell these items at a considerable profit. After 1938, the Agricultural Bank limited the grocers' scope of activity in the local credit market but failed to eliminate them completely.⁵⁸

3. Varvara

Varvara is a village that had a quarter of the population of Arnaia. It is situated at an altitude of 550 metres, blessed with abundant springs and streams. It was one of the twelve *Mademochoria* and appears in the 1519 Ottoman cadastre, while subsequent Ottoman cadastres note that its inhabitants were coal workers for the Sidirokapsia mine.⁵⁹ In the nineteenth century Varvara had 120 exclusively Greek homes.⁶⁰ Despite the small size of its population, its lands extended over an area which began from the mountain with scattered fields at an altitude of 800 metres and stretched as far as the coast along the Olympias valley. The inhabitants of Varvara had fields in the Olympias valley, some 50 huts, mulberry trees for their small-scale silkworm culture; the place

⁵⁵ Papaioannou, "Georgooikonomiki erevna Arnaias," pp. 170-2.

⁵⁶ Historian Giorgos Dertilis (*op. cit.*, vol. 1, p. 70) devised the term *polyergeia* to denote the same type of organisation. See also Stathis Damianakos, *Apo ton choriko ston agroti. I elliniki agrotiki koinonia apenanti stin pankosmiopoiisi*, [From Peasant to Farmer. Greek Agricultural Society Facing Internationalisation] Athens: Exantas, 2002, pp. 52, 118-28. I wish to thank Professor Socrates Petmezas for clarifying the terminology for me.

⁵⁷ On the imitations of the Arnaia blankets and rugs, see p. 185, above.

⁵⁸ Papaioannou, "Georgooikonomiki erevna Arnaias", pp. 163-4; Papazoglou, *op. cit.*, pp. 372-3.

⁵⁹ See the database created by a team of junior researchers for the purposes of this project. On the local springs and streams, see Christos Papaioannou, "Georgooikonomiki erevna tou choriou Varvara (Arnaias)" [Agroeconomic Investigation of the Village of Varvara (Arnaia)], *Deltion Agrotikis Trapezis Ellados*, 5.1 (1940), 67-8.

⁶⁰ Nicolaidy, *op. cit.*, vol. 2, p. 30.

name of Vamvakias in the valley indicated that cotton (*vamvax*) had been raised there in the past.⁶¹

In his wartime survey, Kardamatis found an average malaria morbidity in Varvara of twenty percent. Considering that Varvara extended as far as the valley and the sea, this is hardly surprising.⁶² The village was connected to Arnaia, Olympias, Modi and Redina only on mule-back. However, in 1939, a motorway to Neochori and Arnaia was being planned. Fifty five percent of Varvara's buildings were levelled in the earthquake that shook Halkidiki in September 1932.⁶³

Much of the arable land was depleted in nutrient but was dwarfed by the size of area covered by forests.⁶⁴ The following table summarises the use of land in the community of Varvara and shows the great importance of the beech and oak forests for the life of the village.

Table 3

Land use in Varvara, 1939

Land	Stremmata
Grasslands	120
Wild chestnut trees	350
Wild olive trees	1,200
Plain fields	3,000
Mountain fields	4,250
Community forests	18,968
State forests	59,770

Source: Papaioannou, "Georgooikonomiki erevna tou choriou Varvara", pp. 66–95.

The community had purchased the wild olive trees and wild chestnut forests from the state, cleared them, grafted the trees and then distributed them to its inhabitants. However, the community was largely unable to offer the Olympias valley grasslands to its inhabitants because they had been given to nomadic shepherds for winter grazing at a controlled rent.⁶⁵

⁶¹ The inhabitants of Varvara owned some 3,000 stremmata in the valley of Olympias, 300 of which were irrigated fields. More than half of this property, however, remained wild and uncultivated. Papaioannou, "Georgooikonomiki erevna Varvaras", p. 82.

⁶² Kardamatis, *op. cit.*

⁶³ Papaioannou, "Georgooikonomiki erevna Varvaras", pp. 70–1.

⁶⁴ *Ibid.*, pp. 68–9.

⁶⁵ *Ibid.*, pp. 66–7.

Table 4

Cultivation of annuals in Varvara, 1939

	Mountain fields	Plain fields
Wheat	300	150
Barley	50	
Rye	400	200
Beans	50	
Beans with maize		300

Source: Papaioannou, "Georgooikonomiki erevna tou choriou Varvara", p. 73.

In all, the peasants cultivated no more than 400-500 stremmata with wheat of the Trimini, Rapsani and Arvanitiko varieties, rye, beans and maize and did not appear interested in extending their cultivation.⁶⁶ They possessed a few grafted pear trees, plum trees and some 1,000 wild pear trees and fig trees. Some 600 olive trees grew in the Olympias valley. For their part, the community authorities (*koinotis*) had purchased 1,200 stremmata of wild olive trees from the state, cleared the land and grafted the trees, and distributed the olive groves to the inhabitants of Varvara.⁶⁷

As in the case of Arnaia, the inhabitants of Varvara drew their income from a variety of complementary occupations. No more than eight peasants were exclusively farmers and another eight were exclusively animal breeders. Most of the peasants combined the two occupations and cultivated their own as well as small plots belonging to third parties. One occupational group, however, may be singled out: the 40 coal workers and the nine loggers. The following table lists the principal occupations of the inhabitants of Varvara in 1939.

Table 5

Principal occupations in Varvara, 1939.

Farmers (exclusively) no more than	8
Animal breeders (exclusively)	8
Farmers and nomadic shepherds	55
Coal workers	40
Loggers	9
Workers	23
Muleteers	8
Shepherds	7
Beekeepers	2
Other occupations (grocers, coffeeshop owners, tailors, carpenters)	23

Source: Papaioannou, "Georgooikonomiki erevna tou choriou Varvara", p. 70.

⁶⁶ *Ibid.*, pp. 68-70, 73-4.

⁶⁷ *Ibid.*, pp. 74-5.

The higher social status of the loggers and coal workers and their better income emerges quite clearly in the sources. In comparison to farmers and workers, whose bread was a mixture of wheat, rye and maize, loggers and coal workers enjoyed meals of wheat bread and considerable quantities of beans, olives and cured food.⁶⁸ Women in families of farmers and workers families shared in the field work, unlike the wives of loggers, who were not inconvenienced in the same way. Therefore, there was “a tendency for young girls to show a preference for loggers”.⁶⁹

The importance of logging is reflected in the use and value of mules. In a population of 350 men there were 114 mules with more than half belonging to the loggers and coal workers.⁷⁰ Charcoal production was so attractive that it lured many peasants away from farming. As a result, many arable fields were abandoned. Charcoal workers and loggers occasionally, however, returned to the fields as farm hands in the summer intervals, even for lower wages, when there was no work in the forest.⁷¹ The peasants’ lack of interest in farming could indeed prove fatal for the community’s plan to invest some of the considerable wealth it drew from logging duties in irrigation works, which ran the risk of failing to attract farmers.⁷²

The forest was exploited by merchants, who hired small numbers of workers from other regions, for instance from Naousa and Katerini and from the island of Ikaria. In 1927 there were no more than 27 forest workers in Varvara. It would appear that many of the locals were part of the 2,000- to 2,500-strong workforce of the entire province, who was employed at the pyrite mines. Then, in 1930 the contracting company of Meimaridis gained a thirty-year concession to exploit the forest; the concession contract was, however, rescinded by the state in 1939. The state, in turn, offered the forest for exploitation to the local forestry cooperatives, which were supported with loans from the Agricultural Bank of Greece. Thus, charcoal production, by this time the main activity in the Varvara forest, entered a period of boom.⁷³

Figures 5, 6 and 7 summarise the composition and size of the Varvara and Arnaia forests before and after the Second World War.

⁶⁸ *Ibid.*, pp. 71–2.

⁶⁹ *Ibid.*, p. 72.

⁷⁰ *Ibid.*, p. 77.

⁷¹ *Ibid.*, pp. 88–9.

⁷² *Ibid.*, pp. 84, 94–5.

⁷³ *Ibid.*, pp. 84, 94–5; “O dasikos ploutos Arnaias Halkidikis” [The Forest Wealth of Arnaia in Halkidiki], *Deltion Agrotikis Trapezis*, 93 (November-December 1956), 12–4.

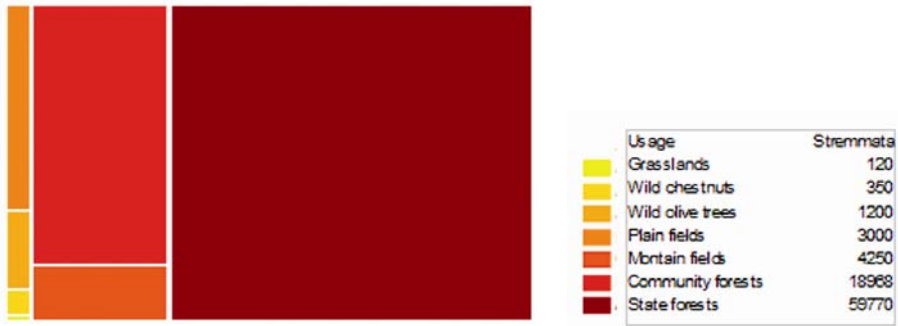


Figure 5

Land use in Varvara, 1939.

Source: Papaioannou, "Georgooikonomiki erevna tou choriou Varvara".

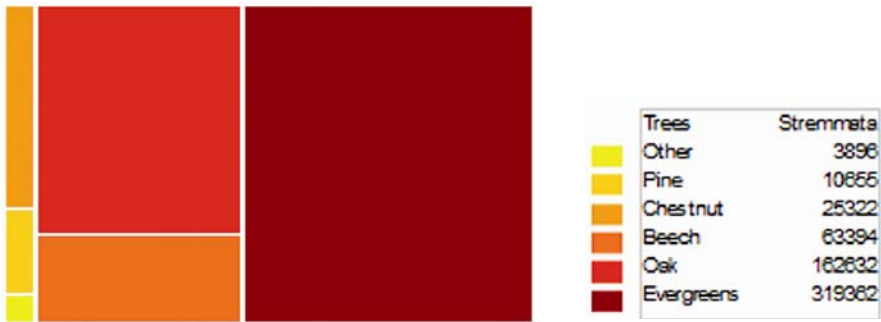


Figure 6

Varvara. Composition of forests, 1939.

Source: Papaioannou, "Georgooikonomiki erevna tou choriou Varvara".

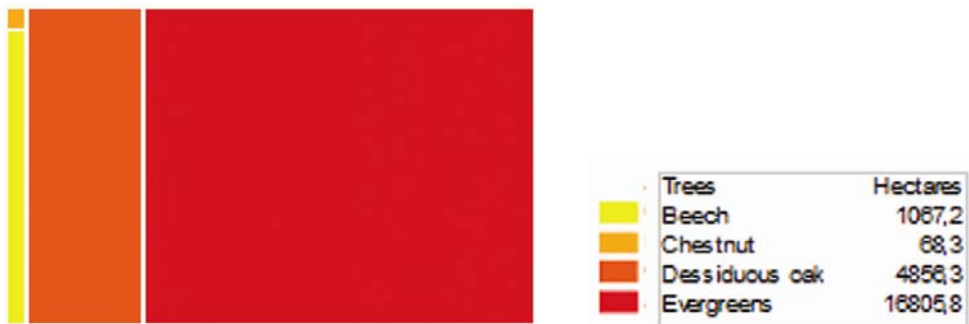


Figure 7

Arnaia province. Composition of forests, 1956.

Source: "O dasikos ploutos Arnaias Halkidikis".

Each charcoal worker produced some 120 to 150 okas of charcoal per day. They worked in groups of two or three and divided their revenue in equal shares that also included their invaluable partners, their mules; like their masters, mules were compensated with a full share of the proceeds. The forestry cooperative sold the charcoal locally to wholesale merchants from Thessaloniki and, occasionally, from Athens and Piraeus.⁷⁴

In the interwar years both Arnaia and Varvara benefited from the small-scale interventions of the Agricultural Bank, which included loans to repair and rebuild homes destroyed in the earthquake of 1932, loans to beekeepers and weavers, the support of forest cooperatives, and the introduction of innovations for beekeepers and silkworm producers. Elsewhere in Halkidiki the bank supported animal breeders by helping introduce more productive strains of bulls and cows for reproduction, and olive trees from the Peloponnese.

In the immediate post-war years the Agricultural Bank extended its interventions to land clearing that was then distributed to landless peasants to plant grain, to the construction of an olive-processing plant in Nea Moudania⁷⁵ and to the promotion of the use of more energy-efficient stoves in the villages of Mount Holomon. This latter intervention became necessary on account of the depletion of the forest as a source of firewood. The broader world, however, had changed. The weavers of Arnaia no longer had a ready market for their products. They sought the help of the Bank to facilitate the search of markets in West Germany.⁷⁶ The loggers and charcoal workers saw their income drop, in part because oil was now dominating the international market as the dominant source of energy. Thus, oil tended to replace charcoal on the local energy market. These developments suggest the fragility of the local economic structure in its interaction with the post-war international context.

4. Conclusion

In the final paragraphs of his *Europe and the People without History*, Eric Wolf epitomised the scope of the human past that encompasses the subject matter of history by speaking about groups and classes who “grow out of the deployment of social labour, mobilized to engage the world of nature. The manner of that mobilization

⁷⁴ Papaioannou, “Georgoikononimiki erevna Varvaras”, p. 92. The inhabitants of Varvara also sold live animals and their products on the market of Thessaloniki, Serres and the Pangaion area. Often merchants from these locations visited Varvara for their purchases.

⁷⁵ “Nea Moudania. Anaptyxis tis elaiokomias” [Nea Moudania. The Development of Olive Production], *Deltion tis Agrotikis Trapezis*, 101 (March-April 1958), 46-7; “Synkentrosis kai konservopoiisis elaion eis Halkidikin” [Collection and Canning of Olives in Halkidiki], *Deltion tis Agrotikis Trapezis*, 118 (January-February 1961), 39.

⁷⁶ “Arnaia. Ta yfanta mas sto exoteriko” [Arnaia. Our Woven Ware Abroad], *Deltion tis Agrotikis Trapezis*, 105 (November-December 1958), 46; “Arnaia. Ekthemata yfanton” [Arnaia. Exhibitions of Woven Ware], *Deltion tis Agrotikis Trapezis*, 109 (July-August 1959), 31, 43.

sets the terms of history, and in these terms the peoples who have asserted a privileged relation with history and the peoples to whom history has been denied encounter a common destiny".⁷⁷ Perceiving in this light the lives of the women and men of Arnaia and Varvara with their bees, mules and beeches, the fragility of their economic prospects, their adaptability, choices and short- and medium-range daily and seasonal geographic mobility is a fitting vantage point, if one wishes to understand the dynamics of the relationships both within their societies and with their physical environment in the context of the fragmented geography of Halkidiki.

⁷⁷ Eric R. Wolf, *Europe and the People without History*, Berkeley: University of California Press, 1982, p. 391.

Mass Tourism in West and South-West Halkidiki in the post 1950s

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1. Tourists and Sojourners

The history of tourism in Halkidiki is in several respects similar to the development of tourism in other parts of Greece,¹ while in others it has its own unique characteristics. In the early post-WWII period tourism in Halkidiki did not rest on any actual state policies on tourism development. As has been noted for the whole of Greece, tourism constituted a non-calculated activity, while the Greek state had failed to comprehend the socio-cultural transformations that were taking place at the time.² According to Angelos Vlachos, whose work provides a historical account of the course of the development of Greek tourism as an institution and of tourism as a conceptual category and multifaceted phenomenon, the emergent tourist institutions articulated the public and private initiative differently, and thus reconceptualised the predominant contradistinctive perception of state interventionism and liberalism.³

It was in this general context that in the second half of the 1950s the western and southern coastal villages of Halkidiki received their first tourists.⁴ They were almost all

¹ An interesting workshop on tourism in Greece was held by the Research Group on Mobilities and Tourism in December 2013; see Angelos Vlachos, Panagiotis Zestanakis, Michalis Nikolakakis, Nikolaos Papadogiannis, Alexia-Sophia Papazafeiropoulou, "‘To skoteino antikeimeno’ ton anaptyxiakon mas eroton: I touristiki anaptyxi stin Ellada tin periodo 1945-1974" [‘The Obscure Object of Our Developmental Desires’: Tourist Development in Greece, 1945-1974], *Synchrona Themata*, 125 (2014), 58-61. For an annotated bibliography on tourism research in Greece mainly from an anthropological perspective, indicatively see Vasiliki Galani-Moutafi, *Erevnes gia ton turismo stin Ellada kai tin Kypro. Mia anthropologiki prossegisi* [Research on Tourism in Greece and Cyprus: An Anthropological Approach], Athens: Propompos, 2002; Vasiliki Galani-Moutafi, "Prossengiseis tou tourismou: To epinoimeno kai to ‘afthentiko” [Approaches to Tourism: The Invented and the ‘Authentic’], *Synchrona Themata*, 55 (1995), 28-39.

² Vlachos et al., *op.cit.*, p. 60.

³ *Ibid.*, p. 60.

⁴ On the issue of the terminology and the differentiation between tourists and summer sojourners, see Eleftheria Deltsou, "Praxes of Tradition and Modernity in a Village in Northern Greece", unpublished PhD thesis, Indi-

permanent Thessaloniki residents, urbanites of middle-class status. One parameter relevant to their social status that played an important role in this first tourist activity was the possession of the rare luxury that enabled transport, a car. While KTEL, the regional bus network, covered the existing road network of Halkidiki, connecting the villages via the mostly dirt roads of the period, the difficulty of transportation made tourism a possibility particularly for those very few who had a car. Since road conditions were at the time rather basic (very few kilometres of asphalt road on the way from Thessaloniki to Halkidiki), the first villages to get summer visitors were those relatively close to Thessaloniki. Epanomi (at the time in the Halkidiki prefecture), Nea Kallikrateia, Nea Moudania, and some of the first villages on the Kassandra and Sithonia peninsulas received the first summer sojourners. At the time, those first tourists constituted sparse family “bullets” amongst locals in the village social-scapes. Informants mentioned that the arrival of those first summer sojourners derived from pre-existing relations that these people had with urban social acquaintances of village origin, who provided them with a social network in the village as to how to find where to rent, whom to socialize with, etc. Back then, but also for more than another decade, available accommodation took place primarily in the houses of the villagers, who used to empty their own bedrooms to rent them to tourists. In the 1960s this trend of summer sojourning started slowly to expand, as a result of the economic development that accompanied the decades after the end of WWII and the adoption of the vacationing practice by more and more people.

The 1960s was the “modernising” decade of Halkidiki that introduced “civilisation”, as several people called it, in the villages. Asphalt roads, however narrow, gradually expanded to most villages, water supply was brought into the houses and by the end of the decade electricity, too. Particularly the construction of asphalt roads constituted part of the process that, as Papazafeiropoulou notes, related the technological and social networks of mobility with the tourist gaze, connecting the urban centres with the archaeological sites and the post-war tourism commodity, the sea.⁵ While in Halkidiki at the time no antiquities were considered important enough to be incorporated in the utilisation of the past as part of the modernisation and Europeanisation process Greece was undergoing, the plentifully available post-war commodity of the region was its clear-water seas and its beautiful sandy beaches.

The introduction of water supply systems in the early 1960s and electricity in the late 1960s in villages gradually enabled the incorporation of technological amenities, most important of which were a running-water toilet, room lighting, the refrigerator and later in the 1970s a water heater, thus facilitating the expansion of summer so-

ana University, 1995. See also Eleftheria Deltsoy, “‘Tourists’, ‘Russian-Pontics’, and ‘Native Greeks’: Identity Politics in a Village in Northern Greece”, *Anthropological Journal on European Cultures*, 9.2 (2000), 31-51.

⁵ Vlachos et al., *op.cit.*, p. 59.

journing as urbanites anticipated their existence. Eventually, by the mid-1970s the preference of urbanites for the rooms to let depended on the required provision of those amenities, an absolute necessity being an in-doors toilet. It was this demand that played a crucial role in the transformation of the existing houses, as until then almost no village house had a toilet, let alone a bathroom, in the house.⁶ As in previous decades, in the 1970s again the majority of the summer sojourners were Thessaloniki residents, some with origins from the particular villages, some not, who would come to spend a part or the whole summer in a coastal village.⁷ At the same time, more non-Greek tourists came to Halkidiki as well. Those foreign tourists were in their vast majority Germans, followed mostly by Austrian, British, Dutch, French and Italians, the last coming in August driving their campers.

One aspect of the arrival of German tourists in Halkidiki relates to the migration of Greek workers to Germany as guest workers. In several cases the personal relationships that Greeks and Germans developed in Germany were carried over to Greece to the migrants' villages of origin during summer vacation. At the same time, migrants originating from coastal villages also travelled back to their villages, combining in that journey the analytic convergence of a temporary return to the place of origin with the vacation leave from work. That way, as Papadogiannis remarks, the travel practices of the Greek migrants who lived in Germany in the 1960s and the 1970s transcended and combined two mobilities that were considered incommensurable, tourism and migration – emphasising thus even further the conceptual complexities of tourism as a form of movement.⁸

By the end of the 1960s and in the first half of the 1970s the first larger hotels and the first privately owned small summer houses, as well as privately-owned villas, were built, usually near – but not in – villages, quite often right on the sea front or very close to it. In some cases the smaller private houses were legally constructed; in other instances, however, they were built, as people described it, “overnight”. These illegal constructions, known as *afthaireta* were most often built on plots that did not have land enough for an official building permit, but always on the basis of state tolerance. Most typical was the case of the outskirts of Nea Kallikrateia, where the whole area was soon to be covered by *afthaireta*.

By the mid-1970s, even for those lower middle-class families who could not yet afford the acquisition of a small summer house, summer vacationing had been established initially as desired and then essential, as more people were able to afford a

⁶ In very few, by now, houses one can still locate the 1mx1m outhouse next to the main building that used to include what was called a “Turkish” toilet.

⁷ For a self-referential ethnographic essay on the history of tourism in the coastal village of Nikiti in Sithonia, see Eleftheria Deltsoy, “Second Homes and Tourism in a Greek Village: A Travelogue”, *Ethnologia Europaea*, 37.1/2 (2007), 124-33 (special issue edited by Orvar Löfgren and Regina Bendix).

⁸ Vlachos et al., *op.cit.*, p. 60. Cf. John Urry, *Mobilities*, Cambridge: Polity Press, 2007.

small scale vacationing expense. The significant expansion of tourism in Halkidiki in the 1970s could be seen overall in the continuously growing number of buildings with rooms to let that were appearing in coastal villages. Concurrently more, small in their majority, summer houses were getting built close to the coast; a landscape transformation that revealed the significant change that was taking place in the local economies with the increasing commoditisation of tourist land, initially only in the case of plots close to the coast and then in the whole area in general.⁹

From the 1970s onwards camping tourism also emerged, significantly less common as free camping and all the more common in the camping sites that started gradually to appear.¹⁰ Free camping was rather rare at the time and never became very popular in Halkidiki with the exception of more or less remote and hard to reach coasts, which kept on attracting Greek and non-Greek tourists alike, who were looking for pristine environments away from middle-class social conventions. As somebody commented on the first appearance of free-camping in the 1970s, “back then there were few [free campers] but conscientious”; unlike present free campers, who “empty their chemical toilets in the sea”.

Free camping became more common in the 1980s and the 1990, and this was when locals and local authorities started reacting to the temporary use of either private or public land for camping, as it was also accompanied in certain areas by nudism, though really few particularly in comparison with the Greek islands. The rejection of nudism was often argued by locals on the basis of the area’s vicinity with the Holy Mountain, supporting that nudism was utterly incompatible with and offensive to the whole of Halkidiki as well, as all its lands are intricately and inexorably related to Athos. Parallel to the religious dimension of the justification, there was also another underlying expectation; that all those free campers would actually stay either in the camping sites that had been by the time organised or they would rent rooms, both options to the benefit of the local economy.

In the meantime, another factor played an important role in the development of tourism in Halkidiki. “Traditional” village architecture became entangled with the materialisation of national identity and the increasing value of an idealised rural past, simultaneously constituting itself as tourist commodity. As manifested in the architecture of old villages whose form had remained relatively unaltered in the second half of the twentieth century, rurality and traditionality, were officially instituted as valued national

⁹ This phenomenon of selling small pieces of coastal land for summer houses was associated with a new consuming culture in the villages (and in Greece in general) and was meant primarily for the purchase of a pickup car. In a rather self-ironical fashion people in Nikiti described it with the following rhyme: “Ena strema sto sfyri ena Datsun stin avli”, which translates as “A quarter of an acre under the hammer, get a Datsun in your front yard”; Deltsoy, “Praxes of Tradition”, p. 208.

¹⁰ On the emergence of campsites in late 1950s Sweden, see Orvar Löfgren, *On Holiday: A History of Vacationing*, Berkeley: University of California Press, 1999, p. 129.

cultural heritage by being designated as “historic” or “traditional” loci/sites.¹¹ In specific, two mountain villages, Palaiokastros on Cholomondas and Parthenon on Mount Dragountelis in Sithonia, were officially designated in 1978 as “traditional settlements”,¹² whereas Arnaia¹³ on Mount Cholomondas and Nikiti on coastal Sithonia¹⁴ were designated in the 1980s as historic loci/sites. Even though Athytos in Kassandra alongside with many other villages have not so far acquired an overall official status either as “historic” or “traditional”, in tourist and other public discourses they are presented just so, as they are seen to incorporate not the formality but the essence of rural traditional-ity. It was in this context that sometime around the 1980s people started buying and restoring old houses. The abandoned old village of Parthenon over Neos Marmaras and Nikiti’s old village that since the 1970s had been also going through a process of abandonment, as well as other similar sites got a new, different from the old, “life” in the hands of bourgeois urbanites, mostly German and Greek.¹⁵

By the 1980s and 1990s tourism had become predominant in all aspects of life in coastal villages throughout Halkidiki; in the summer in the full speed tourist practices and economy, and in winter in the closed hotels, houses and shops that expected late spring to get a life again. Thus, in terms of the built environment it was not only impossible for anyone to miss the impact of tourism anymore, but, quite the reverse; in almost all coastal scapes in it was increasingly becoming more difficult to locate another life beyond tourism’s supremacy. Whereas, as mentioned before, the trend had started in the 1970s, in the next two decades the spatial transformation of Halkidiki’s coastal areas into tourist resorts was thorough. Not only rooms to let, but blocks of condominiums and later of small terraced houses were built all over coastal Halkidiki on the basis of the uniquely Greek system of *antiparochi*. This *quid pro quo* system of exchange between local land owners and contractors relied on the common interest of both parties to maximise the building capacity of a plot and, therefore, their profit as well.¹⁶ This practice had been preceded by municipal decisions to expand village plans and thus incorporate lands outside of village boundaries as

¹¹ On the discussion of the designation of historic loci/sites, see Eleftheria Deltsou, “O ‘istorikos topos’ ke I simasia tis ‘paradosis’ gia to ethnos-kratos” [The “Historic Locus” and the Meaning of “Tradition” for the Nation-State], *Ethnologia*, 4 (1995), 107-26, and “The Designation of a Historic Locus in Greece as an Exercise of Knowledge and Localism”, in S. Sutton and A. Stroulia (eds), *Archaeology in Situ: Sites, Archaeology, and Communities in Greece*, Lanham: Lexington Books, 2010, p. 241-66.

¹² Designated “traditional settlements” belong to the more general category “Traditional Buildings and Complexes” and currently fall under the jurisdiction of the Ministry of Environment, Energy and Climate Change, Department of Regional Planning and Urban Development. <http://estia.minenv.gr/EXEC>

¹³ See the formal designation of Arnea in 1986 in http://listedmonuments.culture.gr/fek.php?ID_FEKYA=4578

¹⁴ See the formal document of the designation of Nikiti’s old village in 1987 in <http://listedmonuments.culture.gr/monument.php?code=16461&v17=>

¹⁵ On the procedure of the abandonment of the old village and its re-evaluation by German and Greek second home dwellers, see Deltsou, “Praxes of Tradition”, pp. 107-20.

¹⁶ Deltsou, “Second Homes and Tourism”, pp. 131-2.

plots into a higher structure factor. At least in one case the rationale for such an action was the prevention of uncontrolled illegal building, Nea Kallikrateia being the example for avoidance. Thus, throughout coastal Halkidiki many condominium and “maisonette”, as they came to be called, buildings were constructed to house the widely accepted dream of summer-vacationing in a privately owned summer residence. This process was exacerbated in the 1990s, particularly when banks facilitated and expanded the granting of loans to the purchase of country houses, cars, not to mention consumer and vacationing loans.

Naturally, it was not just the built environment that changed the coastal village scapes in Halkidiki, but also all else that accompanies tourism; taverns and fast food restaurants, grocery stores and super markets, cafés and pastry shops, bars, discos, night clubs, and, what in the new millennium became from a trend into a generalised and widely established practice, beach bars – all had their spatial, social, and cultural counterpart. In the meantime, the nationality of foreign tourists had also changed and expanded. Package and all other forms of national and international tourism that covered all budgets – from exclusive boutique hotels to state supported “social tourism” in mass tourism hotels – brought more and more visitors to Halkidiki. After the 1990s the arrival of the first “East European” tourists from the former socialist countries marked a new phase in Halkidiki’s tourism. Some years later the integration of several of those former socialist countries in the European Union facilitated travel to Greece as a European member state. Thus the number of tourists particularly from the Balkans increased, as they could make the trip relatively inexpensive and affordable.

Since year 2000 the number of tourists from Eastern Europe and particularly Russia has possibly overcome those from the old “West”. Despite, however, this being a new and expanding market for tourism in Halkidiki, locals are not always happy about its existence. Their dissatisfaction derives from the lower European status tourists from the former socialist countries are attributed, which is seen to be reflected onto their lifestyle and, most importantly, their consuming practices. It is not insignificant, however, that even the really wealthy “Easterners”, who are in their majority Russians, some Bulgarians and even fewer Romanians, are not perceived differently.¹⁷ The more recent arrival of a wide number of Serbians is perceived by several as an almost undesired form of tourism, as they appear to be in their majority the poorest of all others. It is thus considered that they do not really contribute to the tourist economy, as they look for really cheap accommodation and limit all other consuming practices to a minimum. This stance compares to the former dominant state – and not only – rhetoric on

¹⁷ On the issue of the obscurity and the ambiguity of the concepts tourist, European, Easterner and the permeability or impermeability of the relevant identities, see Deltsoy, “‘Tourists,’ ‘Russian-Pontics,’ and ‘Native Greeks’”, pp. 31-51, and “Greece, the Balkans and Europe in Anthropology”, in V. Nitsiakos, I. Manos, G. Agelopoulos, A. Angelidou & V. Dalkavoukis (eds), *Balkan Border Crossings: Second Annual of the Konitsa Summer School*, Berlin: Lit-Verlag, 2011, pp. 45-61.

attracting “quality tourism”. In older times, this rejected backpack tourists, whom people sometimes used to describe as ‘vromiarides ftochotouristes’ (‘dirty poor tourists’), despite their West European origin. In this case, even though it is not backpacking and it is mostly, but not exclusively, family tourism that comes from former socialist countries, poverty is associated with the status of an “Easterner” to provide an almost inscribed lower and thus undesired form of tourism. At the same it is not unusual to hear locals criticise this stance, particularly on the basis of the recent crisis, which is considered to have affected tourism as well, a fact that does not allow anyone, as some locals remarked, to be “selective”, in all senses of the term.

In the meantime, since the 1990s European Union programmes together with state institutions and other agencies promoted the spread of alternative kinds of tourism; agrotourism, ecotourism, cultural tourism have been since then supported as alternatives to mass tourism, as these enable a year round and less resource-demanding touristic development.¹⁸ In Halkidiki, just like in other places throughout Greece, ecotourism came mostly to be identified with mountain tourism, enabling the touristic development of areas that had remained out of tourism’s scope until then. Eco-, agri- and cultural tourism’s emphasis on nature, rurality and “traditionality” practically supported the reconstruction of older, “local” architectural village forms, the promotion of local history, and the introduction of more or less serious educational programmes on the biodiversity of local regions and the need to protect local species. All these always combine with a key aspect of alternative tourism, the appreciation of nature and culture through particular forms of entertainment, whether culinary or sports. In mountainous Halkidiki, alternative tourism developed as a trend building on and reinforcing pre-existing commodifications of nature and culture.

2. The Western Finger of the Halkidiki Trident: Kassandra, the “First Leg”

In this ethnographic and historical account a presentation of tourism in Kassandra – the first finger and the most developed region of Halkidiki in terms of tourism – serves as a point of reference for the main foci of the research: a) Camping sites and a summer housing estate in Sithonia; and b) Mountain tourism in Halkidiki, as special, but not

¹⁸ Eleftheria Deltsoy, “I oikotouristikí anaptýxi kai o prosdiorismos tis fýsis kai tis paradosis: paradeigmata apo ti voreio Ellada” [Eco-Touristic Development and the Designation of Nature and Tradition: Case-Studies in Northern Greece”, V. Nitsiakos & Ch. Kasimis (eds), *O oreinos choros tis Valkanikis. Syngrotisi kai metaschimatismoi* [The Mountain Space in the Balkans: Construction and Transformation] Athens: Plethron, 2000, pp. 231-48. See also Eleftheria Deltsoy, “Chronos, topos kai nostalgia se anaparastaseis tou enallaktikou tourismou” [Time, space and nostalgia in representations of alternative forms of tourism], in “*I oikonomia ke I koinonia mprosta stis nees proklisis tou pangosmiou agrototrofikou systimatos*” [“Economy and Society Facing the New Challenges of the Global Agrofood System”], Electronic publication of articles based on the papers of the 9th conference of ETAGRO (Greek Association of Agricultural Economists), 2007.

unique, forms of tourism utopias. The history of tourism in Kassandra shares the general trends of coastal tourism described above for south-west and central Halkidiki overall, with the particularity that it was the first part of Halkidiki to actively take on tourism in general, and mass tourism specifically on a large scale. It is quite indicative that whereas in Sithonia of the early 1980s very few organised tourist services (such as private tourist offices, car rentals, etc.) existed, in Kassandra's coastal villages these were already abundant. Websites¹⁹ present the fact that Kassandra is the most touristic part of Halkidiki as an attraction in itself together with its endless sandy beaches, its crystal clear waters, the wooded hills, and the picturesque villages that draw Greek and foreign tourists. Its numerous historical and cultural sites – like a medieval tower and a castle, a traditional settlement, ancient ruins (an Ammon Zeus shrine, and ruins of four ancient cities from the eighth-sixth century BC period of ancient Greek city-states' colonisation) – hardly acquire equal importance next to its natural beauties and its tourist facilities. Indicative of the perspective, is the following quote from a site:

In the region you will find all that you may need during the day, but also at night. In daytime you can do sea sports, while at night the famous bars and clubs of the region expect you.²⁰

Tourism took off in Kassandra roughly in the late 1960s–mid 1970s with road improvements that facilitated the arrival of tourists and the construction of several large tourist complexes along the coast line. An important part of this construction that affected the development of tourism was the replacement of the old pontoon²¹ over the canal in Nea Potidaia that linked the Thermaikos Gulf to the Toronaios Gulf with a proper bridge in 1970. Before that, as some ladies who back in the early 1950s habitually spent their summer vacation with their parents in Kassandra explained, they used to cross the canal on some kind of a raft, a fact that gave great joy to the children. Characteristically, Pallini Beach Hotel, one of Kassandra's classic old hotels, was built in 1972 in Kallithea, a village which has become the most popular destination ever since the advent of package tourism in the 1970s. Since then the number of hotels increased dramatically throughout Kassandra, as did the number of apartments and rooms to let, package tourism being one of its most significant provider of clients, but not the most important. A British package tourism web site describes tourism in Kassandra as follows:

¹⁹ See, for example, <http://www.campsite.gr/campsite/index.php/2013-02-16-10-47-01> and http://www.campinggreece.gr/index.php?option=com_content&view=article&id=61%3Akassandra-and-sithonia&catid=36%3Aregion-a&Itemid=34&lang=en

²⁰ In <http://www.campsite.gr/campsite/index.php/2013-02-16-10-47-01>

²¹ In <http://kassandra-halkidiki.gr/people-gallery.html> one can see old pictures from Kassandra that also include the old pontoon that was in use before the bridge was built and the first summer sojourners.

As the nearest region to Thessaloniki, the Kassandra peninsula of Halkidiki has been the most heavily developed for tourism. Purpose-built hotels and apartment blocks have swamped once tiny villages, doing wonders for the local Halkidiki economy but little for traditional Greek culture. Restaurants have an American/ Italian bias with steak burgers and pizzas the staple offering. Holidays in Kassandra tend to be restricted to the all-in hotel and beach as there is not a great deal to see if you decide to venture inland, just mile after mile of featureless road with the odd tacky Halkidiki cafe or roadside club to attract the eye.²²

However, critical the above words may sound, they are quite telling in their acknowledgement of the blunt truth accepted, produced and reproduced by both tourists and business people alike. Kassandra does not offer much "culture" as a tourist commodity (there are a few, relatively recently developed, notable exceptions, like the village of Athytos), except for the three classic "S" commodities: sun, sea, and sand.²³

Together with foreign package tourism that got under way in the 1970s, domestic tourism, initially exclusively by Thessaloniki residents, began to expand as well. Small second home apartments were built in the coastal villages in the second half of the 1970s, together with privately owned villas on the coast line. It was also then that the first large scale summer housing estates were constructed, some of which were luxury summer houses bought by upper middle-class Thessaloniki urbanites, who valued an exclusionary class aesthetic. Those estates are still considered exemplary constructions by many, as they combined to a certain degree the preservation of the natural habitat with the building of houses, albeit on a large scale. One such case currently contains more than 450 summer houses that have been built over a course of more than 30 years, covering 5% of the landscape.²⁴ Condominium and maisonette buildings also followed soon and gradually covered the villages across the coastline of the peninsula. It is interesting how someone commented on the steady expansion of the built environment on the east coast of Kassandra:

When some years ago one watched Kassandra across from Sithonia, he could see the different villages as they were discernible at night from afar. You could tell by the dark

²² <http://www.greekisland.co.uk/halkidiki/kassandra.htm>

²³ On the issue, see the classic by now analysis of these and some more related tourist commodities by Malcolm Crick, "Representations of International Tourism in the Social Sciences: Sun, Sex, Sights, Savings, and Servility", *Annual Review of Anthropology*, 18 (1989), 307-44.

²⁴ Consider the presentation of the construction of luxurious summer houses in the formal site of Elani S.A.: "ELANI S.A. was established in 1975, as a developer of luxury holiday residences in Chalkidiki, Greece. Our first project, the FLEGRA settlement in Pallini, Chalkidiki became the layout model for the entire region. 106 luxury holiday residences were developed on an outstanding location, surrounded by Pinewoods forests and right on an exceptional beach. ELANI in Kassandra, Chalkidiki, began in 1980. Until today, 450 holiday residences were developed in just the 5% of a magnificent area while the remaining 95% is devoted to gardens, recreational and sports facilities, establishing 'ELANI' as one of the biggest and most renowned settlements in Chalkidiki. [...] Since 1975, ELANI S.A. builds luxury holiday residences in Chalkidiki for people with good taste and love for life"; <http://beta.homeview.gr/en/users/elani>

slots in between lit areas, which meant that no buildings with electric lighting existed there. This gradually changed and now you see no distance between the villages. It is just a continuous stretch of one tourist village from Nea Fokia down to Pefkohori and beyond. It doesn't stop.

3. Sithonia: The “Second Leg” and the Development of Camping Tourism and Camping Sites

The development of tourism in Sithonia does not differ from that of Kassandra in a chronological sense, but in scale. Sithonia used to – and still does – receive fewer tourists than Kassandra, as well as different types of tourists. If Kassandra has been from the beginning a site of mass tourism and cosmopolitan lifestyle, in comparison Sithonia is seen simultaneously as a less tamed landscape and more family oriented, but at the same time more alternative, not lacking, however, as people assert, in popular attractions. The discourse analyses of Sithonia tourist websites²⁵ show how the perceptions, constructions and performativities of the touristic commodity and nature combine with the necessary popular attractions that concern entertainment. The following website descriptions are quite telling:

Sithonia is the second peninsula of Halkidiki. On this “leg” you will experience the perfect harmony of mountain and sea, a symphony in green and blue. Pine forests and blue waters in combination with the remote, but also the crowded beaches attract every tourist. [...] Just like in the first leg, in Sithonia as well the visitor can occupy himself²⁶ with all the summer activities, such as trekking, diving, fishing, mountain bike, water sports, even horse riding in the forests. Nightlife is located mainly in accommodation regions, but there are also many exotic beach bars hidden in magnificent inlets.²⁷

And in another case,

Here the scenery and opportunities for seaside recreation are even more appealing than they are in Kassandra [...] in short, the whole peninsula, the landscape is enchanting and the resorts delightful.²⁸

It is interesting to see how this particular natural anesthetisation of Sithonia appears in one form of tourist utopia; the various camping sites, all of which emphasise and advertise primarily the beauty of the natural landscape.

²⁵ See Rick Hallett & Judith Kaplan-Weinger, *Official Tourism Websites: A Discourse Analysis Perspective*, Bristol: Channel View Publications Ltd., 2010.

²⁶ I translate using the male personal adjective following the Greek practice that tends to use the male gender for such generic terms.

²⁷ <http://www.campsite.gr/campsite/index.php/2013-02-16-10-47-01>

²⁸ The camping guide “CampinGreece”,

http://www.campinggreece.gr/index.php?option=com_content&view=article&id=61%3Akassandra-and-sithonia&catid=36%3Aregion-a&Itemid=34&lang=en

The number of camping sites is clearly indicative of the type of tourism the different areas of coastal Halkidiki attract and the kind of relation to nature the particular regions demonstrate. According to the list that the Association of Owners of Camping Sites in Halkidiki displays, on the west coast of Halkidiki's main body and closer to Thessaloniki there are two organised camping sites, one in Nea Kallikrateia and another one in Nea Moudania, while another at Ouzouni Beach in Nea Moudania is not registered in the Association. On the Kassandra peninsula four are listed; three on the west coast of the peninsula (Potidaia, Sani and Posidi) and one (Kryopigi) on the east coast. On the way from Kassandra to Sithonia and right on the inner part of Toronaos Gulf one camping is listed in Kalyves. In Sithonia, on the other hand, one finds by far the largest number of organised camping sites in all of Halkidiki; sixteen are officially registered in the owners' association, whereas at least another four are not.²⁹ On the inner part of the Siggitikos Gulf, the least developed part of Halkidiki, there is none, while there is one in Ouranoupoli and one in Amouliani (the small island across Mount Athos). On the west coast of Halkidiki's main body, again there are another two, one in Komitsa and another one in Lerissos.³⁰

As it has become obvious, campsites in Sithonia are by far more numerous than in Kassandra and all over Halkidiki, a fact that to a certain degree reflects the less life-style-centred kind of tourism one finds in Sithonia.³¹ One of the first (if not *the* first) campsites in Sithonia, that of Mylos,³² was established as early as 1964 between Metamorphosis and Nikiti.³³ Camping Lacara was the next to be founded in 1969 by people who were originally customers of Mylos. Those first owners of Lacara were described by an informant as outdoorsy nature-lovers, whose main interest was to build a campsite, where people would sleep under the plane trees in nature. Interestingly, the prefabricated sheds they installed under the plane trees actually constituted a, conscious on the part of the owners, violation of the designation of the particular piece as forest land, a fact that in the name of the protection of the forest prohibited any construction.

The expansion of camping practices from the 1970s, but mostly from the 1980s onwards and not so much by non-Greeks as by Greeks, led to the establishment of several campsites on Sithonia's coastal line. One key factor to this was the environmental restrictions that prohibited those areas from getting densely built, but allowed the small scale constructions of a campsite. Gradually, the campsites started to attract

²⁹ A member of the association also referred to the operation of "illegal camping sites".

³⁰ <http://www.campsite.gr/campsite/images/map/map1920.jpg>

³¹ It is not, however, a non-lifestyle centred kind of tourism anymore.

³² Otherwise known by its first owner's name "at Vidalis".

³³ After years of misoperation, it eventually closed down approximately ten years ago. There are rumours that soon it will reopen but in a totally different form.

different types of clientele.³⁴ While some, like Lacara, emphasised a more “natural” state of being, by using natural materials like cane and wood and clearly stating the importance of constructing a campsite in an arboreal landscape³⁵ to offer “nature” and “coolness”, others put emphasis on providing a relaxed vacation lifestyle, targeting less to families and more to youths who looked for day and night entertainment. That is currently the case of Armenistis – or at least how it developed and expanded in the course of the years. While it started as a campsite that hosted a more “alternative” laidback youth culture, clearly signified by the trademark image of the Stone Age caveman with the club, who in the past also used to hold a huge joint, it has become an extremely popular campsite for all those youths who look for night entertainment. At the same time, Armenistis targets a wider clientele by providing daily activities and animation for children and adults alike, as well as by organising artistic, sporting and musical events.³⁶ While, in comparison, most other campsites like Isa at Tristinika that was established in 1987 are more family oriented, the lack of emphasis on night entertainment is a reason for negative comments by some youths.

Personally, I did not like the camping site at all. [...] Unbelievably many mosquitoes, quiet and family oriented, I would say (for some this is a plus), but expensive, since it has the same prices as Armenistis, which, I think, is far superior. If I went back again it would be just because I liked Tristinika and the bar “Ethnic”. But if one wants to stay on that side of Sithonia, s/he wouldn’t have the options offered on the other side.³⁷

In the more “family-oriented” camping sites everyday life is constituted to a large degree as a replica of vacation life in privately owned summer homes.³⁸ No matter whether in a large tent, a trailer or a camper, for families with or without children modern amenities are an absolute necessity to be carried in a camping site; from beds, tables and chairs to coffee machines and TV sets, all are set on a plastic floor laid in front of the tent or the camper to prevent soil from turning into dust in the “home” environment. Even more, for some this summer home place is delimited by setting around the “yard” a small picket fence, in some cases even flower pots. Someone described this type of vacationing that he, his wife and their son experienced as “relaxed”, “building a shared but separate everyday life with people one may not see during the rest of

³⁴ Löfgren (*op.cit.*, p. 130) remarked something similar for Sweden from the 1950s onwards: “After the feverish boom in early motorized tourism, camping sites slowly started to become differentiated. Many aimed for a family clientele, and the restless and party-seeking youths had to go elsewhere. The concept of ‘wild camping’ came to denote not only improvised sites, but also the uncontrollable youth life out there on the margins of the tourist landscape. [...] The media shock stories from the campsites continued on through the 1960s and into the 1980s”.

³⁵ An informant called it “one of the greenest campsites”. One should notice the ambiguity of the term “green” as it refers both to trees and to an environmental consciousness.

³⁶ Important part of the events is the Seawave Festival.

³⁷ <http://www.e-camping.gr/component/jreviews/?url=discussions/review/id:5301>

³⁸ Cf. Löfgren, *op.cit.*, p. 131.

the year, but there you live next to each other with the relaxation and easygoing sociality that summer time and a camping environment provides”.

A perception of life in a campsite similar to the above was expressed on a blog-post, where the author criticised the possibility that campsite Lacara might at the time change not only owners but target a different camping style and clientele:

The campsite itself is a family camping with kids and families and it is heard that [the owner] intends to upgrade it (which is evident in the last three years, [there are] gradual attempts) and to convert it into a youth campsite, Armenistis style, etc. It was also heard last year that he was going to shut it down and in its place (after uprooting trees and plants, thus destroying the unique scenery and the unique natural beauty that the second leg is famous for) build rooms, pools and small hotels. It [already] started with the entrance filled with rubble and the “serious company”. [...] This was the preferred camping for my parents for more than twenty years, to go there to calm down from the hard pace and the pressure of a difficult year, and probably that will also be destroyed and we should look elsewhere. [...] Pity, however, should the beautiful second leg become like the first, where the slightest free part of green was burned down and filled with hotels, with the result that, beyond the Balkan and the Russian tourists, no Greek dares to set foot [there].³⁹

On the other hand, the regular, stereotypical representation of Halkidiki's camping sites emphasises and presents camping sites to be a mixture of a fascinating nature that does not exist by itself, but together with all the classic conveniences and the newly-required services:

Every corner is a small paradise. The magic of nature and the purity of the landscape with its fantastic beaches, combined with the green of the pine that embraces the crystal clear sea in absolute harmony, characterise the uniqueness of the peninsula of Halkidiki. The goal of the camping businesses is to provide all the facilities for your convenience, comfort and entertainment, without removing anything from the natural beauty of this paradise. In the well-organised camping sites in Halkidiki, apart from the classic conveniences, you will also find bungalows for accommodation, restaurants, taverns, cafeterias, bars, grocery stores, playgrounds, sports facilities and water sports. Come to spend with us the most beautiful, relaxing and dreamy vacations that will remain unforgettable.⁴⁰

As noted before as well, in this characteristic quote one discerns how camping sites are constructed as places through their physical/material construction, their representations, as well as the directions over how people may, or should, live their everyday vacation time there. While the above presentation reveals perceptions of nature by campsite owners, it becomes obvious that the construction of campsites as “more natural than other more cultural” tourist scapes does not quite promote experiences of

³⁹ <http://troktiko.blogspot.gr/2010/06/camping-lacara.html>

⁴⁰ <http://www.campsite.gr/campsite/index.php/2013-02-16-10-47-01>

“wilderness” nature. On the contrary, as shown earlier, the experiences of nature in these camping sites are quite normative, in the sense that people anticipate the provision of certain modern facilities by camping sites, as they make their choice of a camping site on the basis of the provided amenities, considering those amenities as well as the particular forms of entertainment indispensable from the experience of vacationing in nature.

In this respect the iconography of “nature” in campsite websites is quite telling. In all these websites the photographs portray picturesque landscapes with trees, beaches, the sun, the sea, etc., sometimes including humans as they enjoy “nature” and sometimes not, but also all the cultural imageries that concern the provided accommodation and facilities. The beach is pristine and green or bright blue, but there are also sunbeds with people lying on them, the sand is thick and white, but there are also people in their bathing suits that play beach volley or a simplified version of beach paddle racquet tennis. Such images of nature are accompanied by photographs of the available accommodation and facilities, as well as people involved in all aspects of everyday activities; eating, swimming, sitting in front of the tent, the camper, etc. with friends, but also any available forms of entertainment. These photographs provide a very specific visual substance to the ideal of vacationing in a camp site. Naturally, there are differences in how the “natural” environments of campsites are transformed into – in a sense – “acculturated” ones. In all cases, however, the landscaped sites for tents and campers are combined with pictures of the asphalt roads in the campsite, the provided ready-made tent or natural shading systems, etc., all seeking to provide an attractive image of the provided – and thus necessary– facilities and technological amenities for customers. At the same time, there is always an unintentional inclusion, therefore message, in the pictures; cars are in the majority of the cases parked right next to the tent or the camper, marking their physical presence in the camping site an absolute necessity.

To put it briefly, “nature” in Sithonia’s camping sites constitutes an aesthetic category that is anticipated to become experienced in certain ways when there, and becomes realised as a visible representation in websites. In the websites, the photographs produce an idealised version of living in “nature”, a utopian myth, which inescapably includes, however, elements that signify the absolute necessity and inevitability of “culture”, i.e., modernity. Thus, the website photographs of both “nature” and “facilities” embody the visual worth of already existing market goods, “nature” being a commercial image equal to technological modernity.

Environmental Tourist Utopias and the Quest for Highland Halkidiki

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The first group of French journalists officially invited by the Halkidiki Tourism Organisation in the summer of 2015 did not have any difficulties in describing the area. Writing for *Le Figaro magazine*, *Le point*, *Lui magazine* and *Le Bottin gourmand*, the journalist talked about “le petit paradis, Halkidiki!”¹ This is not surprising. Most tourist guides published since the late 1960s in English, French and German have offered a similar image of Halkidiki.² Tourist guides impose specific perceptions over places³ not only for tourists but also for the various categories of locals as well as the businessmen engaged in the tourist sector. Thus, they establish expectations of experiences leading to specific investment projects.⁴ Presenting Halkidiki as a “paradise” is closely related to the natural environment of the region. Tourist resorts all over the world are famous for a number of things: religious sites, sex industry, ancient heritage, entertainment clusters, natural beauties, cultural industry, etc.⁵ With the exception of the case of Mount Athos, the tourist gaze over Halkidiki focuses on its natural beauties.

All types of travelling and tourism presuppose the quest of utopias. The Middle Age Christian travellers who walked for weeks the path to Santiago de Compostela were looking for their salvation. The nineteenth-century upper bourgeois youth attempting ‘Le Grand Tour’ in the Mediterranean were eager to visit the sites of classical antiquity but also to experience the utopian pleasures of the Orient. Travellers heading towards the western Indian province of Goa in the 1980s gradually created their own

¹ Available at <http://repentza.blogspot.gr>, last accessed on 22 June 2015.

² For example, see Mike Gerrard, *National Geographic Traveler: Greece*, National Geographic, 2014; Harvard Student Agencies, *Let's Go Greece: The Student Travel Guide*, Let's Go, 2009; Lonely Planet Series (eds), *Lonely Planet Discover Greece*, Lonely Planet, 2012; Chris McLoughlin, *Entrée to Halkidiki: Greece's Secret Paradise*, Peter Collin Publisher, 1995.

³ Pierre Bourdieu, *Photography. A Middle-Brow Art*, California: Stanford University Press, 1990.

⁴ It is interesting to note that most studies related to the development of the tourist sector in Halkidiki follow the “sell the beauty of its nature” scenario; see, for example, Dimitris Laloumis (ed.) *4th International Conference on Tourism and Hospitality Management*, Athens, 2014. For an overview of such studies, see Jekaterina Marits, *How to Attract Tourists to Halkidiki*. HAAGA-HELIA, University of Applied Sciences, 2013.

⁵ A critical analysis of the various “forms” of tourism that have developed worldwide since the 1980s is available at J. Urry, *The Tourist Gaze: Leisure and Travel in Contemporary Societies*, London: Sage, 1990.

hippy-style utopian communities. Tourists spending one month every summer in isolated resorts in the Rocky Mountains argue that they discover an unspoiled natural utopia. All these utopias refer to some kind of promise.⁶ What is actually promised varies according to the aspirations of tourists, travellers, visitors.⁷ However, in order to cover the needs of the many, the utopias promised have to be as ambiguous and vague as possible. As Tower and Kolakowski argue, ambiguity is typical of all utopian contexts since the very first use of the term by Thomas More in 1515.⁸

This chapter is an attempt to anthropologically conceptualise the representation of Halkidiki as an environmental utopia with reference to its tourist industry. I will focus on the developments of the last two decades. Ethnographically I will direct my attention to the highland tourist resorts of Halkidiki located close to the town of Arnaia and the villages of Taxiarchis and Palaiokastros. Fieldwork was conducted in 2014 and early 2015.⁹ The area was not unknown to me. My maternal grandparents originate from a village about twenty km to the south-west of this area and I have spent most of my summer months in Halkidiki. My familiarity with the place allowed me easier access to the local businessmen and others working in the tourist sector. The analysis is based on in-depth semi-structured interviews with key informants and fieldwork observations. In selecting informants the aim was to capture the variety and diversity of types of tourist activities, rather than to claim representativeness. For a number of reasons explained below, my intention lies on the side of locals rather than of tourists. I argue that Halkidiki can be divided in four different zones based on different tourist utopian promises. I also argue that the focus on the natural beauties of Halkidiki becomes intensive, together with a focus on traditional cultures, in the case of highland tourist resorts. I will explain why this is happening by addressing the relationship between environmental and cultural utopias, authenticity and the expectations of the urbanites of Thessaloniki.

1. A Typology of Tourism in Halkidiki

Halkidiki can be divided in four distinctive tourist zones. This typology is based on the different promises addressed to the tourists who visit the area.

⁶ Andrew Holden, "The Environment - Tourism Nexus", *Annals of Tourism Research*, 36.3 (2009), 373–89.

⁷ For the purpose of this analysis I am not engaged in discussing the important differences between tourists, visitors, travellers, etc.

⁸ Sargent Lyman Tower, *Utopianism. A Very Short Introduction*, Oxford: Oxford University Press, 2010, pp. 139-42. Leszek Kolakowski "The Death of Utopia Reconsidered", in *The Tanner Lectures on Human Value*, vol. 4, Cambridge: Cambridge University Press, 1983, pp. 229-30.

⁹ I am grateful to E. Deltou and G. Antoniou for travelling around the tourist resorts of Halkidiki and for the inspiring discussions we had regarding tourism in the region. Vassilis Katsikis helped me a lot in securing the trust of local businessmen engaged in the tourist sector of highland Halkidiki. Dimitris Drenos provided me with a useful understanding of utopian theories.

The peninsula of Kassandra, the town of Nea Moudania and all the resorts on the road from Moudania to the capital city of Polygyros follow a model of mass tourism development where the focus lies on tourist infrastructure. The natural environment is used as a theatre stage where cosmopolitan hotels, bars, cafes, restaurants, clubs and sports facilities are situated. According to Deltsou, "tourism took off in Kassandra roughly in the late 1960s to the mid-1970s, when road improvements facilitated the arrival of tourists, as well as the construction of several big tourist complexes along the coast line".¹⁰ This is the area preferred by middle-class Thessaloniki urbanites, who wish to have a summer flat or house next to the seaside. During the summer months the area is noisy and crowded with tourists mainly coming from overseas. The hotels of Kassandra attract tourists from all over Europe and the Middle East. The largest hotels are also involved in the holding of conferences and business meetings of up to 1,200 participants. Some of these hotels have been recently bought by businessmen coming from Russia and other countries of the former USSR.

The peninsula of Sithonia and the island of Ammouliani¹¹ present a different model of tourist development. The area is less crowded and with fewer hotels compared to Kassandra. It offers the possibility for family tourism but also for various kinds of alternative activities such as camping and extreme sports. Tourists prefer Sithonia because of its "untouched and unspoiled" physical environment. In the case of Sithonia, the promise offered to tourists clearly refers to the experience of nature. This explains why the hotels in Sithonia are smaller to those in Kassandra. The only exception is the Porto-Carras tourist complex at the southern end of Sithonia.¹² However, with the exception of the village of Nikiti, this emphasis on nature is not accompanied with a focus on local cultures.

The peninsula of Mount Athos has never been a popular tourist destination. The Orthodox Christian monasteries can be visited only by men, and only after they have been granted a special permit. Men coming from all over the world have visited these monasteries for centuries. The experience of travelling to Mount Athos resembles

¹⁰ See Deltsou's chapter in this volume.

¹¹ Stephen Salamone (*In the Shadow of the Holy Mountain: The Genesis of a Rural Greek Community and its Refugee Heritage*, Boulder: East European Monographs, 1987) conducted an ethnographic study of Ammouliani at the very period when the tourist infrastructure was about to start developing on the island.

¹² The Porto-Carras hotel is a unique case in the context of Halkidiki. It is part of a tourist complex gradually created since the late 1960s on monastic property of 1,763 hectares bought by Giannis Carras. The complex includes a marina, a golf-course, the famous villa of the first owner of the hotel, vineyards and a wine factory. The hotel sought to attract the upper-bourgeoisie, the aristocracy and the rich of Europe and the Americas. It was visited by Queen Juliana of Holland, Salvador Dali, the son of Aqa Han, Stavros Niarhos, Rudolf Nureyev, Francois Mitterrand, Konstantinos Karamanlis, Margot Fonteyn, the Rockfellers, Prince Albert of Monaco, President Puttin, Valery Giscard d'Estaing. The initial plans pay particular attention in the securing of the environment. It is questionable whether later expansions of the complex follow the perception of nature and the environmental visions held by the first owner.

the religious pilgrim trips in Sina and Tibet. There are very few roads in Athos and limited public transportation. Travellers have to walk from one monastery to another. Mount Athos is in itself a religious utopia on earth.

Highland Halkidiki presents a different kind of tourism development. There are no large hotels but few mountainous resorts and taverns situated inside the forest. All of these sites have been built in the last twenty years and attract upper-class urbanites from Thessaloniki and Athens. Similarly to Sithonia but to a much larger extent, the highland resorts of Halkidiki offer the promise of a genuine experience of nature and culture. However, as explained below, there are important differences with the tourist industry of the Sithonia peninsula.

The above typology does not include the coastal settlements between the village of Olympiada and the village of Stavros. This is because this area comprises a tourist cluster together with other villages and towns of the Strymonic Gulf (Stavros, Asprovalta, Vrasna) situated in the Municipality of Thessaloniki. This cluster does not belong to the entrepreneurial tourist context of Halkidiki. Contrary to Halkidiki, since the 1970s this area was characterised by the dominant presence of lower-middle class Greek tourists and tourists from former Yugoslavia.

2. Highland Halkidiki

Tourism in Halkidiki actually began in the 1930s at the outskirts of its highland zone. During the interwar, bourgeois families from Thessaloniki used to spend a few weeks every summer at the highland village of Vavdos. Vavdos is surrounded by forests at an altitude of 780-1020 metres. The village is situated just 45 km from Thessaloniki and accessed from the Thessaloniki- Polygyros provincial road. It was considered a healthy place to escape the summer heat of Thessaloniki and all summer diseases of the times. The absence of roads and the living memory of bandits active further deep in the highland forest prevented the development of other tourist resorts. The events of WWII and of the Greek Civil War further diminished the possibility of safe travelling in the region.¹³

The villages of highland Halkidiki suffered a massive population exodus due to immigration from the 1950s to the early 1980s. The depopulation of the area had significant consequences for the natural environment. A great number of those who remained in the villages preferred to work in the mines of Stratoni, Gerakini and Vavdos instead of engaging in agriculture, pastoralism and forestry.¹⁴ As a result, the forest actually expanded covering uncultivated fields and unused grazing lands. Old paths and sheepfolds inside the forest were abandoned and gradually taken over by nature.

¹³ See Gounaris' introduction in this volume.

¹⁴ Numerous papers published in the journal *Chronika tis Halkidikis* (The Chronicles of Halkidiki) offer an account of this process.

In just three decades the forest looked like an area never used or even explored by humans.¹⁵ Villages that managed to keep part of their population started developing from the early 1980s. In the 1980s and the 1990s villagers expanded their agricultural activities. They started cultivating new types of olive trees and avocados. They introduced the cultivation of a specific kind of spruce fir trees for the Christmas market of Thessaloniki. Gradually they returned to some of the pre-WWII activities and expanded pastoralism (goats, sheep and wild pigs) and forestry. The necessary capital for such activities was introduced in the local economy. Return migrants from Germany and Australia contributed a lot in this process. In addition, loans coming from EU funding resources were distributed in the region although not always according to real needs and valid investment plans. The youth of the highland areas used to engage in seasonal work in the tourist resorts of Kassandra and Sithonia. Thus, they gradually acquired a significant know-how in the tourist sector. New roads were constructed as a result of which one could travel from Thessaloniki to the town of Arnaia in 80-90 minutes.

The know-how of the seaside tourist resorts of Halkidiki has had significant consequences for the region since the 1990s. A number of local taverns changed their style presenting a more "authentic traditional highland" menu in order to attract upper-middle class customers from Thessaloniki. This was the time when "traditional" village architecture and the "quality of traditional rural life styles" began to attract the attention of tourist developers. The mass tourism model of seaside resorts was not any more considered as the exclusive scenario for the tourist industry of Halkidiki. Rurality and traditionality were turned into commodities. According to Deltsou,¹⁶ this process was initiated in the highland village of Parthenonas at the far end of the Sithonia peninsula. It is worth noting that by the mid 1980s the highland villages of Palaiokastro and Parthenonas, the highland town of Arnaia and the coastal village of Nikiti in Sithonia were officially given the status of "traditional settlements"¹⁷ and/or historic sites.¹⁸

The focus on traditionality was further encouraged by EU directives, regulations and provisions. More importantly, it was supported by EU funds available at the local level.¹⁹ Developmental agencies in Thessaloniki and Halkidiki turned their attention to

¹⁵ Vasilis Nitsiakos, *Peklari. Koikoniki oikonomia mikris klimakas* [Peklari. Small Scale Social Economy] (Ionnina: Isnafi, 2015) provides us with an interesting detailed ethnographic study of the same process taking place at a village close to the town of Konitsa in Epirus. According to Nitsiakos, the villagers negatively evaluate the expansion of the forest and the development of "wild nature".

¹⁶ See Deltsou's chapter in this volume.

¹⁷ See Ministry of Environment, Energy and Climate Change (<http://estia.minenv.gr/EXEC>).

¹⁸ Deltsou ("The Designation of a Historic Locus in Greece as an Exercise of Knowledge and Localism", in S. Sutton and A. Stroulia (eds), *Archaeology in Situ: Sites, Archaeology, and Communities in Greece*, New York: Lexington Books, 2010, pp. 241-66) offers a critical account of this process.

¹⁹ This process is described in detail in *Towards Quality Rural Tourism: Integrated Quality Management (IQM) for Rural Destinations*, Luxembourg, Office for Official Publications of the European Communities, 2010.

this funding and provided the necessary know-how and opportunities to local entrepreneurs. The idea was to create a sector of “alternative tourism” operating throughout the year based on ecotourism and agrotourism.²⁰ Similar trends existed since the early 1990s in other highland areas of Greece, such as Metsovo and Zagorochoria in Epirus, Pilion in Thessaly, and Parnitha in Attica. The owner of the first resort established in the area described the process thus:

The taverns in Agios Prodomos survived despite the new route of the road between Thessaloniki and Polygyros. Two taverns in Palaiokastro were rather successful in the 1980s. The taverns on the top of Cholomondas were operating despite the change of the bus route to Arnaia. I was persuaded that our mountain was ideal as a winter resort. When I visited the architect’s office in Thessaloniki he did not agree with my project. But I had been around in many highland resorts in Greece, Bulgaria and Austria. My father disagreed with me, he thought that we were going to lose our property. All that is history now. We succeeded and others followed.

3. The Highland Resorts

In just two decades a number of mountain resorts have been established in the area between the villages of Palaiokastro and Taxiarchis and the town of Arnaia. Palaiokastro is located at an altitude of 560 metres, Taxiarchis is at an altitude of 670 metres, and Arnaia with a population of 2,600 souls is at an altitude of 600 metres. All seven of these resorts operate throughout the year and they are located at an altitude of between 900-1120 metres. The peak season is around Christmas, when the area is covered by snow. Resorts are more or less similar. They are surrounded by large trees and it is difficult to discover them, even in cases where they are located close to the main road. Guests live in small houses with their own kitchen and fireplace, which also provides central heating. Each house is composed by at least two rooms. Some resorts offer sauna and jacuzzi facilities. The architectural style is dominated by the need to present a “traditional rural” image. Building materials, which function as indicators of traditionality, comprise stone, wood and red tiles. None of these resorts uses the appellation “hotel”. They use other names, such as guest house (*xenonas*), green village (*prassino chorio*), farm (*farma*). As one resort owner told me, “we do not like hotels in our places”.

The similarities of these resorts are striking. This is due to a number of factors. The first two resorts proved to be rather successful so the rest followed the same style. In

²⁰ See Eleftheria Deltsoy, “I oikotouristikí anaptyxí kai o prosdiórismos tis fýsis kai tis paradosis: paradeigmata apo ti voreio Ellada” [Eco-Touristic Development and the Designation of Nature and Tradition: Case-Studies in Northern Greece], in V. Nitsiakos & Ch. Kasimis (eds), *O oreinos choros tis Valkanikis. Syngrotisi kai metaschimatismoi* [The Mountain Space in the Balkans: Construction and Transformation] Athens: Plethron, 2000, pp. 231-48.

addition, EU funding regulations forced architects to follow similar patterns both in the structure of the buildings and in organising the surrounding landscape. Resorts have their own café and restaurant, sports facilities and children play areas. The larger resorts offer guests the possibility of horse riding and mountain bike tours. Two resorts have tennis courts. Depending on the season of the year, another five to seven restaurants and bars operate in the nearby area. They are usually open in weekends, public holidays and during the summer months. All these businesses are owned by locals, who live nearby or locals living half of the year in Thessaloniki and half of the year in the region. It is worth noting that the most luxurious of the resorts belongs to a local, who has been operating the most popular tavern in highland Halkidiki since the 1980s. The personnel working in the resorts, the bars and the restaurants are locals or Albanian migrants, who have moved to the area since the early 1990s. As elsewhere in Greece, the latter do the heavy work. In addition to the full-time personnel, many locals work part-time at the resorts, the taverns and the bars. The income earned forms a significant contribution to the well-being of many families of nearby villages and the town of Arnaia. The resorts coexist without problems with other economic activities and enterprises in the area (pastoralism, forestry and coal production). Actually, their existence is intentionally brought into attention by those working in the resorts. As one restaurant owner explained to me “tourists have to know that we are a rural area with a traditional highland economy”. The only activity of the local economy threatening the resorts is gold mining. However, this threat is gradually declining.²¹

The resorts, the taverns and the bars have actually created a small tourism cluster.²² The more numerous they become, the more visitors they attract. Generally speaking visitors belong to three categories: weekenders, summer-time residents, and daily visitors. The latter come from Thessaloniki and usually spend a few hours in a resort or a tavern. They walk around the forest, play games and enjoy a meal. Weekenders dominate the winter tourist period (October – March). They arrive on Friday evening and leave on Sunday afternoon. The majority of weekenders are couples and/or groups of young urbanites. They come mainly from Thessaloniki but also from Athens. Summer time residents come both from Greece and abroad. Families with young children and retirees spend a week in the resorts, walking many hours every

²¹ The introduction of new gold mining techniques by Eldorado-Gold Ltd in northern Halkidiki caused reactions on the local, the national and the international level. Local society has been divided between those in support of the mines and those arguing that the mining technologies recently introduced will create permanent damage to the environment. Numerous violent clashes have taken place in the hills near the mines. The intervention of riot police forces from Thessaloniki increased the degree of violence. It is beyond the intention of this chapter to discuss this issue. In my view, the dispute is gradually coming to an end. Those against the newly introduced mining techniques secured political hegemony at the local level. Likewise, the current government (spring 2015) is rather critical of the new gold mining technology.

²² I am using the term tourism cluster following Maria Partalidou and Stavriani Koutsou (“Locally and Socially Embedded Tourism Clusters in Rural Greece”, *Tourismos*, 7 [2012], 99-116).

day at the forest. Given the limited number of rooms and houses available in every resort,²³ those spending their summer holidays in the area get to know very well all those working and living there. The statements that follow present the categories of guests as perceived by the personnel of three different resorts:

I know all my summer guests by their first name. Some of them had first visited us on a winter weekend and later returned in the summer.

Different kinds of guests come in the summer and in the winter. Summer guests are more aware of the place. Weekenders that come in winter are looking for an adventure in the snow of the woods. Summer visitors are looking for something more than that.

Last summer one of the resorts was used as a hostel by the riot police units guarding the nearby gold mines. It was the most bizarre situation. This was the first time, since the opening of the first guest house, which we had visitors not interested in chatting with us.

It is beyond any doubt that the crisis in Greek society and economy has had a negative effect on the local tourist businesses. However, this is more evident in the coastal tourist industry than in the highland tourist resorts.²⁴ The tourism cluster of highland Halkidiki has gradually involved the production of local “traditional” products such as jam and various sweets made out of forest fruits (e.g., chestnuts), teabags made with herbs of the forest, and meat products based on wild pigs. These products are consumed and sold in the local restaurants and guest houses. The village of Taxiarchis eventually came to be the centre of this cluster.²⁵ Some resorts actually advertise the “local traditional products” at their internet sites.²⁶

The clustering process involves not only local products but also attitudes towards tourists. During fieldwork, I found that working and serving men and women, personnel and owners, followed very similar performing strategies towards tourists. These resorts attract tourists not on the basis of the “sea, sand, clubbing and tzatziki” complex available at the coastal tourist industry of Halkidiki. On the contrary, they capitalise upon whatever is presented as the heritage of nature, culture and local identity: the wild forest, the wild pigs, culinary practices (“the annual feast of the chestnuts”, “the annual feast of forest mushrooms”), the close spiritual relationships with Mount Athos. Staying at the resorts is presented as a pilgrimage to the utopia of highland forests. Serving a coffee or a meal is perceived by the locals as something more than “work”. It is performed as a meeting between individuals belonging to two different worlds. It is per-

²³ The maximum number of residents in the larger of the resorts is 110 persons.

²⁴ See the various reports published by the Halkidiki Hotel Association (<http://www.halkidiki-hotels.gr>) and the Federation of Holiday Rooms and Apartments in Halkidiki (<http://www.halkidiki-holidays.gr/en/>).

²⁵ The official internet site of the village (<http://taxiarchis.net/>) gives emphasis on promoting the guests houses, the taverns and the bars.

²⁶ See, for example, <http://www.jimmyshotel.gr>. The most “traditional” local products include herbs, herbal teas, soap and sweets made out of forest fruits (see <http://www.holomon.gr/products.html>).

ceived as a process of socialising with the world of the woods. It is worth taking into account some statements of resort owners and personnel:

When someone is calling my attention at full volume, I wave to him. He has to understand that in the woods we always have to be silent. I intentionally walk in a silent way. I do this even when there is only one group of visitors in the resort.²⁷

My boss told me that I should not hurry to serve clients. I should give them time to enjoy looking at the forest. Then I always take a chair and seat next to them. Actually, I am not taking an order, I discuss for a few minutes the menu with them, and then I let me decide.

We always provide costumers with a glass of local red wine and sugared chestnuts – even without asking them. Of course, we do not charge for this. We ask them to taste our products.

When a group of visitors is making noise, I always interfere. One couple once told me: "But there are no other visitors staying at the resort". I replied pointing out the existence of birds, squirrels and other animals around. They looked astonished. Since then, they come every year from Athens.

The first thing I explain to them is that kids are safe to go everywhere inside the resort. Leaving the resort without an adult is not the best thing to do. Kids can play and sing loudly, the forest likes the sounds of kids.

Yes, we have parties and wedding banquets lasting until the morning. But these are organised similarly to the local festivals taking place in our villages. We do not play disco music here!

On Saturdays I always inform the visitors of the time of the Sunday liturgy. I explain to them that we live in the villages, I point out our geographic proximity to Mount Athos.

I advise and even demand of guests to walk around the forest. There is a small back door in the fence of the resort. I take them there and indicate the path they should follow. I always say to them: "I am not going to serve your breakfast unless you walk around for ten minutes in the woods." They like it.

The owner of the most successful, in financial terms, resort is famous for his physical appearance and body politics. He is an outspoken man in his sixties with a large oriental style moustache. Everyone calls him with his first name. I have visited him on a number of times. He is famous for performing a kind of "striptease" at the weddings organised in his resort. The ritual is always the same: he stands up at the peak of the dance, he climbs on two tables, he unbuttons his shirt while dancing, he takes it out, he drops his shoes and his socks on the floor and he opens the belt of his trousers. At that stage, he is touching and exhibiting his large moustache in a very macho way. Then he stops and returns to serving guests. This performance of shepherd-style pre-modern masculinity does not last more than five minutes. But the message is clear to everyone: Cholomonidas is another place, Cholomonidas has another culture. It

²⁷ Stressing the need for silence is even advertised in the internet sites of the resorts (*op.cit.*). Silence is also described as a key experience of those who visit the resorts (see, for example, the account available at <http://www.terrapapers.com/?p=34370>).

is worth noting that the same businessman decided to build a small chapel inside the premises of his resort. When I asked him the reasons for doing so, he pointed out the proximity to Mount Athos. However, when I retorted that there was a church just one and a half kilometre from his resort, he turned my attention to the wedding ceremonies organised at his resort: “We should offer them everything within the premises of the resort. Guests should be able to experience our mountain all together in one place”.

The otherness of the highland resorts needs to be stressed not only with reference to Thessaloniki and Athens but also with reference to the coastal hotels of Halkidiki. All highland resort owners were critical of the massive tourism model of the coastland, with special reference to the case of Kassandra. Their statements are revealing and, in some cases, insulting. The youngest owner of these resorts explained to me:

I have been to many places around the Mediterranean; from Majorca to gated tourist resorts in Turkey. They are all the same. The sad thing is that Kassandra and Moudania follow this model. What is the difference between a hotel in Kassandra and one in southern Turkey? What tourists learn about this place by staying all day and night inside these hotels?

A restaurant owner who lives in the town of Arnaia but comes from the village of Taxiarchis told me:

You know Giorgos, when I was a child I use to work as a shepherd. This is how I feel when I see all these tens of thousands of tourists in the coast. They look like a flock to me.

Why are you asking something you already know? You have been here for a number of times with your family. Ask your daughters: Is this place similar to the nothings [tipota] of the hotels in Kryopigi?²⁸

Yes, we learned a lot by working for the refugees²⁹ in the south. We understood what tourists are looking for. But it is because of this experience that everybody up here decided to take another, a different path.

A young woman engaged in local politics attempted to summarise the difference between the highland resorts and the coastal hotels:

Just think of the names used by the guest houses of our village and the names of Hotels in Kassandra. We use names such as farm [farma], forest-garden [dasokipos], the

²⁸ Kryopigi is one of the most touristic villages in the Kassandra peninsula. It is full of bars, shops and restaurants.

²⁹ The population of Taxiarchis and Arnaia originates from the local Greek speaking Orthodox Christians living for centuries in the region. On the contrary, most of the villages and towns in the coastal area of Halkidiki have been created by refugees who came in 1920s in Greece following the compulsory exchange of populations between Greece and Turkey. The issue is analysed by Katerina Gardikas in this volume.

fallen stone [apolymeni petra], the spruce-fir forest [elatodasos] indicating our relationship with the woods. Tell me how hotels are called in Kassandra.³⁰

It is however interesting that, when I asked my informants to clarify the otherness of highland resorts irrespectively of the coastal tourist model and the urban centres, they failed to go beyond the stereotypical explanations. The utopia of the highland resorts is obviously different from the one of the Kassandra peninsula but equally ambiguous and vague.

4. Environmental and Cultural Utopias, Authenticity and Tourism

Most tourists arriving at the highland resorts of Halkidiki are ignorant of the context explained above. They walk around in a forest that looks like a jungle to them. But this is simply the result of human intervention caused by the abandonment of old paths and sheepfolds following WWII. They eat wild boar, they drink local wine, and enjoy local herbal teas without knowing that these products emerged simply because of tourism. They visit the traditional village of Taxiarchis and the traditional town of Arnaia oblivious to the fact that EU funding not only reinforced but actually produced the traditionality of these settlements. They participate in the “chestnuts festivities” without taking into account that this event was initiated just fifteen years ago.

All of the above are irrelevant to them. Tourism is always underlined by a quest for authenticity. Authenticity relies upon nostalgia.³¹ Highland resort tourists are looking for their own versions of “paradise” in Halkidiki. This is obviously a different version from the one promised to those visiting the most touristic area of Halkidiki, the “non-place” of the Kassandra peninsula. Spending their holidays at the highland resorts is perceived as a more genuine and authentic experience closely related to the natural environment of local cultures. These tourists do not consider themselves as consuming the place, they actually experience the place.³² By imposing rules, regulations and stereotypes, the resorts' personnel seeks to provide them with an experience that will transform

³⁰ Most hotels in Kassandra are named in such a way as to confirm the stereotypic touristic perception of Greece. Hotels names make references to Greek gods (e.g., Ammon Zeus, Aphrodite), heroes and philosophers of classical antiquity (e.g., Alexander the Great, Aristotle), or ancient Greece in general (e.g., Macedonian Sun), etc.

³¹ On the relationship between authenticity and tourism, see D. MacCannell, *The Tourist: A New Theory of The Leisure Class*, London: University of California Press, 1999, and T. Selwin, “Introduction”, in Selwin T. (ed.), *The Tourist Image: Myths and Myth Making in Tourism*, New York: John Wiley and Sons, 1996. On the importance of memory in creating authenticity, see N. Wang, “Rethinking Authenticity in Tourism Experience”, *Annals of Tourism Research*, 26 (1999), 349–70.

³² For the different ways according to which tourists consume places and transform spaces into places, see G.L. Burns, “Anthropology and Tourism: Past Contributions and Future Theoretical Challenges”, *Anthropological Forum*, 14.1 (2004), 5-22, and A. Stronza, “Anthropology of Tourism: Forging New Ground for Ecotourism and Other Alternatives”, *Annual Review of Anthropology*, 30 (2001), 261-83.

them. Confirming authenticity is a process that involves both producers (i.e., the personnel) and consumers (i.e., the tourists). Producers have to follow specific practices and processes in order to secure the necessary quality of the authentic experience.³³ These practices and processes, such as the “striptease” ritual described above, are considered to be unique in time and space. Tourists have to discover the authentic place by being able to distinguish the quality of the “original tradition” of Cholomondas and by finding out the shortest and more reliable link allowing access to the “world of the woods”. Locals, especially those engaged in the tourist sector, hasten to engage in the negotiation of authenticity³⁴ as the gatekeepers of authenticity, as those who can lead tourists to discover the shortest reliable way to their promised utopias.

This context is obviously part of the wider milieu of the tourist industry existing worldwide in late modernity.³⁵ This model on the one hand produces the distinction between nature and culture and on the other commodifies both of them. The most interesting aspect in the case of Halkidiki is that the relationship between locals and tourists has been determined on the basis of “who was first” involved in imagining the tourist utopias. The development of tourism in Kassandra and Sithonia was the result of demands that came from the urbanites of Thessaloniki in the 1970s and the 1980s. The development of tourism in the highlands of Halkidiki followed the other way around. Tourism in the highlands has been the outcome of an offer addressed to the urbanites of Thessaloniki and Athens. This offer came from the side of local (native businessmen) and non-local actors (EU funding, developmental agencies) in the last two decades. They are those who actually created Cholomondas based on assumptions regarding the utopian desires of middle-class residents of Thessaloniki and Athens. Ironically, the authenticity of environmental and cultural utopias of the highland resorts of Halkidiki depends on the expectations of the urbanites. *Le petit paradis, Halkidiki* exists as an offer to the readers of *Le Figaro magazine* and the urbanites of Thessaloniki and Athens.

³³ B. Spooner (“Weavers and Dealers: The Authenticity of an Oriental Carpet”, in A. Appadurai (ed.), *The Social Life of Things*, Cambridge: Cambridge University Press, 1986) refers to quality issues as “the objective attributes of authenticity”.

³⁴ *Ibid.*, p. 220.

³⁵ In his seminal work, Michael Taussing (“The Beach, A Fantasy”, *Critical Inquiry*, 26 [2000], 248-78) traces the origins of this mentality in the seventeenth century.

A Place of Inconceivable Beauty: The Housing Cooperative of the Professors of the Aristotle University in Vourvourou, Halkidiki

Giorgos Antoniou, PhD

1. Introduction

In the film *The Village* (2004), starring S. Weaver and W. Hart, a group of upper middle-class men and women, fed up with crime levels and the oppressive and distracting everyday life in big urban centres, choose to move to the middle of an isolated forest, without electricity, roads or other infrastructure. It is not about a community renouncing civilisation on religious or ideological grounds, or Amish or hippies. In the community there is a strong sense of discipline and hierarchy. The “Board of Wise Men” that founded the community follows the rules concerning their everyday life with military discipline. This is about an urban utopia in a non-urban environment, a utopia that does not aim at happiness but at the absolute control of life and the condition of the environment. In order to protect community members from making contact with the outside world, the wise men make up stories about monsters lurking in the woods and invent a series of other deterring factors.

Although the reasons that led a group of professors of the Aristotle University of Thessaloniki (AUTH) to create a summer community in Vourvourou were definitely different and certainly more pleasant, the concept of a utopia rid of outside interference and of the prying eyes, comforts and interaction implicit in city life resembles that of the film. As we shall see, there are also similarities as regards the methods adopted to avoid interaction with outsiders in the community’s structure. How did an intellectual elite visualise their own ecological and vacation utopia in the late 1950s? On what standards was it founded? How did it instil the original spirit in about 120 property owners? How did it create an ideological basis to support the development and conservation of the community? How is this system of values, this *habitus*, handed on to the following generations of owners and especially to newcomers? And finally, in general, how feasible is the preservation and perhaps expansion of this specific model of sustainability?

2. The Conception of the Idea and the Path towards the Community

Housing cooperatives appeared in Greece during the development of the social and welfare state in the 1920s. The first legislative provisions were enacted in the context of the urban settlement of refugees following the Asia Minor Catastrophe of 1922.¹ Similar models were followed in the 1950s and '60s as a result of urbanisation in the framework of the general urban development of the time, either in the form of housing cooperatives for the military forces² or as special regulations favouring large families.³ The respective legislative provisions promote the creation of such cooperatives even today. The state benefits from the construction and development of urban or summer houses,⁴ both at the level of implementing tourist and residential policies and also at the level of environmental protection. To this effect, the legislation imposed the provision of high proportions of free public space (30%-40%),⁵ for which the owners are responsible for the maintenance together with the majority of works necessary for the technical infrastructure and support of the communities.⁶

Although it is not quite clear from oral evidence who had the initial inspiration for the establishment of the community (probably Prof. Karanikas), the pioneers and later founders of the community were for quite a while in search of suitable area to establish the community. Some of them were determined to spend a large proportion of their spare time to find an appropriate location for the establishment of their vacation homes. This is the period in which recreational activities and vacations move to the beaches of Kalamaria and Peraia and the villas in Panorama as the city constantly expands. It is the time when the road network also improves and for the first time cars provide increased mobility at the individual level.

The path towards the establishment of the community of the professors of the Aristotle University formally starts on the 1 February 1960 with the drawing up of the mission statement of "The Housing cooperative of the Professors of Aristotle University of Thessaloniki". The founding fathers were professors Dimitrios Karanikas, Ioannis Anastasiadis, Giorgos Tsoutsouloupoulos, Vassilis Charpantis, Georgios Varvoglis, Georgios Nikolitsas, Efthimios Panagiotopoulos, Georgios Deligiannis, Christos

¹ Law 3875/1929, "On the establishment of Urban-Refugee Housing Cooperatives".

² A characteristic example is the Autonomous Housing Organisation of Officers of the Hellenic Army, Navy and Air Forces EL 1563/1950, approved by Law 2113/1952.

³ See article 6, L 1910/1944, "On the protection of large families".

⁴ See article 2. PD 93/1987, which distinguishes between urban and summer housing cooperatives.

⁵ See the relevant enabling provision, article 42 §1, L 1337/1983.

⁶ See the relevant enabling provision, article 42 §1 α' declaring that: "This urban development applies upon condition that the cooperation or organisation a) will grant to the local or regional authority, without remuneration, part of the property as well as the public, community and specific purpose spaces located inside the property and b) will construct and maintain the infrastructure and generally the public works".

Mouloupoulos, Marinos Sigalas, Ioannis Zisiadis, Spiridon Kritikos, Nikolaos Empirikos, Konstantinos Vlachos, Stavros Paxinos, Theofanis Christodoulou, Panagiotis Dertilis, Dimitrios Delivanis, Themistoklis Diaggelidis, Nikolaos Pantazopoulos, Ioannis Kalogirou, Panagiotis Christou, Stylianos Kapsomenos, Linos Politis, Emmanouil Kriaras, Apostolos Vakalopoulos, Vasilios Vogiatzis, Aristovoulos Manesis, Ioannis Deligiannis and Konstantinos Karavas. The housing cooperative charter came under civil law, to the extent that at that time legislation did not provide for the existence of vacation housing cooperatives, and was filed with the Ministry for Northern Greece for approval, while the first Governing Board of the 70-member Association formally became a body at the beginning of April 1960.⁷ The first Governing Board consisted of Dimitrios Karanikas as President, Giorgos Varvoglis as Vice President, Euthymios Panagiotopoulos as Secretary and Ioannis Deligiannis as treasurer. The meetings and the abstracts of minutes vividly record the process of formation of the community. The inspirers of the community are in desperate search of a place for their family holidays. Broadly speaking, they form a highly skilled and sharp intellectual elite that joined forces for a common good and saw potential and future growth where other people saw submarginal, barren areas. At the same time, with the authority innate in their status they were able to overcome with speed and persuasion the difficult bureaucracy involved to achieve their goal.

The first abstracts of the minutes of the meetings of the Governing Board (1960-1961) record the first search of the Cooperative for land to purchase. The earliest quests, according to the evidence, lead the group to Makrygialos in Pieria but this particular idea was soon abandoned. Subsequently, the group turned to Halkidiki. Stergiadis, being a forestry expert, was an excellent connoisseur of the area and initially he suggested an area in Kalandra, in the first peninsula of Halkidiki. At that time, tourist development was only timidly getting under way in this first peninsula, with the state-owned Xenia Hotel in Paliouri aiming to lead a massive tourist wave, which up to then had been limited to the villas of upper class citizens of Thessaloniki. Despite initial agreement, the plan was abandoned as the properties were smaller than desired. It was also important that the land should be essentially publicly owned in order to facilitate its purchase.

The search lasted for quite some time. Soon the founders of the community turned to the much more remote Sithonia, which could be said to be a decade behind in terms of infrastructure and development. Initially the group searched for an area in western Sithonia, which was largely deserted due to the presence of a swamp. Kiki Deligianni, who was a young girl at the time, used to accompany her father I. Deligiannis on some of these excursions, which ended up turning into

⁷ See A. Stergiadou, *Vourvourou*, Thessaloniki, 2012, pp. 109-12 (Minutes No 1, 7.4.1960).

memories of childhood adventures; she describes with precision the virgin landscape.

I remember one trip. On a rutty endless road to Marmaras, I remember a golden beach that you could reach only by boat and it had nothing but a shelter made of reeds. The vegetation was so thick that it was impossible to get to it⁸.

Finally the group settled on eastern Sithonia, between the localities of Fava and Armenistis but due to the inaccessibility of the area the search moved to the location between Fava and Xifaras. Professor of urban planning, Thalís Argyropoulos, who was one of the Community's founders, describes in the following manner the landscape and the potential of the area from his first visit:

A short while after becoming professor at the Department of Urban Planning of the Aristotle University of Thessaloniki, I received a phone call from a colleague, Karanikas, whom I hadn't met before, asking for my opinion – as an expert - on the creation of a vacation community in Halkidiki for the professors of the Aristotle University. I answered that the idea was excellent but before giving my final opinion I would prefer to acquire a first-hand impression of the specific area that was targeted for the creation of the community.

It must be noted that there was no road to reach the area. We arrived there by boat from the nearest port – Panagia Bay – to the beach and then we climbed up a small hill, where incidentally my house stands today.

For the first time I saw through the pine trees, the outline of Mount Athos across the sea and the small bays with the lovely beaches surrounded by the beautiful sculpture-like rocks, the pine trees, the arbutus and the myrtles, the lilies of the sea, the heathers and the broom. The terrain, with small folds and the natural inclination towards the sea and the view to Mt Athos offered an ideal location for the houses.

However not all prospective settlers had the same positive attitude. The founders had to sway the robust resistance of some of the ladies that first visited the area. According to Ethel Papageorgiou:

The journey was quite tiring and as a result we arrived at Vourvourou after approximately five hours. What we saw was a leafy wood. The return was equally exhausting. Most of the professors' wives declared that they did not desire to spend their summer so far away from Thessaloniki and especially in such a rugged place. When Karanikas was informed of their reaction by his colleagues, he said in his characteristic style, "Never mind, the ladies will get over it".⁹

⁸ Interview with Kiki Deligianni, 17 July 2014.

⁹ *Ibid.*, p. 236.

Considering that the community has erected a monument in the Karanikas grove to acknowledge Karanikas' services, it is evident that the ladies justified the exuberant and prematurely lost professor.

The housing cooperative decided on the purchase of a stretch of land of seven hundred thousand square metres in total, initially for 1,500 drachmas per thousand square metres and later for an even lower price.¹⁰ It is characteristic at this point of the start of works that there was an allocation of responsibilities among the founders and members of the association¹¹. Thus, the preparation of the topographic map and town plan is assigned to Stergiadis and Argyropoulos respectively, the sourcing of water to Chorafas and Chalkidis, while Panagiotopoulos and Deligiannis undertake the power supply. The community faces a series of problems at this initial stage (1963): firstly, the need to buy a piece of private property as well, specifically the area next to the Community beach as it is today which then belonged to Elissavet and Stylianos Favas (the name given to the beach today), then the need for fire protection in the area with the creation of a fire protection zone and also the approval of the Greek National Tourism Organization for the development of the beaches of the Community (1963).¹² Despite their laborious efforts, the preparation, the work and the purchase of land took almost a decade. Ownership of the land was granted to the Cooperation around 1963, while in 1968 there was the drawing of lots for the properties. There was a five-year period of spatial planning, urban planning, infrastructure development, selling and buying of land and negotiations with local landowners. The first houses were inhabited in 1971, fairly quickly that is, as the ownership of the property was granted to the buyers only if they completed construction in a reasonable time.

During the first discussions in the meetings of the Governing Board decisions were made to hire a gatekeeper (Mitsos Daldogiannis), who occupies the quite distinctive residence-gatehouse at the entrance of the community in Vourvourou, to purchase an additional private property, and to allow the use of prefabricated houses due to the difficulty of building given the lack of roads at that time (1963).¹³ Additionally the creation of 94-96 plots is suggested (1963) in an area which would occupy an area of three thousand square metres (if located by the sea) and three and a half

¹⁰ *Ibid.*, pp. 113-4 (Minutes No 2-9, 3.5.1960-19.6.1961).

¹¹ It is characteristic, as evidenced in the discussions recorded in the minutes, how the professors made good use of their skills and knowledge in their respective fields (for example Ioannis Deligiannis as a lawyer) both to find practical solutions to promote the community's issues and also in their contact with the government, local authorities and bureaucracy.

¹² Stergiadou, *op.cit.*, pp. 115-7 (Minutes No 16-20, 13.3.1963-13.6.1963).

¹³ The idea was abandoned later, as it is derived from the relevant prohibition which is still valid in the Regulations of Operation of the Community.

thousand square metres respectively (if not by the sea). These ratios are changed later on the basis of a proposal that the allocation is reduced to two and three thousand square metres respectively for the former and the latter (1965).¹⁴ It is remarkable, in relation to the ultimate development of the community, that there is a discussion at the Governing Board at that time both regarding the creation of a shopping centre for the community and a tourist centre to be located at Karydi.¹⁵

Major issues during the first steps of the Cooperative (1965) are the construction of the Agios Nikolaos – Vourvourou ring road, which eventually through the interventions of members of the Cooperative does not cross the Community but passes outside it, whereas the major problem of the water supply is solved by a concession licence from the Municipality.¹⁶ Meanwhile, the Governing Board of the Cooperation gradually attempts to gain the release by the competent public authorities of the 700,000 square metres that have been purchased, a process that moves slowly and demands constant contact with the competent administrative authorities. The Governing Board also calls for tenders for works of infrastructure, water supply, power supply, drainage and sewage system and also road construction.¹⁷ Contact with administrative authorities and solving practical problems regarding the operation of the Community occupies the Governing Board for the period between 1965-1971.¹⁸ The minutes of the Governing Board highlight all the intense efforts of the time that gradually lead to the completion of the infrastructure works of the Community. There is frequent reference to communication of the members of the Governing Board with the relevant administrative bodies, departments of Ministries, Ministers and Deputy Ministers to propose solutions on issues concerning the water and power supply and later telephone communication as well as the respective communication with engineers and contractors responsible for road construction and the respective calls for tenders. In this context, the Governing Board even intervenes in the construction of public projects that would improve the operation of the Community, such as the construction of the bridge built at the end of the ring road to Vourvourou (1971).¹⁹ Meanwhile in 1968 the drawing of lots for the plots of the community takes place for

¹⁴ *Ibid.*, p. 121 (Minutes No 42-46, 16.10.1965-27.11.1965).

¹⁵ *Ibid.*, p. 115-7 (Minutes No 21-25, 5.7.1963-21.10.1963). It is quite characteristic that any plans for economic or touristic exploitation of the Community are later overturned, as it derives from the Regulations of Operation that is adopted from its foundation that any commercial activity is impermissible (shops, night clubs).

¹⁶ *Ibid.*, p. 115-7 (Minutes No 21-25, 5.7.1963-21.10.1963). This is about the springs of Agapitos and Zinozis named after the owners of the properties.

¹⁷ *Ibid.*, p. 121 (Minutes No 42-46, 16.10.1965-27.11.1965).

¹⁸ *Ibid.*, p. 121 (Minutes No 51-108, 2.9.1966-10.8.1970).

¹⁹ *Ibid.*, p. 137 (Minutes No 109-114, 25.9.1971-6.2.1971).

the members, leaving some of the founding members of the Community "disappointed".²⁰

In 1971 the Governing Board starts essentially to hand over the project of the Community. Based on a rough review at that stage, a) provision of electricity to the Community has been completed, b) the final document conceding ownership of the land of the Community has been delivered and would be transferred onwards to each of the shareholders of the Community, c) works on the National Road have advanced significantly and as a result access to the Community has become easy for the inhabitants as the enlarged junction leading to the Community has been completed, d) telephone connection for the Community has been achieved and is realised in the same year, e) works begin for the provision of power supply for public spaces, while f) titles of ownership are given to the first members that have completed the construction of their houses (among them Ermis Iliopoulos, Charalampos Frangistas, Vassilios Skouris, Vassilios Vassilakakis, Aggelos Kapsomenos, etc.).

In 1972 with the Community having started to take its first solid steps, the Governing Board decides to safeguard the borders of the Community and buys neighbouring areas to guarantee "peace and safekeeping". In the end, these plots are not bought by the Cooperative but by shareholders privately, to avoid the ensuing bureaucratic problems.²¹ Simultaneously, the departure of some shareholders leads the Cooperative to the first sale of plots, from which it gains a significant profit, as it compensates departing shareholders with the sum of 132,525 Drs and then sells the plots for prices of 200,000 Drs or 250,000 Drs (depending on the location).²²

In 1974, the Community is confronted with its most important legal problem when the Ministry of Finance decides to recognize the ownership by the Holy Monastery of Xenophon of a forest area in the peninsula of Sithonia, part of which belonged to the Community. The Xenophontos Monastery intended to sell this land to the public limited company SEKKA, belonging to the Vardinogiannis Group of companies and was bound when signing the contracts to invite the Cooperative to recognize the validity of the concession of land, which did not take place. During the same period, the construction of the church of St Theonas starts, designed by Professor of Architecture Nikolaos Moutsopoulos, and is completed with the donation of Eugenia Fragista in 1976 in memory of her husband Charalambos Frangistas.²³ In the same year and after a series of interventions, the Ministry of Agriculture annuls its decision granting ownership of the Sithonia forest to the Xenophontos Monastery, which leads the

²⁰ Among them Ioannis Deligiannis, who did not take a seaside property.

²¹ *Ibid.*, p.142 (Minutes No 130-135, 16.6.1972-21.12.1972).

²² *Ibid.*

²³ *Ibid.*, pp. 146, 151 and 216.

Monastery to appeal to the Council of State, to which the Governing Board of the Cooperative decides to make representation. The issue however is resolved by compromise when, just before the Council of State hearing, the intended purchaser of the land, SEKKA plc of the Vardinogiannis Group, declares to the interested farmers of the village of Agios Nikolaos and to the shareholders of the Professors' Housing Cooperation that it recognizes their ownership rights in the area.²⁴

Dimitris Karanikas' death in 1975 leads to changes in the Governing Board and thereafter Ioannis Deligiannis becomes president. The Cooperative continues to grant ownership titles to those members that have completed the construction of their houses, whereas some of the major issues that concern members are procedural matters, such as the naming of streets in the community and the renaming of the wood in Karydi to Dimitris Karanikas Wood.²⁵ During that time the community gradually resumes daily operation and the main topics of discussion are related to fire protection, private policing and the need for additional and maintenance works.

Reading the minutes, it becomes obvious to the reader how the idea of the community was gradually realized, who the people were that led its inception and also what the evolving strategy was that was adopted for its implementation. Evidently, it was a challenging project, due both to the bureaucratic problems and also to the natural conditions at that time with the lack of transportation and infrastructure. It is also evident that despite the difficulties, in the end the founders and members of the Cooperative achieved the targets set to a great extent. The great power of the particular Cooperative lay – and this emerges quite eloquently when reading the minutes of the meetings of the Governing Board – both in leveraging the expertise of the professors in particular fields which greatly contributed to the implementation of the project as a collective effort as well as in their ability to mobilize the state mechanism due to their authority innate in their positions as university professors.

3. The Environment of the Community of the Professors of AUTH through the Internal Regulations of Operation

The regulations concerning the operation of the community of the professors of the Aristotle University²⁶ were drafted by Ioannis Deligiannis, Professor of Civil Law at the Law School of the Aristotle University of Thessaloniki, founding member of the Housing Cooperative. The regulations, which entered into force from the date of operation of the first twenty houses²⁷ of the Community, were proposed and adopted at

²⁴ *Ibid.*, pp. 148-9 (Minutes No 156-161, 7.7.1975-21.11.1975).

²⁵ *Ibid.*, pp. 148-53 (Minutes No 156-181, 7.7.1975-3.6.1978).

²⁶ *Ibid.*, p. 179.

²⁷ Defined as "villas" by the Regulations of Operation in article 30: *Ibid.*, p. 188.

the meeting of the extraordinary constitutional general meeting of the Cooperative in 24 February 1972.²⁸ The Regulations of Operation of the Community is in two parts, of which the first essentially records and sets the targets and the expectations of the members of the Cooperative for the promotion of the natural environment of the area, the protection of the natural landscape, how to deal with town planning needs and the conservation of the Community as well as the relationship with third parties, local people and non-members of the Cooperation.

The Regulations of the Community define the meaning of public spaces in article 2.²⁹ The text of the Regulations reflects the reality encountered by any visitor to the Community, specifically the great care taken by the founders and members so that the public spaces balance the residential environment. The Community is distinguished by the high proportion of green areas, streets and public spaces in relation to the residential environment and the houses.³⁰

The projection and the future aims of the founders and members of the Community for the creation of a number of houses that would be in balance with the environment and respect collectivity is recorded in article 2 of the Regulations. Thus, the following areas are recorded as public spaces: a. streets, squares and parking spaces with pavements, kerbs and similar technical works, b. Main and secondary pedestrian streets, c. Areas next to the beach (on the condition that they should not be parts that belong to the public shoreline or seaside)³¹ which are designated as entrances and rear parts of beaches visited by people inside the Community, d. market or other utility projects or locations for religious purposes that are included in an approved town plan, e. the public green areas, the water supply system of the Community consisting of the springs "Agapitos" and "Zinozi", f. the gatehouse, g, fencing, sewage system and lighting of roads and squares.

²⁸ *Ibid*, p. 188.

²⁹ *Ibid*, p. 180.

³⁰ As characteristically noted by the Professor of Urban Planning Thalís Argyropoulos, who cooperated closely with the founder of the Community, Dimitris Karanikas, "We proposed for every property to define an area within which buildings could be constructed so that the view from the neighbouring houses would not be obstructed. We also proposed specially pre-designed standard constructions for sewage and drainage network which in the future would result in a biological treatment unit. Besides the streets and the plots, the town plan has enough land as free public spaces necessary for the Community to maintain the desired character of countryside": T. Argyropoulos "Urban development interventions" in A. Stergiadou, *op.cit*, pp. 201-8 (203).

³¹ "Shoreline" is defined as "the fringe of land that borders the sea, where the sea waves ebb and flow" article 1, §1, Law. 2971/2001 "Shoreline, beach and other provisions": Government Gazette, A' 285/19.12.2001. "Beach" is the stretch of land added to the shoreline, with a width of up to fifty (50) metres from the boundary of the shoreline, to facilitate communication of land and sea and vice versa. See article 1, §1, Law. 2971/2001 "Shoreline, beach and other provisions": Government Gazette, A' 285/19.12.2001). Both "Shoreline" and also "Beach" are public communal goods, goods to which everyone has access including, apart from the inhabitants of the Community, the local people, passers-by, tourists etc. See more specifically article 967 of the Civil Code.

Regarding architecture, the lack of a common aesthetic and architectural identity of the community is reflected in the lack of common projects and is visible in the lack of similarity of the individual houses. This can also be noticed when reading the regulations of the community. Thus, obligations regarding a common aesthetic and architectural design appear to be very limited for the inhabitants. For example, article 3 determines that “the houses to be constructed in the plots must display harmony on the exterior and architectural aesthetic quality”, which basically allows a completely free framework for the architectural design of the buildings. In fact, the exterior harmony of the houses is ultimately achieved through the great “natural spaciousness” of the Community and through the protection of the natural landscape, which according to article 9 of the Regulations is the major concern of its inhabitants,³² as is eloquently stated in the relevant restriction on lighting fires and the danger to the forest surrounding the Community³³, as well as the need to maintain the public spaces clean³⁴ and the restriction on wall posting and hanging signs.³⁵ A minimum standard of material investment for the creation of the houses of the Community is set by article 5, which determines that “The houses must have the required stability through permanent works. Wooden constructions are forbidden”.

Especially important also are the restrictions of activities and land use imposed in articles 4 and 12, which clearly show the intention of the founders and members of the cooperative that the Community operate exclusively as a residential complex and clearly of “family” character. Respectively, these restrictions enshrine the founders’ and members’ intention not to turn the Community into an attraction for local people, passers-by or tourists in a way that would disturb the natural tranquillity of the Community.³⁶ In this context, article 4 of the Regulations stipulates that “the construction of buildings for any other purpose than housing is prohibited, i.e., designed for selling food or other goods, for exercising any profession, for their use as restaurants, ho-

³² Article 9 Regulations of Operation of the Community of Professors of AUTH: “The inhabitants are obliged to maintain the open spaces on their property and to replace the damaged trees”: Stergiadou, *op.cit.*, p. 182.

³³ Article 11 Regulations of Operation of the Community of Professors of AUTH: “It is absolutely forbidden to any inhabitant to light a fire in the open space of their properties or the public spaces or to engage in any other action that would endanger the forest”: *Ibid.*, p. 182.

³⁴ Article 16 Regulations of Operation of the Community of Professors of AUTH: “Any damage to the public spaces and property belonging to the community. The inhabitants have the obligation to maintain the streets, squares and public spaces completely clean”: *Ibid.*, p. 184.

³⁵ *Ibid.*, p. 183 Article 14 Regulations of Operation of the Community of Professors of AUTH.

³⁶ In contrast, it follows that the target of the members and founders was to create more spaces for common recreation, a target that was not achieved. Characteristically Argyropoulos remarks that many spaces were left free in the original design of the Community in order to be sold later to the cooperative and “the money to be spent for utility purposes, e.g., construction of underground sewage and utility network, maintenance, spatial planning of meeting areas, boathouses, playgrounds, kiosk, etc.”: Argyropoulos *op.cit.*, p. 203.

tels³⁷, clinics or hospitals. It is evident from this record and from article 2 of the Regulations referring to the projection of creating a “market” that it was the founders’ intention that any form of trade would not be allowed in the Community except as a temporary activity, e.g., in the form of an open, street market which would operate and be integrated in the public spaces and not as a permanent structure in the town plan. It is evident from this restriction that from the founders’ and members’ perspective, the Community was always understood to be a complex of houses and not something more, such as a community or a small village. Moreover, this restriction clearly aimed at avoiding the attraction of third parties, local people or passers-by whereby the former could benefit financially from the operation of the Community through business and commercial activities to which the latter would be drawn. The intention of the members of the Community not to give their endeavour a developmental character for the area in general is clear in this context.

Meanwhile, the “family” nature of the Community is recorded in article 12, which clearly prohibits “the use of the properties or the houses on them for gambling or as dancing clubs and generally as centres of leisure and entertainment, restaurants, cafes, and generally for purposes that disrupt the peace or disregard the safety, health or morals of the other inhabitants.”³⁸ This restriction also supports the central aim of the founders and members of the Community to preserve the nature of the Community as a housing complex for family vacations. It is evident that despite the reference to the “safety, health and morals” of the inhabitants the majority of these restrictions are mainly aimed, on the part of the founders and members, at ensuring firstly that the Community does not function as an economic and tourist development project in the area and secondly that it does not attract local people or outsiders, such as passers-by and tourists, for any social activity, e.g., with recreational and entertainment venues. This concern is evident in other provisions, such as parking restrictions and traffic controls concerning cars and boats. These restrictions clearly indicate the fear of the members and founders of a possible “overpopulation” of the area or touristic exploitation of the public spaces and beaches. Thus, according to article 15 of the Regulations, “Parking of vehicles is not allowed beyond the time required. In addition speedboats that may endanger the life or physical safety of bathers are not allowed near the beach”.³⁹

³⁷ However it is possible to let houses according to the Regulations of Operation article 10: “Internal order. According to articles 3-9 of the Regulations, every inhabitant is entitled to use his property and his house as he wishes either for private use or for hire”. It is obvious from the general spirit of the Regulations that hiring is not understood as something temporary but something long-term (per season) aimed at families and adapted to the nature of the Community.

³⁸ Stergiadou, *op.cit.*, p. 182.

³⁹ *Ibid.*, p. 184.

In the very interesting Regulations of Operation of the Community there is a provision for fines of around 500 drachmas in the case of violation of specific restrictions which apply both to the owners of properties and also to the future heirs or tenants.⁴⁰

The second part determines the bodies responsible for supervising the operation of the Community, the Governing and Supervisory Board, sets the annual financial contribution of the residents and also defines the competent officer for the resolution of disputes among the residents of Community (the respective president of the Bar Association of Thessaloniki).⁴¹

4. The Community's Spirit. People and Environment

The Regulations of Operation, despite their strictly legal character, mainly due to its author, Professor of Civil Law Ioannis Deligiannis, reflect many of the characteristics that still form today an integral part of its current status: the idea for the construction of a group of houses of a primarily family character, the idea of privacy and isolation of the Community from Sithonia's urban and touristic development, but also its balanced implementation in the existing natural landscape, which is the natural border between the Community and the village of Vourvourou. The rigour of this plan is reflected in the very image of the current Community. Despite the heterogeneity of the architectural design, the residences are on the whole simple, without extremes and luxury, and well-adapted to the natural landscape, which through the abundant space available effectively "isolates" the residences and provides residents with privacy. The architectural heterogeneity seems odd, since one would expect a collective effort such as this to set some strict rules regarding design. However, in fact it is justified in the will of the Community's founders and members not to create a community after all, but to facilitate the mutual co-existence of the residents as equal members⁴².

With respect to the social dynamic that developed within the community, it is worth noting that, despite the fact that the Community is linked exclusively to the Aristotle University of Thessaloniki (AUTH) professors, from the very first moment about one third of the land was allocated to persons without any connection to AUTH. This initial obligatory choice was a first defeat for the principles of the first residents and still today those without any connection to AUTH form a distinctive group within the Community. The reason for the choice was clearly financial, since the AUTH members were insufficient to cover the 120 pieces of land that had to be allocated. Nevertheless, the selection criteria for those that would be allowed to buy land were strict, the most important being the recommendation by one of the found-

⁴⁰ See Article 8 Regulations of Operation of the Community of Professors of AUTH: *Ibid*, p. 181.

⁴¹ See Articles 19-30 Regulations of Operation of the Community of Professors of AUTH: *Ibid*, pp. 184-9.

⁴² Interview with Orestis Kalogirou, 27 September 2014.

ing members. A prominent example is the story told by the son-in-law of one of the Community's founders:

my father-in-law was a close friend of X. One day he told him: I am in financial trouble, could you lend me 5,000 drachmas? I will return it soon. X. indeed lent him the money and my father-in-law bought him, without his knowledge, a piece of land in the Community. His family still comments on this.⁴³

Consequently, from the start, the control of the identity and social status of the residents was of major importance for the preservation of the Community's spirit. Even today, if a resident decides to sell his land, the Community's Governing Board has the right to counter-propose a buyer in accordance with the profile of the residents⁴⁴. Quite interestingly, current residents have waited up to ten years to find the proper opportunity to buy⁴⁵.

Undoubtedly, despite some criticism regarding the specific favourable terms of land acquisition, the community is a unique example of harmony between human population and nature. Despite the problems occurring during its 50-year history, it is a model of sustainability and reasonable development of the environment to the benefit of society; a model difficult to follow as an example, due to its particularities.

The Community's principal particularity is that it is actually a community isolated from the world and its influence, a village of Asterix, as many of the residents used to say. The gradual implementation of complete prohibition of commercial use and space within the community deprived the community of the ability to develop financially as a development model attracting tourists in order to raise capital. It was the choice of the first residents to avoid at all costs any short-term economic activity, not only within the community but also in the immediate vicinity. This prime choice, in combination with the extremely strict internal regulation (the Community's constitution) and also the so-called "Community spirit" (the Community's common law) have gradually led to a habitus of the residents, a habitus based on a particular ideology shared by the majority of the residents.

In this ideological system, the Community's forefathers, the founders, are personalities of high standing who enjoy the admiration, appreciation and gratitude of the residents for their insight and the selflessness of their endeavours. It is worth noting that they were fully aware of their contribution and they welcomed the resulting symbolic and honourable administrative positions. Beyond its constitution and common law, the Community also has a political system, an "aristocracy".⁴⁶ Typically

⁴³ *Ibid.*

⁴⁴ Interview with Kiki Deligianni, 17 July 2014.

⁴⁵ Interview with Nikos Moussiopoulos, 2 August 2014.

⁴⁶ It is typical of the interviews that residents referred to "elders" or "patricians" in order to describe the status of the first generation of residents.

enough, the second generation of the initial residents is consistently in charge of the community, with the exception of a brief and rather unfortunate transitional period.

The historic presence in the community is of great importance, since it is related to the implementation of its value system. When I called a resident for an interview, a full professor replied that “but I have been in the Community for less than a decade”, considering himself unauthorised to express his views, while in a relevant discussion regarding the Community’s future, another “newcomer” professor was characterised as “newbie” and it was suggested to him not to be in a hurry to express his opinion.

Some other elements of this democratic elitism are related to the love of nature and primarily to the will to keep the landscape unaltered. The privacy ensured by the existent spatial planning in combination with the absence of commercial activities provides an urban liberty, expressed mostly through the dress code for adults and especially young people, who move freely within the Community, in an effort to get the second generation of the Community, who grew up during its maiden period, to pass on to the Community’s third generation the authentic experience of the unmediated contact with nature.⁴⁷

The Community’s environmental practices are directly connected with the Community’s spirit and maintaining the quality of life and sustainability. The water management in the area was a matter of serious concern from the beginning due to the limited availability of drinking water in the vicinity. Almost simultaneously with the Community’s foundation, the cooperation located and acquired a license for the use of two springs, as mentioned above, on the slopes of a nearby hill. Initially, the basic needs of the first 20 homes were easily covered. The larger however the community, the greater were the needs. The villas were already built and the garden design, mostly with lawns, required too much water. The tank of 250 cubic metres proved too small. Kiki Deligianni remembers that

everybody tried to fulfil their dreams regarding gardens. K., from the School of Agronomy, designed for us a marvellous English “four seasons” garden with different flowers in each corner of the garden, lawn and a small lake in the centre, as if we were in Cornwall. When the Governing Board saw it, they made an announcement that lawns were prohibited and that all gardens should be adapted to the landscape. In 1977 we burnt the lawn; my mother mourned for this garden. Four or five years after the event, we would still argue about this issue in our home.⁴⁸

The architect Kotsopoulos also started his own lawn garden but soon abandoned this water-expensive enterprise (the stupid lawn, “chazon”, so called in amusement by another founding member, N. Moutsopoulos) in favour of local hardy plants.⁴⁹

⁴⁷ Interview with Christina Deligianni, 11 September 2014.

⁴⁸ Interview with Kiki Deligianni, 17 July 2014.

⁴⁹ Interview with Tasos Kotsopoulos, 3 August 2014.

The increasing pressures due to population growth led the community to create another two tanks, 500 and 1,000 cc respectively. Because the water supply is calculated using hydro-collection and not drilling, the sustainability of the water is assured. Despite the efforts of the Agios Nikolaos community to control the sources and supply the local hotels, the village has managed to become fully sustainable and water sufficient. Regarding its famous gardens, the Board decided the cost of water consumption to grow exponentially if consuming over two to three cubic metres a day as a deterrent to excessive consumption, a measure that has brought about a balance between consumption and related revenues allocated to network maintenance.

The disposal of waste is yet another example of respect for the environment by the community. From the very beginning, it was decided to invest in fixed underground waste containers (concrete cubes with metal lids) which are not visible and therefore do not affect the landscape negatively. Simultaneously, the community collects waste at private expense and delivers it to the Community bins and vehicles. Special attention is paid to the cleanliness of the beaches, again using the private funds of the cooperative, a matter which has raised debate because the main environmental impact on beaches is caused mostly by visitors to the village and not by the permanent residents themselves.⁵⁰

The issue of common use areas reflects the overall goal of the founders and members of the Community to create a complex of houses with useful public spaces, a plan only partly implemented as a result of the emphasis on privacy and anti-commercial use. So with the exception of the Church of St. Theonas and the overall environment, the plan to create squares and sidewalks did not materialize. Similarly, the creation of a market was not achieved nor were other public spaces, though mentioned in the Regulations. The result was the creation of a community with little or minimal residential intervention in creating spaces that might denote a "common identity". The result is naturally in favour of the natural environment since, because of the lack of common use areas, the community has retained a wild, natural character, dominated by the natural vegetation of Sithonia, which indeed in many parts of the Community area unites with the view of the mountain vegetation and the overall landscape, giving the impression of a group of residences in the middle of the countryside.⁵¹ Of the projects mentioned, one can observe the car parks located together with the stone steps and curbs at the entrances to the beaches, the guardhouse, now abandoned, at the entrance of the settlement, the street lighting but also com-

⁵⁰ Interview with Orestis Kalogirou, 8 August 2014.

⁵¹ Argyropoulos characteristically observes that "The principle guiding the street network plan of the settlement was adapted to the character of the landscape by not applying the usual drawing of horizontal and vertical arteries (The Hippodamian system usually applied to any new settlement)": Argyropoulos, *op.cit.*, p. 203.

munity fire-fighting infrastructure, one of the great issues of its founders. As approximately fifty per cent of the space is shared, entire regions of privately owned forest (but also shared by the community) combine with the greenery of the land. The sense of continuity of greenery achieved is also due to the insistence of most owners to not fence in their plots, a sign of confidence in the good terms of symbiosis achieved amongst the settlers.⁵²

Architecturally, as seen in the Regulations, there is no single aesthetic and architectural implementation plan. Undoubtedly the Settlement is now showing its age, as most buildings are based on constructions made in the 1970s, albeit with adjustments. The initial provision for prefabricated housing was banned following the severe criticism of Prof. Moutsopoulos. The terms of the building regulations provided for ten per cent coverage and a twenty per cent floor space ratio, conditions minimally covered. The largest architectural issue was the coupling of buildings with the forest. According to Mr. Kotsopoulos, the respect for building limits and metric sizes has enabled the successful coexistence of two seemingly disparate elements. As regards the possible limitation of the forest area by the buildings, most settlers convincingly argue that human presence has enriched and protected the greenery of the Community. Both the diligent fire protection system, as well as the care of trees and their enrichment with new species brought by the settlers resulted in the increase of greenery and its protection.⁵³

Regarding the buildings themselves, some are characteristic of Greek modernism, using raw concrete and wood, while others follow the traditional architecture of Halkidiki. Broadly speaking, flagrant constructions have been avoided as most settlers built quickly using loans and their economies. The great challenge for the future of the village as a residential settlement is the increased need of families for more space and more buildings. Although the Building Code now allows the construction of a second or third building on the plot the internal rules of procedure of the settlement insist on the requirement of a sole building. As a compromise, the case for the erection of a second building can be made only where there is a distance of no greater than 10 metres between the buildings and both are joined architecturally in order to prevent disjunction of the landscape.

The relationship of the settlement with external elements was always ambiguous. The undisputed elitist attitude and the need to defend public space and especially the much desired beaches led to controversial and varying attitudes towards external stimuli. Hesitation to give interviews is characteristic, where it is intended for publication in newspapers, not wanting to draw attention to the existence of the community. The relationship of the community with the locals was established from

⁵² Interviews with Tasos Kotsopoulos, 3 August 2014 and Orestis Kalogirou, 8 August 2014.

⁵³ Interview with Tasos Kotsopoulos, 3 August 2014.

the start, especially with the village of Agios Nikolaos. The firm prejudice of the locals against all settlers is that the “academics” acquired the “best part” of the region on preferential terms. The tradition of hostility with regard to land and water has to do with local attitudes and the fact that due to the extremely limited economic activities of the village, the locals benefited minimally at the economic level (with the exception of those who worked on the construction of houses, those recruited as workers for the Community or those providing food supplies).

Simultaneously, the structure of the road network with its many “dead ends” making it inaccessible to foreign “passers-by”⁵⁴ together with the environmental “spaciousness” often confuse those who do not know the settlement well and who even risk getting lost in the area as it is, overrun by greenery (“fortunately” as remarked one interviewee at my reference to this point during the interview). The limited internal roads of the village also contribute to this, as well as the curved side of the beach and also the general lack of references and signposting, which do not facilitate the orientation of the passing visitor, who basically must rely on distinguishing the features of houses (if noticed or remembered) rather than signs or characteristic points of reference, communal buildings, etc. As a result, the route within the village for the uninitiated visitor often becomes labyrinthine.⁵⁵ At the same time, much access to the beaches of the community remains “hidden” for the passing visitor, as consisting of paths or stairs designed into the housing spaces or the public areas but marked to facilitate the settlers in their access to the sea⁵⁶.

Typical of the relationship of the community with external visitors is that for an indefinite period of time the settlement was protected with control gates and a guard who allowed entrance only to landowners. This tactic seems to have stopped at some point for legal reasons, around 1973 according to some testimonies. Today there have been proposals for a possible parking charge for visitors, both to prevent a large number of visitors and secondly to ensure revenue for the maintenance of the main beaches. But the majority of the settlers have accepted the undeniable invasion of bathers on the beaches of the village with friendly stoicism.

⁵⁴ Stergiadou, *op.cit.* p. 121 (Minutes No 42-46, 16.10.1965-27.11.1965).

⁵⁵ See suggestions in Argyropoulos, “The traffic in the village is always annoying but mostly dangerous. If exclusion is unenforceable, the only possible reaction is for roads to be channelled to the minimum number of arteries. This can only be done with proper planning and not with police regulations and signalling. Specifically, only two major arteries were designed, one by the highway, funnelling visitors to all obvious destinations, and the second, by the developing settlement location “Vourvourou” towards the same destinations, houses and beaches. Routes for cars are smoother and more natural, depending on their destination and it is unnecessary for travel on roads that are to a large degree dead-ends. Various trails and walkways shorten distances between roads and access to the beaches”: Argyropoulos, *op.cit.* pp. 206-7.

⁵⁶ Characteristically, labelling exists only for “Walnut Beach”, the most well-known throughout the region and totally overrun by crowds of visitors. Essentially the beach is now cut off from the life of the village while the signposting subtly guides the visitor out of the settlement.

5. Changes and the Future of the Community

In the long course of the settlement, this distinctive spirit of coexistence of people with nature and the spirit and letter of an internal law was rarely threatened or indeed violated. Moreover, the gradual increase in the value of the Community's Land soon became associated with a particular identity. In practice this meant that the sustainability model chosen by the first settlers and continued by their successors was at the same time in terms of "investment" far more efficient than conventional forms of commercial land use.

At the same time, prospective buyers are attracted precisely by the spirit of the Settlement. And the unwillingness of most settlers to sell is associated primarily not with economics but with the personal and experiential relationship that has developed in the space.

The compromise of settlers mentioned earlier with respect to small-scale commercial activities was made in order for the community to remain undefiled in spirit. At the end of an era, marked by the withdrawal from its administration of the first generation of those who inspired the settlement, the first serious crisis of identity of the settlement arose and challenged first timidly, then more strongly its nature, perspective and future. A new group of settlers, who saw major economic and housing opportunities in the region as an investment opportunity for economic prosperity and for its further development, temporarily persuaded some members to go ahead with large-scale interventions and investments.

The construction of a marina (which had been discussed at an earlier date) and the modernization of common spaces (using the method of regeneration - domestication of the landscape in favour of various kinds of construction projects) were proposed as methods of "Europeanisation", of modernization and of the opening of the settlement to quality tourism, while ensuring considerable revenue to the cooperative.

The internal discord led the second generation of the first settlers to take over administrative responsibilities in the cooperative and to ensure its loyalty to the original values. Consequently, the move was quickly rejected by a large portion of the second generation of settlers, mostly children of the first leadership team, and also by most of the AUTH academics. The spirit of the settlement was thus soon restored and the threat of disruption of the inter-communal consensus finally eliminated projects that deviated from the original spirit.

More serious consequences arose fifteen years ago with a founder's decision to sell the plot to a contractor, who breached the rules of procedure and erected 6 houses. Although admittedly not architecturally challenging and harmoniously tying in with the landscape, the blatant violation of internal regulations made the settlers join forces and take the investors to court. The case was won in the courts and the

cooperative won the right to demolish certain maisonettes, a right which the community currently uses "selectively" as a deterrent against similar threats.

In conclusion, the Village represents an impressive design and implementation of a large project that maintains an even more impressive quality of life and environment through good governance and rational response to a problem of collective action and understanding of the common interest. In the words of Nikos Moussiopoulos, the settlement

constituted a critical mass of people with a common temperament opposed to the usual, general mess, who promoted the common good against the short-sighted interests of the individual owner [...] with a better understanding of how one's relation with the environment works. With Prussian dedication they succeeded.

Sustainability and the increase in land value through the avoidance of exploitation of the landscape are the exception rather than the rule in a region where anarchy and short-term profit dominate. The fact that the above have been achieved by an urban, intellectual elite makes the example rather unique. Elitism has also been a key component in the success of the operation as limited buying and selling prevented the alteration of the character of the settlement, while the strict control of the rules of procedure and the Board in the role of guardian of the community's values deterred any deviations. As a result, the settlers feel a special pride and have gained a distinct, strong, identity, having linked their lives with the settlement. Although they share and defend the same vision, the settlers can hardly be considered as a collective since values of privacy and the use of the settlement as a retreat dominate, as betrayed by the lack of communal infrastructure.

For the future the main issue is the transformation of an intellectual and partly economic elite into a middle class, to employ socio-economic terms. Many settlers are facing financial problems and find it difficult to maintain a costly collective. The economic risk may result in deterioration of the settlement through unwanted purchases and sales (for example to Russian buyers) and the entry of new settlers who would not be guided by the same principles. The anonymity of the settlers constitutes a threat to its future as the accountability and social control practices on which the social structure of the settlement was based would collapse.

According to other settlers, the community needs to look to the future with a fresh look, passing the baton to third generation settlers who will comply with the basic principles that characterize it and who could, via "green" mild growth, modernize an aging settlement and turn it into a vehicle which pioneers innovative sustainability applications. Otherwise the Community is condemned to decline.

Halkidiki as Natural and Human Environment: An Overview of its Representations in Art from the Fifteenth to the Twentieth Century

Glafki Gotsi, PhD

As a separate geographic concept and cohesive unit, Halkidiki has been visually produced and represented in maps. However, works of art have focused mostly on particular parts of the whole of Halkidiki and have provided an imagery that appraises the value of the depicted locations not as geographic entities but as lived and variously perceived places.¹ What follows is a brief account of the region's artistic representations; that is, depictions of its distinct areas in engravings, drawings and paintings, from the early modern period to the last decades of the twentieth century. Given the broadness of the subject and the abundance of the relevant images, the analysis attempted here aims at tracing and describing the main and most significant approaches that have appeared in art regarding the relationships between culture and the enviroing field in which the former has developed. As it is hoped to become evident, various and often incompatible approaches were proposed or adopted in different eras by art producers, who with their own materials and technical means recorded, commented, embraced or opposed activities, experiences, habits and ideas concerning the formation of the natural environment of Halkidiki's parts through human mediation. The acknowledgment and study of these approaches designates the multiple contributions of art works to what J. Donald Hughes would call an environmental "history of culture and ideas".²

¹ The concept of the lived space of art is proposed by Gaston Bachelard in his book *The Poetics of Space*. Cited by Yannis Skarpelos, "I Ellada tou topiou kai to vlemma ton peiriigiton" [The Greece of Landscape and the Gaze of Travellers], in Panagiotis N. Doukellis (ed.), *To elliniko topio: Meletes istorikis geografias kai pros-lipsis tou topou* [The Greek Landscape: Essays on the Historical Geography and Perception of Place], Athens: Estia, 2005, p. 228.

² "[...] at least in one of its aspects, environmental history can be a history of culture and ideas. It asks how attitudes affect human actions in regard to natural phenomena, and in search of an answer, describes what the significant views were on the part of individuals and societies": J. Donald Hughes, *An Environmental History of the World: Humankind's Changing Role in the Community of Life*, London and N. York: Routledge, 2001, p. 4.

1. Early Modern Period – Nineteenth Century

In the early modern period and until the end of the nineteenth century Halkidiki's depictions were mostly restricted to images of the peninsula of Athos.³ Mount Athos and its monasteries were places of interest as sites of pilgrimage or scholarly research, of adventurous quest and exotic curiosity, or of aesthetic pleasure.

Until the seventeenth century the common images of Athos were maps created by travellers and geographers for the purposes of practical information and theoretical knowledge. One of the earliest examples, a watercolour drawing with the title 'Mons Sanctus' by the Florentine monk and geographer Cristophoro Buondelmonti,⁴ is included in his cartographic work *Liber Insularum Archipelagi* (Book of Islands), first composed around 1420. It shows Mount Athos as a flat yellow area surrounded by a green zone and repeated curves as contours. While the drawing is part of a systematic effort for truth and accuracy, it is nevertheless executed with a certain freedom and arbitrariness in the use of lines and colours, since is not based on mathematic calculations or any other techniques of measurement used in later cartographic works.⁵ This rather random approach to regional geomorphology and nature is completed by the three-dimensional representation of four monastic clusters on the yellow surface, which are all designed according to a single architectural pattern: an enclosed area that contains a big church.

The same three-dimensional rendering can be detected in sixteenth-century maps as well, where the application of mathematical and geographic principles and techniques is combined with the relief of geophysical morphology and the linear perspective of edifices, as for instance in a wood engraving from the cartographic work *Isolario*, published in 1528 by the Paduan cartographer and engraver Benedetto Bordone,⁶ or in an etching from 1553 by the French naturalist and physician Pierre Belon du Mans.⁷

Occasionally, apart from the cartographic images, a closer view of Athos was also adopted, giving thus prominence to a more direct experience of a particular site of the

³ An exception to this can be seen in two aquarelles from about 1520-30 included in the book *Kitabi Bahrive* (Book of the Sea) by the Ottoman Piri Reis, where Halkidiki is displayed as a whole. See Theochari M. Provatakis, "O Athos kai i Halkidiki apo to 16o os to 19o aiona mesa apo charaktika erga technis Ellinon kai xenon kallitechnon" [Athos and Halkidiki in Artistic Engravings by Greek and Foreign Artists from the Sixteenth to the Nineteenth Century], in *Praktika tou protou panelliniou symposiou istorias kai archaiologias Halkidikis* [Proceedings of the First Panhellenic Symposium on the History and Archaeology of Halkidiki], Polygyros, 7-9 December 1984, Thessaloniki 1987, p. 330, ill. 1 and p. 337.

⁴ *Topos kai eikona: Charaktika xenon perigiton gia tin Ellada apo spania vivlia tis Gennadeiou Vivliothikis, Mouseiou Benaki, Idiotikon Syllogon* [Place and Image: Foreign Travellers' Engravings of Greece from Rare Books at the Gennadius Library, the Benaki Museum, and Private Collections], vol. 1, Athens: Olkos, 1979, p. 31, ill. 25.

⁵ *Ibid.*, p. 174.

⁶ *Ibid.*, p. 93, ill. 73.

⁷ Pavlos M. Mylonas, *O Athos kai ta monastiriaka tou idrymata mes' apo palies chalkografies kai erga technis* [Athos and its Monastic Institutions in Old Etchings and Works of Art], Athens, 1963, ill. 3.

peninsula's mainland, as for instance in the woodcut of an unknown artist from 1550.⁸ In this case pilgrims and travellers were depicted heading to the top of the mountain along narrow and upward paths, which stressed the difficulty of the procession and could generate feelings of excitement to adventure seekers. Sometimes mythical rendering prevailed and the land was transformed into a strange, almost remote place that recalled the representation of other geographic spaces, for example the Alps, as we can see in an etching by an unknown German artist from 1688.⁹ Whereas these works were mostly products of fiction and artistic habit, their imagery points to the actual problems and obstacles a visit to the peninsula involved.

In the eighteenth and nineteenth century the representations of Athos, which were destined to be used as souvenirs for pilgrims and travelling monks or to contribute to the promotion of the region in the world,¹⁰ aimed not only at informing the viewers but also at stirring their imagination or inciting their visual pleasure. One usual type was the profile view, where the peninsula was depicted as a lively, habitable space with three-dimensional features, and not as a shallow cartographic surface scattered by signs. Viewed from a distance and from the level of the sea,¹¹ also present in the scene, the mountain as well as the hills and the flat areas of the land were shown dispersed by trees and monastic buildings, as for instance in the etching from 1701 by an unknown artist included in Ioannis Komninos' pilgrim guide (*Proskynitarion*).¹² In another version of the profile view, Athos was presented simultaneously with two peaks and two slopes that stood for the two sides of the mountain, the west and the east.¹³ In this case, natural and architectural components were given in greater variety and detail: the monastic units displayed different shapes and sizes, the buildings had the distinctive features of their function as fortifications, fences, towers or churches, and the land was diversified by rocks, trees of various forms, forests, cultivated fields, and paths. The place was often populated by a number of small in scale human figures fishing in the sea, walking or riding horses. While contemporary maps were grounded on scientific methods and empirical observations, this kind of imagery of Athos in profile owes a lot to earlier medieval and Renaissance representations or to eighteenth- and nineteenth-century naïve artistic conventions, as well as to the creators' inventions. However, it does not ignore reality

⁸ *Topos kai eikona*, *op. cit.*, p. 100, ill. 78.

⁹ Mylonas, *op. cit.*, p. 19 and ill. 6.

¹⁰ Dori Papastratou, *Chartines eikones: Orthodoxa thriskevtika charaktika* [Images on Paper: Orthodox Religious Engravings], vol. 2, Athens: Papastratos Publications, 1986, p. 385.

¹¹ The viewpoint from the side of the sea was usually applied in the representation of islands. See Nikos Belavilas, "I astiki kai agrotiki morfologia stis periigitikes kai chartographikes piges" [Urban and Rural Morphology in Travel and Cartographic Sources], in Doukellis (ed.), *op. cit.*, p. 173.

¹² Papastratou, *op. cit.*, pp. 390-391, no. 418. A similar image of Athos can be seen in Pierre Belon du Mans' etching from 1553 (Mylonas, *op. cit.*, ill. 2), but here the view is from above, as is normally the case in cartographic representations.

¹³ See for instance Papastratou, *op. cit.*, pp. 398-402, nos. 420-429.

and truthfulness; Athos is conceived both as an actual area with an identifiable natural and built environment and as a fictional utopia of ideal citizens¹⁴ or a holy place of great importance,¹⁵ inviting its viewers to contemplate it.

As it has been noted, in the early modern period travels to Athos were rather rare due to the hardships of the journey.¹⁶ Nevertheless, with the increase of visits and pilgrimages in the eighteenth century a set of the earliest representations of the peninsula's monasteries was produced by Vasily Grigorovich Barsky, a monk from Kiev, who made his second trip to the area in 1744-45.¹⁷ Barsky's drawings manifest a particular attention to each monastery's architectural arrangement and location, which are presented extensively and in detail. The bird's eye view and the descriptive sketch line that Barsky adopted allows both the depiction of the exterior walls and of the facades of the clusters' main interior buildings and the rendition of their surrounding land.¹⁸ Thus, the geometrical structure of the edifices is opposed to wooded or bald areas, hills and mountains, rocky coasts or sandy seashores, depending on the geomorphology of each monastery's location. Cultivated fields, areas with fences and roads, in addition to sketes, small auxiliary buildings and arsenals, complete the scenery and record the extent of monastic holdings as well as the constant human presence on them, often highlighted by the presentation of a monk here or a few sharecroppers there, standing or walking, digging, ploughing, carrying wood or fishing in the sea. Topographically accurate, Barsky's drawings offer valuable information on the economic activities of the inhabitants of Athos in the eighteenth century and on the ways in which these activities intervened in the natural environment and changed or reshaped its image by distinguishing cultivated over untouched land.

Unlike Barsky's drawings, the majority of the depictions of Athonite monasteries from the eighteenth and the nineteenth century focus on monastic clusters and their adjacent properties and reveal little of the undomesticated environs.¹⁹ In many engrav-

¹⁴ The idea of Athos as a utopian state is mentioned in Mylonas, *op. cit.*, p. 19.

¹⁵ An image of Athos as a holy place is also given in the fresco from 1701 by the Greek painter Konstantinos on the exterior walls of the Katholikon of Polovragi monastery in Romania: I.M. Chatzifotis, *O Athos sti neoeliniiki zografiki* [Athos in Modern Greek Painting], Athens: Alkyon, 1995, pp. 10 and 33-35.

¹⁶ *Thomas Hope (1769-1831): Eikones apo tin Ellada tou 18ou aiona* [Thomas Hope (1769-1831): Images from Eighteenth-Century Greece], texts by Fani-Maria Tsigakou, Benaki Museum –British Council, Athens: Melissa, 1985, p. 228.

¹⁷ In 1887 Barsky's drawings were reproduced in a book (Mylonas, *op. cit.*, p. 20). For the illustrations of Barsky's drawings see *ibid.*

¹⁸ Eleni Stergiopoulou, "Enas kiovitis periigitis kai proskinitis" [A Kiev Traveller and Pilgrim], in *Vasilij Grigorovitch Barskij: Ta taxidia tou sto Agion Oros 1725-1726, 1744-1745, me ti frontida kai ta scholia tou akadimalkou Pavlou Mylona* [Vasilij Grigorovitch Barskij: His Travels to Mount Athos 1725-1726, 1744-1745, under the Care and with the Commentaries of Academician Pavlos Mylonas], Thessaloniki: Agioreitiki Estia – Benaki Museum, 2009, p. 44.

¹⁹ Another type of image is the cartographic representation of a monastery or a skete with its adjacent buildings.

ings and paintings monasteries dominate the space with a combination of imposing buildings, often much bigger than the external edifices, hills, trees or fields.²⁰ The setting is often completed with an inhospitable mountain here or a group of abrupt rocks there, scant allusions to the untouched physical land.²¹ The difference between clusters and their whereabouts is usually accentuated through the juxtaposition of the dense, packed buildings and of the geometric or perspectival structures inside with the free, open areas and the random, irregular forms of earth and plants outside.²² On occasion, parts of the land are shown arranged and circumscribed in almost geometric shapes, extending thus the idea of structuring to nature.²³ The dominance of the built environment in these representations and the control over nature guarantee the superiority of the monasteries, whose crucial presence is also underlined by the various religious, agricultural or fishing habits of human figures displayed around the clusters.

In the eyes of contemporary spectators, images of Athos from the eighteenth and nineteenth century, whether profile views or sights of monasteries, must have looked like documentations of the area's topography and of the vigorous and full life of its inhabitants, which determined the physical surroundings. To achieve this purpose their producers – monks, artisans or artists of Greek or foreign origin working in important artistic centres, like Athos, Constantinople, Vienna, Venice, Smyrna, Moscow etc. – offered all necessary visual information on the surface of the work. As an outcome of a naïve conception of art, their simple and unsophisticated approach aligns with their enthusiasm for the subject, their preference for a detailed description of objects and a meticulous narration of historical or mythical events, as well as their aspiration to present what they consider essential according to their knowledge, experience and imagination.

A clearly different picture was proposed in a number of drawings, paintings or engravings produced by foreign travellers who visited the peninsula and its monasteries in the nineteenth century, an era that witnessed a significant increase of travels to the East. In contrast to the conception of Athos as a place of manifold human intervention and busy life, the works of travellers like, for example, the English Robert Curzon and Edward Lear, introduced the aesthetic value of the area as a magnificent and impressive landscape. Active in the first half and around the middle of the nineteenth century, when the ideas of Romanticism and its corresponding works of art were still popular in Europe, both Curzon and Lear seem to have embraced the idea of the beauty of nature and the autonomy of landscape as an artistic genre and, consistent with their posi-

²⁰ See for instance Mylonas, *op. cit.*, ill. 15, 23, 24, 36, 42, 48, 74, 81. See also Provatakis, *op. cit.*, p. 342, ill. 10, p. 346, ill. 14.

²¹ See for instance Mylonas, *op. cit.*, ill. 52, 61, 72. See also the representation of Athos in the fresco of Pagonis at the church of Agia Marina Kissou in Pelion, dated from 1802, in Chatzifotis, *op. cit.*, p. 40-41.

²² See for example Mylonas, *op. cit.*, ill. 32, 46, 79. See also Provatakis, *op. cit.*, p. 344, ill. 12, p. 348, ill. 16.

²³ For example Mylonas, *op. cit.*, ill. 40 and 72.

tion as outsiders and external observers, they turned Athonite land into an aesthetically appraised setting.²⁴ In their depictions of the monasteries of Athos they favour natural scenery in its untouched status at the expense of architectural structures, which occupy a small part of the overall synthesis. Surrounded by bare steep mountains, slopes full of foliage and patches of sea and sky, the clusters seem almost unimportant in relation to the physical grandeur of the location. Human figures, when present, are reduced in size and often put off-centre, as for instance in Lear's painting "The Monastery of Dionysiou" (1862),²⁵ in which the groups of men a little above the right corner are hardly noticed under the presence of massive rocks and immense mountains, while their minimal dimensions intensify the vastness of the site. In some cases, for example in Curzon's etching of "The Monastery of Stavronikita" (1849),²⁶ a sense of remoteness prevails due to the total absence of human existence and activity.

However, while they encourage the untamed and alien image of Athos, at the same time these works, following an older European tradition, appeal to the picturesque quality of the scenery, through which wilderness and strangeness become familiar and are accommodated within the viewers' expectations and taste.²⁷ In the circles of both producers and consumers, this picturesque interpretation must have coexisted with the quest for novel experiences and feelings, inspired by travelling, visiting and contemplating less known places, among which Athonite locations could still be counted because of the relative difficulty of access.²⁸ Occasionally the picturesque impression was further reinforced by indications of Orientalism, as can be seen in the etching "The Monastery of Simonopetra" (1849) by Curzon,²⁹ where the presence in the foreground of two small figures, one dressed as an Orthodox monk and the other wearing a turban, leads to a more exciting result. In the eyes of Westerners such motifs served as exotic references and ensured the alien and intriguing character of the imposing landscape.

With the invention and gradual dissemination of photography in the second half of the nineteenth century new tendencies appeared in art, in many cases influenced by the new medium. The first photographs of Athos and its monasteries, shot from the

²⁴ On the external observer's perspective through which land is recomposed as landscape, see Denis Cosgrove, *Social Formation and Symbolic Landscape*, Wisconsin: The University of Wisconsin Press, 1996, p. 19.

²⁵ Fani-Maria Tsigakou, *Anakalyptontas tin Ellada: Zografoi kai periigites tou 19ou aiona* [Discovering Greece: Painters and Travellers of the Nineteenth Century], Athens: Edkotiki Athinon, 1981, ill. XII.

²⁶ Mylonas, *op. cit.*, ill. 67.

²⁷ For a brief discussion on the picturesque view of nature and its role in Western art, see Malcolm Andrews, *Landscape in Western Art*, New York: Oxford University Press, 1999, pp. 129-130. On the picturesque in relation to Greek landscape, see Athanasia Glykophrydi-Leontsini, "To grafiko os aisthitiki poiotta: I aisthitiki tou perivallontos kai to elliniko topio" [The Picturesque as Aesthetic Quality: The Aesthetics of the Environment and the Greek Landscape], in Doukellis (ed.), *op. cit.*, pp. 187-203.

²⁸ Tsigakou, *op. cit.*, p. 108.

²⁹ Mylonas, *op. cit.*, ill. 57.

1850s till the 1890s,³⁰ were quickly followed by series of engravings that adopted similar distant or panoramic sights and, more importantly, shared the same insistence on precise and thorough information. Naturalism in the depiction of the monastic buildings and their physical setting, accuracy in what is discernible from a particular point of view, attention in the rendering of shadow and light, are the main traits these works borrow from photography. Moreover, they seem to propagate the balanced distribution of space and the harmonious co-existence of built and natural environment, as it can be seen for instance in a woodcut of "The Monastery of Vatopediou" (1887),³¹ where the cluster's main buildings in the middle plan are projected over the slopes of the mountain that covers the biggest part behind, while the arsenal and other auxiliary edifices at the coast in the foreground are surrounded by the sea in front and by trees and hills behind.

2. Twentieth Century

In the twentieth century Athos maintained its reputation as an important religious centre, and its architecture and nature continued to stimulate the production of many more visual representations. But Halkidiki's imagery would soon be diversified through the depiction of new areas from its northern parts as well as from its other peninsulas, Kasandra and Sithonia, or its small islands. Villages and seashores, locations of human settlement and exploitation, parts of physical environment from the inland and the coasts appealed to visitors and residents, who responded variously through their artistic works.

2.1. Athos

In the 1910s, but mostly with the rise of interest in Byzantine culture in the 1920s and 1930s, artists and intellectuals from Greece or abroad visited Athos and studied the local art or produced work with regard to the built and physical environment of the area.³² Among them were the painters Lykourgos Kogevinas, Fotis Kontoglou, Spyros Papaloukas and Polykleitos Regos, whose work proposes a variety of new, often modern perceptions of the region. After his visit to the peninsula in 1918, Kogevinas drew and executed a series of etchings contained in the album *Le Mont Athos*. It was

³⁰ Aggeliki Grammatikopoulou, "I Thessaloniki kai to Agion Oros stin anatoli tou 20ou aiona" [Thessaloniki and Mount Athos at the Beginning of the Twentieth Century], in exhibition catalogue *I Thessaloniki kai to Agion Oros stin anatoli tou 20ou aiona* [Thessaloniki and Mount Athos at the Beginning of the Twentieth Century], 19 November 2012 – 15 February 2013, Thessaloniki: Agioreitiki Estia, 2013, pp. 19-23.

³¹ Mylonas, *op. cit.*, ill. 27.

³² For a detailed account of the presence of Athos in Greek art of the twentieth century, see Dimitris Pavlopoulos, "To Agion Oros stin elliniki techni" [Mount Athos in Greek Art], and Katia Kilessopoulou, "I schesi ton Thessalonikeon kallitechnon me to Agion Oros" [Thessalonikan Artists and their Relation to Mount Athos], in the exhibition catalogue *To Agion Oros stin elliniki techni* [Mount Athos in Greek Art], Athens: National Bank of Greece Cultural Foundation, 2007, pp. 13-30 and pp. 31-45 respectively.

published in Paris in 1922 with an introduction by the French scholar of Byzantine history and art Charles Diehl. In these etchings Kogevinas depicted, as he had already done in some of his earlier paintings from Athos,³³ either general aspects of the monasteries and their natural location consisting of the sea, the hills, the rich vegetation or the abrupt rocks, or more partial scenes captured from the inside of a cluster or behind a frame of trees outside. In some instances, a viewpoint from above the roofs, as in the “Monastery of Docheiariou”, or from nearby, outside and below, as in the “Monastery of Simonopetra”, underlines the impressive specificity of the area. With the interchange of distant and close views and through the use of particular angles, framings and cuts, the artist addresses the spectators’ anticipations both for wide commanding sights and for novel fragmentary versions. Subsumed into a modern way of seeing, probably also informed by practices of photography, which he systematically followed,³⁴ his etchings, chosen and assembled in the same folio, seem to serve as a selection of the most representative and invaluable images of Athos, offered to past or future visitors and viewers who can discover in them, as Charles Diehl writes in his introduction,³⁵ the “singular prestige” and uniqueness of the site.

A modern perception is also adopted in numerous paintings of Spyros Papaloukas. Produced in 1923-24, during the artist’s one year stay at Athos,³⁶ and reworked within the next decade in Athens,³⁷ his images emphasise the sensory experience of the place, evident in the range of views but most importantly in the choice of colours and forms. In Papaloukas’s art Athos becomes the total of diverse impressions of main monastic buildings, arsenals, sketes, isolated edifices or locations with rich vegetation, seen from a distance or from inside, at various hours of the day and in different seasons. In series of paintings like “The Tower of Karakallou”, “Kafsokalyvia”, “Ioasafeos’s House” or “The Monastery of Simonopetra”,³⁸ the same theme is repeated several times, each time in a different way, transmitting thus the continual changes of atmosphere and light. As products of experiments with lines and shapes and of analyses of tonal qualities and relations, the works correspond to the painter’s need to look for the

³³ See for instance his “The monastery of Vatopediou” and “The Monastery of Hilandariou” in exhibition catalogue *Lykourgos Kogevinas, charaktis kai zografos* [Lykourgos Kogevinas, Engraver and Painter], texts by Afrodite Kouria and Irene Orati, 2 October – 29 November 2004, Evangelos Averoff-Tossizza Foundation, p. 91, ill. 56 and p. 93, p. ill. 58.

³⁴ *Ibid.*, pp. 31-8 and 110-11.

³⁵ *Le Mont Athos. Suite de doux eaux-fortes originales et inédites par Lyc. Kogevinas*, préface par Charles Diehl, Paris: La Belle Edition, 1922, unpaginated.

³⁶ On his visit to Athos, with the company of Stratis Doukas, see Stratis Doukas, *Enthymimata apo deka filous mou* [Recollections from Ten Friends of mine], Athens: Kedros, 1976, pp. 31-33.

³⁷ According to Markos Kampanis in 1928 and in the years 1932-1935: Markos Kampanis, “Eisagogiko simeiomata” [Introductory Note], in *Spyros Papaloukas: Thiteia ston Atho* [Spyros Papaloukas: Service on Athos], researched and edited by Markos Kampanis, Mount Athos: Agioreitiki Pinakothiki, 2003, p. 11.

³⁸ See *Kampanis, op. cit.*, ills. 82-86, 109-12 and 120-32 respectively.

truth of nature and to understand the laws of the lived world.³⁹ Because of the scientific orientation of his demands, Papaloukas embraces a non-naturalistic idiom inspired by impressionist and symbolist artistic practices, through which he simplifies, modifies, abstracts or intensifies the forms and the colours in order to reach the deepest essence of the environment of the region and the feelings it generates.⁴⁰ For Papaloukas Athos is not simply a combination of beautiful and unique architectural and physical forms, but an animate space in which the viewers are immersed, motivated by the movements, transformations and interactions of matter and light. Waving lines, bright contrasted colours, coloured shadows, flat surfaces with curved contours, which constantly alternate, as for example in images of the Skete of Saint Andrews or of the Monastery of Simonopetra,⁴¹ underline the energy of the place and declare its organic and cosmic substance.

Fotis Kontoglou, on the other hand, chose to present Athos as a rather stable and immutable entity. In the drawings he made during his three trips there in the years 1922-24, general views of the area like "Athos from the Ship",⁴² and more partial scenes of its physical locations or monastic buildings, for instance "View of Athos", "The Monastery of Grigoriou" and "Cell of Saint Akakios",⁴³ are depicted almost in monochrome,⁴⁴ with the use of grey or white surfaces filled with thin black lines for the description of architectural details and amorphous foliage. The black and white simplicity and austerity, combined with the option of a low light, perhaps of dusk or dawn, and the absence of human figures, suggest the idea of a still and isolated environment, admired for its tranquillity and wildness.⁴⁵

In the woodcuts of Polykleitos Regos, produced in 1934, after his second trip to Athos,⁴⁶ and included in the album *Mont Athos*, which was published in Paris with an introduction by Charles Diehl, solitude dominates as well. However, in contrast to Kontoglou's mild and peaceful physical environment, here nature has often a hard and uncanny face, composed by its morphology and atmosphere. In the examples of "Simonopetra", "Athos and Saint Paul", "The Erimites" and "Cells of Anachorites", big and

³⁹ See the critical comments on his work by Nikos Gavriil Pentzikis, Stratis Doukas and Dimitris Pikionis in *ibid*, pp. 293-305.

⁴⁰ The combination of scientific observations with instinctual, sensory responses to nature is suggested by Geoffrey and Susan Jellicoe in their discussion of paintings by Paul Cezanne, Georges Seurat and Claude Monet. Geoffrey and Susan Jellicoe, *The Landscape of Man: Shaping the Environment from Prehistory to the Present Day*, New York: The Viking Press, 1975, p. 259. See also Andrews, *op. cit.*, pp. 193-99.

⁴¹ See *Kampanis, op. cit.*, ills. 42-3, 133.

⁴² Exhibition catalogue *To Agion Oros stin elliniki technē*, p. 17, ill. 14.

⁴³ *Ibid*, p. 94, ills. 225-27 and pp. 56-57.

⁴⁴ Nikos Zias, *Fotis Kontoglou, zografos* [Fotis Kontoglou, Painter], Athens: Commercial Bank of Greece, 1991, pp. 32-3.

⁴⁵ Such commentaries appear in his writings. See Fotis Kontoglou, *Pedro Kazas, Vasanta kai alles istories* [Pedro Kazas, Vasanta and Other Stories], Athens: Astir 1967, p. 127-32.

⁴⁶ Kilessopoulou, *op. cit.*, pp. 32-3.

steep mountains, successively repeated, form a scenery, whose monumental character is emphasised by the depiction of monasteries or cells in usually much smaller scale than the surrounding volumes. Mountains serve as background in many other representations from the same album, for instance in “Dionysiou”, “Lavra”, “Ivion”, “Kastamonitou”, “Esfigmenou”, “Karyes”, in which their ample and rounded surfaces rise to the horizon till they meet the zone of the sky. Black and sombre tones prevail, generating a sense of loneliness. Darkness reigns everywhere, interrupted by areas or flashes of light that describe contours and reveal shapes and sizes of mountains, rocks, clouds or buildings. The role of light and darkness, their distribution and juxtaposition with more or less intensity contribute to a feeling of a strange and unearthly air. Probably taking into consideration Byzantine and post-Byzantine art, as is evident in some of his paintings of Athos from the 1930s too,⁴⁷ but also under the influence of modern ideas on the importance of subjective experience, Regos rejects naturalism and follows the simplification of the form and the contrast of tonal qualities, through which he presents the region with all its physical and built elements as an extraordinary and powerful religious site, where the presence of God can be felt.

Athos remained popular in later decades, when with the facilitation of travelling and the multiplication and dissemination of lithographic but mainly photographic images it became an attractive destination and a favourite subject for many artists. Following the path of their predecessors, painters and engravers will promote the idea of the distinctive character of the location, of the specificity of its physical and architectural scenes, which they will underline through various versions of structure, colour, lightning and atmosphere. Naturalism will be the favourite choice in the works of Giorgos Moschos, Kitsos Dellios and Kostas Gounaris from the 1970s and 1980s, while artists like Dimos Braessas, Fotis Zachariou, Rallis Kopsidis and Nikos Gavriil Pentzikis, active in the 1940s, 1950s or 1960s, will adopt a more modern approach, informed either by impressionist, post-impressionist and cubist styles or by interpretations of Byzantine, post-Byzantine and naïve models. An alternative image is introduced in some paintings of Nikos Sachinis from 1961, in which the option of an abstract vocabulary impedes any identification of particular recognisable physical or built shapes and structures and incites a personal, emotional response to Athos, to its “hard and simultaneously spiritual” life.⁴⁸ However, despite their coherence with the modern demand for sensory impressions and subjective feelings, the abstract images of Athos will remain rare and

⁴⁷ *Ibid*, p. 33. See for instance ‘Moni Dionysiou’ (1934), in *ibid*, p. 32; ‘Skiti of Saint Anna’ (1934), in the exhibition catalogue *Polykelitos Regos: 100 chronia apo ti gennisi tou 1903-2003* [Polykleitos Regos: 100 Years from his Birth 1903-2003], Thessaloniki: Municipality of Thessaloniki, p. 25. ‘Moni Megistis Lavras’ (1939), in the catalogue *Dimotiki Pinakothiki Thessalonikis* [Municipal Gallery of Thessaloniki], Thessaloniki: Municipality of Thessaloniki, 1986, p. 16.

⁴⁸ The artist’s words cited in Periklis Sfyridis, *Dodeka zografoi tis Thessalonikis* [Twelve Painters from Thessaloniki], Thessaloniki: Rekos, 1986, p. 137.

marginal, probably because they do not correspond to the dominant expectations for concrete and uncomplicated representations of its environment.

2.2. The Other Areas

In the 1930s and 1940s new areas of Halkidiki appeared in artistic representations. While Athos was still the dominant subject of interest, some other places drew the attention of artists who began visiting them when the economic, social and cultural circumstances made it possible. The increase of population and settlements with the arrival of refugees after 1922 and the growth of old and new economic activities, among which were included maritime traffic and transport,⁴⁹ made access easier to particular locations in Cassandra and Sithonia. Athytos was one of the first villages to be depicted by Polykleitos Regos, and later, in the 1940s, by Giorgos Paralís. Their preference for scenes of the built environment of Athytos, as in Regos's "Athytos" (1934-35)⁵⁰ and Paralís's "Houses by Koutsomylos" (1947),⁵¹ was probably inspired by contemporary quests, made by intellectuals and artists, for the tracking and recording of the so-called traditional culture of the Greek periphery. With the gaze of the outsider and external observer who looks for the alleged local particularities of the area, Regos and Paralís choose to present blocks of houses with simple architectural structure, arrangement and material quality. In Regos's "Portrait at Athytos" (1935) or in Paralís's "Woman of Cassandra" (1947)⁵² this gaze is further reinforced through the presence of a female figure dressed according to local habits. Hence both artists contribute to the production of the village as a site with traditional character, based on particular details of architecture and women's clothing.

The settlement of Neos Marmaras would become an attractive theme for another painter, Nikos Fotakis, who frequently visited it following his father's appointment as doctor in the area. In his "Houses at Halkidiki" (1932-34)⁵³ and "Halkidiki" (1936-39),⁵⁴ Fotakis highlights the morphology of the location with unexpected hills and humps, almost completely bald, dispersed only by few houses and trees at their base. The sense of the hard and rough land in these works is intensified through the combination and unified application of brown and red colours for the depiction of compact soil.

⁴⁹ Christina Arabatzi, "Prosfygikoi oikismoi sti Halkidiki kata to proto miso tou 20ou aiona" [Refugee Settlements in Halkidiki in the First Half of the Twentieth Century], unpublished PhD thesis, Aristotle University of Thessaloniki, 2005, p. 156-157.

⁵⁰ Telloglion Foundation of Art – Aristotle University of Thessaloniki, *I syllogi Dimitriou Tsami sto Telloglio* [The Dimitrios Tsamis Collection at Telloglion], vol. 1: Painting, Thessaloniki 2002, p. 107, ill. 2. Gerakina Mylona, *I Athytos kai oi Zografoi Regos, Paralís, Pentzikis* [Athytos and the Painters Regos, Paralís, Pentzikis], Afytos: Municipality of Athytos, 1992, p. 12.

⁵¹ Mylona, *op. cit.*, p. 25.

⁵² *Ibid.*, pp. 21, 14.

⁵³ Exhibition catalogue *Nikos Fotakis 1904-1959*, Irakleio 2003, p. 53

⁵⁴ Exhibition catalogue *Nikos Fotakis: Anadromiki ekthesi zografikis* [Nikos Fotakis: Retrospective Exhibition of Painting], 24 October – 27 November 1988, Municipal Gallery of Thessaloniki.

While the aforementioned works display mainly images of the inland, in the painting “Marmaras” (1936-38)⁵⁵ Fotakis focuses at the sea, in a view taken probably from the top of a hill. Contrary to the works of Regos and Paralís, where it is simply a horizontal surface of blue at the background, in Fotakis the sea, put in the centre of the canvas, is shown traversed by light and in constant movement, indicated by numerous pigments of blue, white and orange. The central position and the impressionist conception deliver the sea as a distant but remarkable spectacle, whose worth can not be questioned by the activities of the miniscule boats deep in the horizon. A similar conversion of land to an object of visual contemplation can be seen in Paralís’s “Threshing with Machine in Athytos” (1947).⁵⁶ As in the case of the boats in Fotakis’s work, here both human figures and the machine are extremely minimised and pushed far away from the foreground, which is exclusively occupied by repetitive pigments of yellow; hence the transformation of the crops of the field into a bright coloured surface that pleases the eye. The modern approach suggested in these paintings marginalises human presence in favour of the aesthetic autonomy of sea and land, through which variously exploited areas are turned into artistic landscapes.⁵⁷ The analogous gesture can be detected in several other paintings of Paralís from the 1940s, where the coasts of Kassandra are offered as charming scenes with gulfs and coves, trees, rocks and boats.

Launched in the 1930s and 1940s, this aesthetic interpretation of sea and land will be further developed in the following decades, when it will be enriched by wider and more distant views in the works of Fotakis, Paralís and Regos or by panoramic and topographic aspects in the paintings of Nikos Gavriíl Pentzikis. The production of such representations in the 1950s and 1960s was connected with the emergence of a novel type of gaze, which conceives Halkidiki as a picturesque region, ideal for the seekers of appealing sceneries. Concentrating particularly on the coasts the artists, as visitors themselves, promote the allure of the sea, the beauty of the seashore or the attraction of the physical locations with the small villages, contributing thus to the construction of Halkidiki as an excellent site for travels and vacations. On occasion, they may also choose themes or iconographic details that serve as indications of a tourist orientation of an area, as in Paralís’s “Cafes in Neos Marmaras” (1951-55)⁵⁸ and Regos’s “Chanioti” (1960).⁵⁹

⁵⁵ *Ibid.*

⁵⁶ Mylona, *op. cit.*, p. 30.

⁵⁷ On the significance of the diminution or absence of human figures from the modern forms of landscape painting, see Charles Harrison, “The Effects of Landscape”, Mitchell W.J.T. (ed.), *Landscape and Power*, Chicago-London: The University of Chicago Press, 1994, pp. 215-16.

⁵⁸ Exhibition catalogue *Giorgos Paralís*, Athens: National Gallery, 1980, ill. 54.

⁵⁹ Exhibition catalogue *I Halkidiki tou Regou* [Halkidiki of Regos], 25 July – 23 August 1992, Nikiti: Museum of Nikiti, ill. 10.

However, this idyllic image, which in the 1960s and 1970s concurred with the gradual growth of seaside tourism in Halkidiki,⁶⁰ had already been negated in the 1950s and 1960s by artistic representations that either encouraged a totally different conception of the seashore or introduced alternative subjects drawn from the inland of the peninsulas or from the northern parts of the region. In paintings like 'Time of Peace' (1954-56) and 'Wood of the Seashore' (1956),⁶¹ as well as in a series of works from 1966-69 such as "Pounta", "Low Horizon", "Ebb" and "Stones at Liosi",⁶² Paralis takes a closer look at the seacoasts of Kassandra, since he watches the earth from a low viewpoint and discovers the sand, the dunes, the stones, the plants or the old woods in all their formations, textures and colours. While they are rendered in a bright summer light, these paintings with their emphasis on the humble objects and the minute details contest the picturesque gaze and its need for a safety distance that guarantees quick recognition and easy detachment. Based on patient and long-lasting observations, Paralis defies the superficial impression or the fast consumption and participates in the experience of those who live permanently at the area. By turning to immediate and constant contact with nature and by making evident the duration, the change and the decline of the depicted objects, he celebrates the physical environment not as a spectacle but as a living world with its own particular rhythms and historical times.

The inland imagery of the 1950s and 1960s shows considerable increase and greater variety of themes and ways of seeing in relation to previous decades. The repertoire contains views of cultivated fields, hills with kermes oaks, rocky slopes, olive and pine groves, bald mountains, and villages in their natural settings. These subjects focus mainly on the physical environment, on the structure of its surface and the quality of its material components, as we can notice in Paralis's works "Series of Hills", "Grove at Kapsochora" and "Olive Trees"⁶³ (all from 1966-69) or in Fonis Zoglopitis's paintings "Around Polygyros" (1959) and "Landscape in Toroni" (1968).⁶⁴ To the above subjects, Zoglopitis added another thematic category, the representations of the built spaces of Polygyros, which prevail in his work from the 1950s. Contrary to the outdoor and rural aspects of the inland in paintings like "Street in Polygyros (after rain)" (1956), "Resi-

⁶⁰ On tourism growth in Halkidiki, see Angelos Vlachos, " '60 sixties", in *Greek Tourism Posters: A Journey in Time through Art*, Athens: Greek National Tourism Organisation, 2007, p. 57. See also Ioakeim Papaggelou, *Halkidiki*, Thessaloniki: Malliaris, 1982, p. 12. On the picturesque quality of tourist landscape, see Iraklis Pappaioannou, "I fotografia tou ellinikou topiou: Ideologia kai aisththitiki" [The Photograph of the Greek Landscape: Ideology and Aesthetics], unpublished PhD thesis (Aristotle University of Thessaloniki, 2005), p. 218.

⁶¹ Exhibition catalogue *Giorgos Paralis*, ills. 60, 63.

⁶² Foteini Papantoniou-Simota, "I genesi enos zografou sti Makedonia: I periptosi tou Giorgou Parali" [The Origins of a Painter in Macedonia: The Case of Giorgos Paralis], unpublished PhD thesis (Aristotle University of Thessaloniki, 1992), ills. 288, 292, 305, 303.

⁶³ Papantoniou-Simota, *op. cit.*, ills. 263, 264, 272.

⁶⁴ Exhibition catalogue *Fonis Zoglopitis: 50 chronia zografiki* [Fonis Zoglopitis: 50 Years of Painting], Thessaloniki: Eirmos Gallery, 2006, pp. 35, 44.

dential Area Anilia” (1958) and “Location Six Fountains” (1958),⁶⁵ Zoglopitis presents the urban character of the town, signified by the dense arrangement of buildings, the asphalted streets, the utility poles for electrical wires. Nevertheless, the empty houses and streets, the rare human presence, the dull colours, the wet and dreary atmosphere of these works generate the sense of loneliness and alienation often felt by urban residents like the artist himself, who at the time lived and worked in Polygyros.

This understanding of life in the small town of Halkidiki, which ignores the picturesque spots and the beautiful sights, introduces a new type of gaze that remains sceptical towards the surrounding space. This gaze will prove to be more extroverted and critical in the next three decades, when Zoglopitis turns to the countryside and comments on its large exploitation and gradual deterioration. In a long series of paintings inspired by the mining zones of Gerakini, Vavdos and Patelidas,⁶⁶ the bald earth, the stony and dry soil, the yawning holes of the mountains, and the rusty metals of the constructions become the main features of the depicted areas and reveal the extent of their utilisation. The choice of colours, the contrasts between warm and cold tones, the hard lines and the geometrical forms produce a rough scenery empty of any human presence or action. As result of a critical gaze that cuts off any idealisation, the landscape in these paintings becomes witness to the exhaustion of the land or its abandonment for economic reasons.

The adoption of the critical gaze can also be seen in the depiction of the less exploited areas of Halkidiki’s inland, too. In paintings like “Landscape at Galatista” (1976), “Settlement at Sithonia” (1980) and “Village Keli” (1982),⁶⁷ Zoglopitis reflects on the stiff character of the bare and rocky earth and its impact on the local population. Against the mild versions of the inland imagery of the 1950s and 1960s, visible in works of Paralís and Zoglopitis in which the bright colours and the plays of light created a sense of optimism, here the use of abstraction, the austere colours and the sharp light underline the difficulty of rural life and its confinement in the rough, almost inhospitable environment. The same critical gaze can also be seen in a group of works of Zoglopitis from the 1980, where the artist challenges the idyllic representations of the countryside by substituting pieces of black burnt land for green and picturesque scenes.⁶⁸ As in the series on the mines, he focuses on the negative effects of human intervention on the land; in this instance, on the damage caused by summer fires, apparent in the demolished fields, the dark grey slopes, and the standing trees with black trunks or brown foliage.

In the 1970s and 1980s scepticism and reservation towards the condition of Halkidiki’s environment are symptomatic of the general changes brought about by the rapid growth of tourism in the region. Shifts in the evaluation and uses of the land, the

⁶⁵ *Ibid.*, pp. 38, 36, 37.

⁶⁶ See for instance *ibid.*, pp. 42-3, 86-7.

⁶⁷ *Ibid.*, pp. 48, 51, 68.

⁶⁸ See for instance *ibid.*, pp. 82-5.

systematic conversion of large areas into building sites with the construction of holiday residencies, the expansion of the road network, alterations in the economic activities of the local population with the rise of tourist services – all affected the built and physical setting and the ways it was conceived by artists. Panos Papanakos will comment on these phenomena, too, although in a much different iconographic and stylistic way from Zoglopitis. In paintings from the 1970s – “The Middle of Summer at Toroni” (1973),⁶⁹ “Poseidi” (1974)⁷⁰ and “Platanitsi at Sithonia” (1978)⁷¹ – Papanakos produces images of bathers on the beach, holiday houses and asphalted roads with cars by the seashore. The adoption of simplification and deformation and the insistence on specific details allude to a naïve attitude that Papanakos chooses to mimic in order to reveal the novel conception of landscape under the influence of mass tourism. Now the extensive coasts, the sandy seashores and the picturesque gulfs are destined, as his works seem to suggest, for one purpose, the satisfaction of people’s tourist needs. However, this remark is made with light-hearted spirit, evident also in his paintings “The Crew at Potidiaia” (1975) or “The Salt Flat at Amouliani and the Three Land-grabbers” (1975-76),⁷² where the radical or illegal changes in the use of land are presented as an inevitable fact, eventually acceptable in the eyes of the majority of people who benefit from them. Thus, the adjustment to the new conditions and the search for pleasure in the restructured locations that Papanakos’s works propose contradict the sense of frustration and discomfort vis-à-vis the environment implied in paintings by Zoglopitis.

While the critical stance of the 1970s and 1980s watches and highlights the problematic material, ideological and cultural consequences of human intervention in Halkidiki’s natural setting, other positions from the same decades as well as from the 1990s avoid scepticism and scrutiny in favour of spiritual, abstract, experiential, nostalgic or poetic conceptions of the depicted areas. Probably informed by diverse social and cultural categories and conditions, the works of artists like Pentzikis, Kleio Natsi, Zoglopitis (mainly after 1980), Kostas Gounaris, Giannis Mavidis, Kostas Loustas, Giorgos Gavrilis, Dinos Pappaspyrou, Domna Delliou reveal the variety of responses to natural and built environment, from the detached or existential to the sentimental or optimistic, and enrich the already long repertoire of Halkidiki’s artistic images that was presented in this essay.

⁶⁹ Exhibition catalogue *Panos Papanakos*, 18 January – 28 February 1999, Thessaloniki: Gallery of the Society for Macedonian Studies, p. 57

⁷⁰ Exhibition catalogue *Panos Papanakos (1930-1999)*, 23 October – 17 November 2000, Municipal Gallery of Thessaloniki, p. 102.

⁷¹ Exhibition catalogue *Panos Papanakos*, 18 January – 28 February 1999, p. 72.

⁷² *Ibid.*, pp. 66, 69.

The chapter focused on diverse versions of Halkidiki as a natural and human setting in works of art from the early modern period to the twentieth century. As it was argued, from the fifteenth until the beginning of the twentieth century Athos monopolised the interest of locals and visitors, who paid attention to its economic, religious and cultural dimensions as well as to the specificity of its nature. Whereas until the end of the seventeenth century the Athonite environment was seen as an exciting site of pilgrimage, travel and research, remote and difficult to access by foreign artists and visitors, in the eighteenth and nineteenth centuries it was promoted among monks and pilgrims as an area dominated by a lively human community. Its imagery was further enriched in the nineteenth century by its representations as the magnificent and picturesque natural landscape of Western travellers or as the harmonious combination of physical and built space inspired by photography. Finally in the twentieth century Athos was introduced as a unique site for visitors, as a location with distinct natural and architectural qualities, interesting to intellectuals, or as a place of various modern sensory experiences generated by its particular atmosphere and energy.

However, in the 1930s new themes from Halkidiki appeared in the works of art with the depictions of locations from Kassandra and Sithonia, which multiplied in later decades and included scenes from small islands or from the northern parts of the region. These representations displayed an array of gazes and approaches to Halkidiki's environment, related to the economic, ideological and cultural contexts of the time. In the 1930s and 1940s Halkidiki was considered an important site for the search of traditional human constructions and habits by external observers or was promoted as a modern landscape of sea and land with autonomous aesthetic value, a version which during the 1950s and 1960s transformed the coasts into picturesque and idyllic places, ideal for tourism consumption. Nevertheless, in the same decades new counter-images presented the seashore as a physical world with its own historical time, familiar to the eyes of locals, or offered the inland as a grim built environment, or as a natural environment deteriorating by extensive human intervention and exploitation. In the three following decades both inland and coasts were regarded as areas significantly marked by tourist growth or, on the other hand, as places where, despite major alterations, values like tradition, beauty, tranquillity, vitality and disinterestedness could still be found. In conclusion, what this essay sought to show is that art provided a great variety of visual representations of Halkidiki's areas, which corresponded to collective and individual responses towards both the natural environment and its multiple configurations under human presence.

Linguistic Evidence on the Natural Environment of Halkidiki: Oiconyms and Toponyms*

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1. General Remarks

What can Historical Linguistics tell us about the natural environment? Plenty of things, particularly in the case of a region such as Halkidiki about which by and large there is an abundance of extant written sources. First, the study of oiconyms completes the ethnographic picture and assists us in identifying and dating population changes. The etymology of place-names and oiconyms of the same environment over time allows us to reach conclusions on the forms of its use, on the ethnographic allocation of occupations, as well as on the administrative structures through the centuries. The total etymology of oiconyms and toponyms exceeds the ambitions of this study. Through the selective etymology of toponyms coined on environmental grounds, of hydronyms, zoonyms (names of animals) and all kinds of other toponyms related to land use, vegetation, human interventions in nature and its quality, this chapter looks at aspects of Halkidiki's environmental history and the history of its inhabitants over the centuries.

What the expert linguist observes in the case of Halkidiki is that its micro-toponymy¹ is not so rich in archaic toponyms compared with other dialectical regions of Greece (e.g., the Dodecanese, Chios, Karpathos, etc.). One could claim that the toponyms of Halkidiki follow at this point the local dialect, where the presence of archaisms is not important compared with other Macedonian idioms (for example, that of upper Pieria). The reason for this is the geographical location of Halkidiki. Its exposure to hostile raids by land and sea and the arrival of new population groups

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¹ Microtoponymy pertains to the practical and theoretical study of the names of smaller geographical entities (microtoponyms) that are usually uninhabited, such as fields, small parts of forests, etc.

have turned Halkidiki into a region where linguistic changes have hindered the maintenance of archaisms.

By contrast, we note that a significant number of archaic toponyms preserved in oiconyms² remain unchanged from the period BC to the present (e.g., *Aphytos*, *Kassandra*, *Scapsa*), while a number of Pre-Greek oiconyms have been rescued – for example, *Sermyli* (> *Ormylia*), *Sarti*, *Vria*, *Mendi*, *Toroni*.

The oldest layer of oiconyms occurring in Halkidiki is the so-called Pre-Greek. It derives from the non-Greek language (or languages) spoken in the region when the first Greek tribes settled there. We notice that Pre-Greek oiconyms occur mainly in coastal or near the coastal areas – for example, *Mikyberna* (*Μηκύβερνα*), *Sermyli* (*Σερμύλη*), *Sarti* (*Σάρτη*), *Sani* (*Σάνη*), *Mendi* (*Μένδη*), *Toroni* (*Τορώνη*) – and are usually absent from the mountainous interior. Most such oiconyms, like *Sermyli*, can be elucidated through Indo-European language elements and should be attributed to Indo-European Pre-Greeks, usually identified with the Thracians.³

In the case of ancient *Olynthus*, it is highly likely that it derives from the Pre-Greek non-Indo-European language phytonym *olynthos* (wild fig). In this instance, the difference is that the Greeks understood the meaning of the oiconym because of the presence of the equivalent common noun (*olynthos*) in their spoken language, unlike the oiconym *Sermyli*, which was incomprehensible despite the fact that it was of Indo-European origin. But the oiconym *Olynthus*, although understandable by the Greeks, cannot be explained by the Indo-European language as it most probably derives from a non-Indo-European substrate language. Therefore it cannot be called “Thracian” since Ancient Thracian was an Indo-European language.

After Pre-Greek, the next layer of oiconyms relating to the environment is that of Ancient Greek. It includes phytonyms, such as *Akanthos*, descriptions of the region’s vegetation, such as *Aphytis*, or the shape of a site, such as *Lekythos* /*Λήκυθος* (because of the similarity of the peninsula with an oil-flask).

The Roman immigrants appear to have changed the name of the ancient *Akanthos* to *Erissos* in the first century BC, replacing the plant name *akanthos* with the Latin animal name *erisus* (hedgehog). This oiconym is a loan-translation in as much as the Roman settlers translated the original name into Latin but did not keep the original meaning that the Greek oiconym had (i.e., acanthus plant). Instead they gave it the meaning of the corresponding common noun encountered when they settled in Halkidiki (*akanthos* = hedgehog in the local dialect).

² Names of inhabited places, like villages, cities, etc.

³ In some cases the non-Greek identity of the oiconym is evidenced by the presence of a non-Greek phonetic feature, i.e., the presence of /s/ in the initial position before a vowel. In other instances, the oiconym’s Indo-European identity is correlated with words of other Indo-European languages, e.g., Ancient Indian *sarma-h* ‘stream’ for *Sermyli*.

The oiconym *Fourka/Φούρκα* in Kassandra, which is also of Latin origin, varies substantially. It was created in Greek from the Latin loan *fourka/φούρκα* ('fork, gallows, forked wood' < Latin *furca*) during the period of Ottoman rule. It denoted any feature of the environment where there is division, e.g., where a road splits, a branching valley that looks like forked wood, etc.⁴ In this case and contrary to *Ierissos*, the Latin origin of the oiconym is not proof of the presence of Latin-speaking people, as it derives from a common noun that was "Hellenised" a long time before its use as an oiconym.

The paucity of historical and archaeological evidence, not only for Halkidiki but also for the whole of Macedonia, from the mid sixth to the early ninth century, the so-called "dark" period of the Byzantine era, is a well attested fact.⁵ Nevertheless, some ancient oiconyms related to the natural environment were preserved. These reappear, either unvaried or with slight phonetic or morphological changes, in Athonite documents dating from the tenth century; e.g., *Afetos / Άφετος* < Ancient Greek *Aphytis / Αφυτις*, *Sartis / Σάρτης* < *Sarti*, *Sermylia / Σερμύλια* > *Ermylia / Ερμύλια*, *Ormylia / Ορμύλια*, *Teroni / Τερώνη* < *Toroni / Τορώνη*. This evolution is observed also in other toponyms related to the natural environment, e.g., *Korphos / Κωφός*, *Athos / Άθως*, *Cape Ampelos / Άμπελος*, etc. At the same time, new oiconyms appeared that were created either during the Byzantine era or earlier, although they are not mentioned in ancient literature. For example, we encounter the oiconyms *Myriofytos / Μυριόφυτος*, *Volvos / Βολβός*, *Sykia / Συκιά*, *Vromosyrtsis / Βρωμοσύρτης*, *Alorochorion / Αλωποχώριον*, *Vouvalaris / Βουβαλάρης*, *Sidirokafsia / Σιδηροκαύσια*, as well as toponyms that do not constitute oiconyms, such as *Vourvourou / Βουρβουρού*, *Tripotamos / Τριπόταμος*, *Amygdaleai / Άμυγδαλεί*, the island of *Diaporos / Διάπορος*, *Metalla / Μέταλλα*, the island of *Ammouliani / Αμμουλιανή*, etc.⁶

An important change arises in the linguistic origin of toponyms in Halkidiki during the Byzantine period due to the settlement of Slavic population since the sixth century, with the creation of a significant number of the Slavic toponyms. The strong Slavic influence is proven by the fact that an important number of them became oiconyms, e.g.,

⁴ Ch. Symeonidis, *Etymologiko lexiko ton neoellinikon oiconymion* [Etymological Dictionary of Modern Greek Oiconyms], Thessaloniki-Nicosia: Kykkos Monastery Research Centre, 2010, no. 17755-8.

⁵ I. Papaggelos, "Christian Halkidiki", in: J. Vokotopoulou & I. Papaggelos (eds), *Halkidiki*, Athens: The Holy Coenobium of the Annunciation – Ormylia, 2003, p. 113; I. Papaggelos, "I Halkidiki kata tous mesous chronous" [Halkidiki During Medieval Times], in: M. Pappa, K. Sismanidis, I. Papaggelos & Er. Zeliou-Mastorokosta, *I istoria tis Chalkidikis*, Thessaloniki: Prefectural Authority of Halkidiki, 1998, p. 83; Fl. Karagianni, "Oi oikismoi sti Makedonia kata ti mesi kai ysteri vyzantini periodo mesa apo ta archaeologika dedomena" [The Settlements in Macedonia during the Middle and Late Byzantine Period on the Basis of the Archaeological Data], *Mnimeio kai Perivallon*, 7 (2001), 58.

⁶ For additional examples, including toponyms having no connection with the natural environment, see Papaggelos, "Christian Halkidiki", p. 114.

Revenikeia (Ρεβενίκεια), *Pyrgadikia* (Πυργαδικία), *Develikia* (Δεβελίικια), *Izvoros* (Ίσβορος), *Strolongos* (Στρόλογγος), *Ravna* (Ραβνά), *Resetnikia* (Ρεσενίικια), *Sipotnikia* (Σιποτνίικια), *Piavitsa* (Πιάβιτσα), *Livysdada* (Λιβυσδάδα), *Stoudenitzos* (Στουδενιτζός), *Kamena* (Κάμενα), *Rendina* (Ρεντίνα), etc. The number of other Slavic toponyms and microtoponyms which relate to the natural environment is of course also significant, e.g., oronyms like *Strebenikos* (Στρεμπενίκος), hydronyms like *Trestenikeia* (Τρεσπενίικια), *Glomboutzitza* (Γλομπουτζιτζα), *Trevenikous* (Τρεβενίκους), microtoponyms like *Kamenikos* (Καμενίκος), etc.

At this point we must note that the Slavic toponyms of Halkidiki are regarded by historical or linguistic studies to date as being of later date than the other Slavic toponyms of Greece, e.g. of the Peloponnese. Our study, based on purely linguistic criteria, proves that the first Slavic toponyms of Halkidiki must be dated to the beginning of the Slavic penetration into Greece, i.e., the sixth and seventh centuries and that there is no difference from other areas such as the Peloponnese. The problematic chronology up to now of the Slavic toponyms which placed their appearance rather later than the actual period in which they appeared is probably due to the silence of historical sources with respect to Halkidiki in the above mentioned two and a half so-called “dark” centuries, which resulted in their delayed appearance in the written word. This silence justified scholars’ conclusions as to the absence of Slavic toponyms, but in reality I. Papaggelos was correct in his observation that: “We have no details of specific Slav invasions, but we can be certain that they occurred since Thessalonica was repeatedly besieged by Slav tribes in the seventh and eighth centuries”.⁷

Purely linguistic characteristics of the Slavic toponyms of Halkidiki lead us to the same conclusion that many Slavic toponyms date back to those centuries. We shall analyze further the topic of the chronology of the earlier Slavic toponyms of Halkidiki. The relevant historical and linguistic studies up to now⁸ find data that, in the opinion of their authors, prove the “hellenization” of the Slavic toponyms of Halkidiki. Yet our study proves that in reality we don’t have a process of hellenization but rather characteristics of the local Slavic or Greek dialects that survived in the Slavic loan toponyms.

We are cautious with regard to using comparisons between the respective numbers of Slavic and Greek toponyms to draw conclusions about the composition of the population of Halkidiki. Such comparisons are very difficult to base on clearly scientific criteria. We must also bear in mind that the large number of Slavic toponyms in Halkidiki in no way proves the interruption of the continuity of life and of

⁷ *Ibid.*, p. 113.

⁸ F. Brunet, “Sur l'hellénisation des toponymes slaves en Macédoine Byzantine”, *Travaux et Mémoires*, 9 (1985), 235–65; P. Soustal, “Place Names as a Source for Migration and Settlement: Continuity and Change in Byzantine Chalkidiki”, *Wiener Schriften zur Geographie und Kartographie*, 18 (2009), 177–83.

linguistic tradition, given that the Slavic toponyms coexist with the Greek, which continue to appear normally in the written sources.⁹ Elements of the local Slavic and Greek dialects in Halkidiki identified in Slavic toponyms include:

a) The rendering of the Slavic voiced stops /b/, /g/, /d/, with the Greek letters β, γ, δ, denoting voiced fricative /v/, /ɣ/, /ð/, instead of grapheme clusters μπ, γκ/γγ, ντ. In modern historical and linguistic research this phenomenon is considered as evidence that the place name was hellenized in an earlier date and we can suppose that it had a majority of Greek population. Otherwise, when it was rendered by Greek μπ, it is likely that the place name was in use by Slavonic peoples for a longer time, maybe up to the fourteenth century.¹⁰ The interpretation given by Brunet¹¹ to the phenomenon is that, “du point de vue phonologique, l'opposition /b/ - /v/ n'a jamais cessé d'exister en grec, en revanche, du point de vue graphique, elle a certainement été neutralisée à une certaine époque, disons autour du X^e siècle”.

Both of these interpretations of the phenomenon are problematic. In fact it is neither “hellenization” of the Slavic toponyms with the use of β rather than μπ nor neutralization of the distinction /b/-/v/ at the level of writing, but simply their phonetic adaptation to the local Greek dialect of Halkidiki. Looking at the phenomenon historically, we must note that when the voiced stops /b/, /g/, /d/ of Ancient Greek changed to fricative /v/, /ɣ/, /ð/,¹² as already shown by Vasmer, stops /b/, /g/, /d/ cease to exist as separate phonemes of the Greek and appear solely as allophones of the corresponding unvoiced stops /p/, /k/, /t/ after nasals /m/, /n/ (in clusters /mb/, /ng/, /nd/). Later voiced stops /b/, /d/, /g/ reappear in other positions, due either to the loans from other languages having phonemes /b/, /g/, /d/, or to onomatopoeic words or to idioms (e.g. Apulia of Italy).¹³ That is, contrary to Brunet's argument, the phonological opposition /b/ - /v/ ceases in Medieval Greek, since now there is voiced stop /b/ only after a nasal /m/, where it is an allophone of the corresponding voiceless stop /p/. So any β, γ, δ rendering the Slavic /b/, /g/, /d/ in toponyms of Slavic origin in Halkidiki (as of course also in simple Slavic loan words) demonstrate that they entered at a time when the Greek idiom that accepted them in Halkidiki lacked voiced

⁹ See similar observations by I. Papagelos in “Christian Halkidiki”, p. 113-4.

¹⁰ Soustal, *op.cit.*, p. 181.

¹¹ Brunet, *op.cit.*, pp. 245-9.

¹² Contrary to the prevalent opinion, M.J. Dosuna maintains that in the most favourable contexts, the spirantization of the aspirates and voiced stops was already under way in the classical period in some, if not most of the ancient Greek dialects, see “Ancient Macedonian as a Greek Dialect: A Critical Survey on Recent Work”, in G. Giannakis (ed.), *Ancient Macedonia: Language, History, Culture*, Thessaloniki: Ministry of Education, Thessaloniki: Centre for the Greek Language, p. 134.

¹³ Chr. Tzitzilis, “Provlímata Istorikis Grammatikis tis Ellinikis” [Problems in Historical Grammar of the Greek Language], handwritten notes from his lectures, Department of Linguistics, Aristotle University of Thessaloniki, 1991.

stops /b/, /g/, /d/ and for their phonetic rendering necessarily used the equivalent voiced fricative /v/, /ɣ/, /ð/.

The phonetic system of the local medieval Greek dialect had two options whereby to render the non-existent Slavic voiced stops /b/, /g/, /d/ with consonants of the same place of articulation, that is either with frication (/v/, /ɣ/, /ð/) or with devoicing (/p/, /k/, /t/).

The reappearance in Medieval Greek of the phonemes /b/, /g/, /d/, which in writing are rendered as *μπ*, *γκ/γγ*, *ντ*, could be dated – with reservations – to the period around the twelfth to thirteenth century. This view is supported by the sample of Slavic toponyms of Brunet, which do not present a rendering of the Slavic /b/ with *μπ* before 1100. Consequently, when the toponym *Βάβα* < Slavic *baba* ‘old woman’ appears in an Athonite document, which could be dated at the earliest to 1368 (see below), we must bear in mind that it was pronounced /váva/ not /bába/, as pronounced up to current times and as written after the fifteenth century in Turkish sources (*Vava*), although in the Turkish, unlike the Greek, the stops /b/, /g/, /d/ were afforded to render the equivalent Slavic phonemes. In short, the toponym entered the Greek idiom, which lacked the voiced stop /b/, before 1300 and therefore should definitely be so dated, although a much earlier chronology can certainly not be excluded.

b) The presence of the earlier non-palatalized form of the Slavic suffix *-íka* (without affricate) instead of the later *-ica* with affricate /ts/. Since palatalization is supposed to have been completed in the seventh century,¹⁴ the presence of the older non-palatalized form *-ik(e)ia* in the toponyms of Halkidiki, e.g., *Develikia*, *Revenikia*, *Pyrgadikia*, *Trestenikia*, provides evidence of their chronology in this period or earlier (sixth to seventh century), because from the seventh century onwards the suffix became *-ica* and its appearance in Greek as *-ítza* was to be expected. The appearance of the suffix *-ik(e)ia* in the Slavic toponyms of Macedonia, and indeed of Halkidiki where it is more common, is also considered incorrectly by Brunet¹⁵ to be a proof of their hellenization, which in his opinion had been completed in the tenth to eleventh centuries. Vasmer¹⁶ considers that “schwieriger ist es, eine so altertümliche slavische Grundform für einige ON Mazedoniens anzunehmen”, that it is unlikely to have a retention of the suffix *-íka* (as a precursor of the later *-ica*) in toponyms of northern Greece such as *Kamenikeia*, *Loukovikeia* (1327), *Paparnikaia* (1394) and that these toponyms must be derived from the Slavic toponyms ending in *-ikъ*. Brunet also rejects the interpretation that the forms in *-ik(e)ia* in northern Greece render

¹⁴ Soustal, *op.cit.*, p. 181; E. Skach, “Die Lautgeschichte des frühen Slavischen in Griechenland im Lichte der Lehnbeziehungen”, PhD dissertation, University of Vienna, 2008, pp. 59 ff: “Mit dem Wirken der Ersten Palatalisation rechnet man vor der Einwanderung der Slaven nach Griechenland, also in der Zeit vor 600 n. Chr [...]”.

¹⁵ Brunet, *op.cit.*, pp. 250-1.

¹⁶ M. Vasmer, *Die Slaven in Griechenland*, Berlin: Verlag der Akademie der Wissenschaften, 1941, pp. 301-2.

the suffix *-ica* before the process of the palatalization (affrication) of /k/ before /i/ in Slavic was completed, on the grounds that the phenomenon had already occurred in Slavic when the Slavs settled in Greece around the seventh century. But the interpretation he gives that forms in *-ik(e)ia* come from the rendering of the Slavic /ts/ with the Greek /k/ due to the absence of the affricate /ts/ in Greek is wrong. We should accept that this is indeed a rendering of the Slavic *-ica* before the palatalization was completed.

The Greek τζ/τσ for the rendering of phonemes /ts/, /tʃ/ appears in the loanwords of the Greek language from the Hellenistic period, cf. *Tsadi* (τσαδή), *Tsensmit* (Τσενσμήτ), *Tsiamo* (Τσιαμώ) etc., and then from the early Byzantine period onwards, cf. *Tzanoi* (Τζάνοι) in Palladium Elenopoleos (420 AD), *tzandana* (τζανδάνα), *Tzinitza* (Τζίνιτζα) in Kosmas Indicopleustis (about 550), *tzanga* (τζάγγα) in Procopius (543), *tzangion* (τζαγγίον) in John Malalas (late seventh century),¹⁷ *vetza* (βέτζα) (< Latin *vitea* with palatalization) in Emperor Maurice (sixth century),¹⁸ etc. Therefore, /ts/ already existed in Greek during the first descent of the Slavs into Greece (sixth century) and the Greek τσ (or τζ) is the normal rendering of the Slavic affricates /ts/ (/c/) and /tʃ/ (/č/) in Slavic toponyms passed into Greek, cf. *Selitsa* (Σέλιτσα) < **Sel̥sa*, *Tzemernikou* (Τζεμερνίκου, 1321, Ioannina) < **Čemer̥nikъ*, *Tsimaora* (Τσιραόρα, Messinia) < **Čьrna Gora*, *Selitsani* (Σελίτσανη, Larissa) < **Sel̥čane*, etc.¹⁹ In any case, if the Greek language had no /ts/ to render the Slavic sibilant affricate /ts/, it would be expected that it would use the sibilant fricative /s/, which is more relative in terms of place of articulation than the palatal stop /k/. Moreover, the source for the affricate /ts/ in Greek is not only the long-term language contact (with Slavic, Venetian, Albanian, Proto-Bulgarian, etc.), as Brunet claims, but also internal phonetic developments, such as the palatalization of /k/ or /t/, cf. *kichla* (κίχλα) > *tsichla* (τσίχλα), *vatinon* (βάτινον) > *vatsino* (βάτισινο), *vatsinia* (βατινιά), *klimatis* (κληματίς) > *klimatsida* (κλημασιδα), etc. Further instances include /ts/ from Greek /tʃ/, e.g. *kottos* (κόττος) > *kotsos* (κότσος), /s/ e.g., *syrizo* (συρίζω) > *tsyrizo* (τσυρίζω), /ss/ e.g., *kossyfos* (κόσσυφος) > *kotsyfas* (κότσυφας), /θ/ e.g., *athinganos* (αθίγγανος) > *atsinganos* (ασιγγανος) > *tsinganos* (τσιγγάνος), /nθ/ e.g., *kantharis* (κανθαρίς) > *katsarida* (κατσαρίδα), *akanthochiros* (ακανθόχοιρος) > *skantzohiros* (σκαντζόχοιρος), etc.²⁰

¹⁷ E.A. Sophocles, *Greek Lexicon of the Roman and Byzantine Period*, Hildesheim-Zürich-New York: Georg Olms Verlag, 1992, p. 1080.

¹⁸ N. Katsanis, "Latinoellinika II: Latinikes lexeis sta neoellinika idiomata" [Latino-Hellenica II: Latin Words in Modern Greek Dialects], in Chr. Tzitzilis, Ch. Symeonidis & N. Katsanis (eds), *Greco-Romanica. Akten zur Tagung vom 24. April 1996 in Rahmen des jährlichen Treffens der Linguistischen Abteilung der Philosophischen Fakultät Aristoteles-Universität Thessaloniki*, Thessaloniki: Department of Linguistics of the Aristotle University of Thessaloniki, 1997, p. 107.

¹⁹ Vasmer, *op.cit.*, p. 253; Skach, *op.cit.*, pp. 59-72.

²⁰ Tzitzilis, Problems.

Finally, the specific toponyms of Halkidiki were not only written *-ik(e)ia* (*-ik[ε]ia*) but were also pronounced that way, up until today, e.g., [piryaðíka], [reveníka], [develíka]. Given then that the grapheme cluster *τζ* was in standard use in Greek sources long before the tenth century for the rendering of foreign affricates /ts/, /tʃ/,²¹ there is no doubt that when toponyms with *-ik(e)ia* appear in the Athonite sources, it is not due to a scholarly written Greek tradition that has already taken shape but to the fact that they were heard in the spoken word of the slavophone or Greek-speaking inhabitants. It was not therefore a feature of the written word but of the spoken language. Moreover, the fact that a significant number of such toponyms appear today mainly in plural neuter form (e.g., *Pyrgadikia* as opposed to the rare *Pyrgadiki*) invalidates Vasmer's claim that their origin lies in Slavic types with *-ikъ*. If the latter were the case, one would expect, according to the laws of morphological Greek adaptation of loan-words accented on the last syllable ending in a consonant with semantic feature [+inorganic], that their adaptation would be to the singular neuter (ending in *-i*), cf. Slavic *zakonъ* 'law' > dial. Greek *zakóni* 'custom', Old Slavic *potokъ* 'creek' > *poutóki* (Kassandra, Melnik, etc.), Turkish *anbar* 'storeroom' > Greek *ambári*, *karpuz* 'watermelon' > *karpóuzi*, Venetian *barbon* 'red mullet' > *barboúni*, etc. In contrast, the forms of singular in *-i*, when they appear in Slavic oiconyms, are usually later formations, e.g., *Develikia* > *Develiki*. So the appearance of toponyms in *-ik(e)ia* instead of *-itza* in Halkidiki is no different from the appearance of the same phenomenon in the Slavic toponyms of the Peloponnese. As in the case of the Slavic toponyms in the Peloponnese, the phenomenon is attributed to toponym loans from Slavic dialects, where the palatalization of suffix *-íka* had not yet taken place, i.e., loans before the seventh century the same applies to similar Slavic toponyms in Halkidiki ending in *-ik(e)ia*, which should also be dated before the seventh century.

c) The lack of so-called metathesis of the liquid /r/, a process which ended in the ninth century,²² cf. *Perigardikeia* < Old Slavic **Pergardíka* (but cf. Bulgarian *grad* 'city').

Naturally the same toponym may display simultaneously two (e.g., in toponym *Develikeia* d/>/ð/, l/>/l/, suffix *-ikeia* instead *-itza*) or all of these characteristics (e.g., in toponym *Perigardikeia* /g/>/g/, suffix *-ikeia*, absence of liquid metathesis).

With respect to the Slavic toponyms of Halkidiki we observe that those related to the natural environment represent a large proportion, while those based on other sources, such as personal names, names of the saints, etc., are much fewer than the Greek and Turkish toponyms. Cases of oiconyms such as that of Byzantine

²¹ Moreover all examples of Brunet material are dated from the tenth to the fourteenth century.

²² Brunet, *op.cit.*, pp. 243-4; Soustal, *op.cit.*, p. 181.

Ardameriou (Αρδαμερίου) < Slavic personal name *Radoměrjъ*,²³ are relatively rare. This could be an indication of a more direct relationship between the Slavic-speaking populations of Halkidiki and the natural environment because of their greater engagement in occupations related to it, e.g., agricultural, pastoral, logging, etc. This more direct relationship with the environment and the land itself is confirmed by the fact that a significant number of Slavic oiconyms in Halkidiki are toponyms based on geographical or geological features, e.g., *Revenikia*, *Develikia*, etc. (see below).

Generally speaking, the statistics included in scientific studies of the Slavic toponyms of Halkidiki should be treated with great caution and skepticism,²⁴ especially when the study does not provide the entire corpus of toponyms on which these studies are based, in order to verify both the correctness of the inclusion of a toponym as Slavic based on its etymology, but also the accuracy of the exclusion of a toponym as non-Slavic. However, given that the etymology of a significant body of Byzantine toponyms of Halkidiki would require long and extensive specialised research in order to draw more reliable and accurate conclusions about their linguistic origin, we have to build on the existing work of Brunet (1985) for the geographical distribution of the Slavic toponyms in Halkidiki in the period from the tenth to fourteenth centuries, based on Byzantine documents from the monasteries of Mount Athos, given that the etymology of a number of Slavic toponyms which Brunet gives in the appendix of his study is for the most part correct. Based on this study, therefore, but also our own observations, be they unsystematic, of the geographical distribution of the Slavic toponyms in Halkidiki, we observe quite a significant increase in Slavic toponyms as we move from the west to the east, with the exception of the Athos peninsula.²⁵ There is an exceptionally great concentration of Slavic toponyms in the area of Ierissos from the isthmus of the Athos peninsula almost to the area of *Revenikia*. This concentration is confirmed by the written sources that testify that the Byzantine Empire installed Slavs there in the mid-tenth century.²⁶

²³ Vasmer, *op.cit.*, pp. 202, 290; Brunet, *op.cit.*, p. 259, no. 2; Symeonidis, *op.cit.*, no. 2255. It is noteworthy that the oiconym is with *ard-* rather than the respective Slavic *rad-*, where the first component is the Slavic adjective *radъ* 'happy'. This led researchers to a Protoslavic adjective **ardъ*, but this reconstruction leads to problems in the etymology of adjective *radъ*, see *Bălgarski Etimologičen Rečnik*, vol. 4, Sofia: Institute for Bulgarian Language, Bulgarian Academy of Sciences, 1995, s.v. *rad*¹; Vasmer, *op.cit.*, p. 290.

²⁴ See e.g., the statistics given by Brunet, *op.cit.*, pp. 245-56. Even more when these studies go on to statistical comparisons with Greek toponyms, see e.g., N. Dapergolas, "Paratiriseis pano sto zitima tou exellinismou ton slavikon toponymion tis Makedonias kata ti mesi kai ysteri vyzantini periodo" [Observations on the Topic of the Hellenization of the Slavic Toponyms of Macedonia during the Middle and the Late Byzantine Period], *Vyzantinos Domos*, 17-18 (2009-2010), 89-96; *eadem*, "Slavikes egkatastaseis stin anatoliki Chalkidiki kata ti mesi vyzantini periodo" [Slavic Settlements in Eastern Halkidiki during the Middle Byzantine Period], *Vyzantinos Domos*, 17-18 (2009-2010), 97-109.

²⁵ See the map no. 4 in Brunet, *op.cit.*, p. 255.

²⁶ "Καί ὁ τοῦ μακαρίτου βασιλέως κυροῦ Ρωμανοῦ τοῦ πατρός τῶν ἀοιδίμων βασιλέων τοῦ τε κυροῦ Βασιλείου καί τοῦ κυροῦ Κωνσταντίνου τῶν πορφυρογεννήτων ἐκτεθείς κατὰ τό ,ζυξηῖ' ἔτος ἐπί τῆ μονῆ τοῦ

The presence of Slavic toponyms is also significant in the region of the mines to the north of Ierissos, and further north in the area between modern Olympiada and Rendina.²⁷ In some cases, phonetic features of toponyms allow the detection of the place of origin of the Slavic-speaking peasants of the region. For example, in the Slavic name of the modern village *Olympiada Livysdias*, *Livysdos*, *Livizdia* (eleventh century) the presence of the phonetic evolution /dj/ > /žd/ (*Lebedja* > *Lebežda*), which differentiates Ancient Bulgarian from the other South Slavic languages, allows us to identify the Slav inhabitants as Bulgarian-speaking. This identification is confirmed by the following reference in the Life of Saint George Iviritis (1009 / 1010-1065) in the Georgian language:

Il y a en effet dans les proasteia de la Sainte Montagne un village qui s'appelle Livizdia, sur le site d'une anse incurvée, totalement déserte, avec des montagnes aux épaisses forêts; je présume qu'aucun saint n'est arrivé jusque-là! Mais des hommes s'y étaient installés, des Bulgares que l'on appelle Slaves, complètement stupides et semblables à des bêtes, impudents et mangeurs de reptiles impurs. De l'antiquité il était resté jusqu'alors dans le proasteion dont nous parlons une grande idole de marbre, ressemblant à une femme. Ces gens stupides dont je parle lui rendaient encore un culte [...].²⁸

This passage provides on the one hand important information on the environmental history of the village of *Olympiada*, but also of Halkidiki in general. The *Life* provides the information that the village was located in a bay “completely isolated, with mountains in dense forests”. The original *Life* in Georgian uses the word *malnarni* for “forests”, meaning “dense forest consisting mainly of oaks”.²⁹ For this reason Peeters translates it in Latin as *inter iuga quercetis horrida*.³⁰

Secondly, the passage informs us that the village was inhabited by Bulgarians, who are characterized as “people completely foolish and similar to beasts, shameless, eaters of unclean reptiles”. At the same time the *Life* refers to the cult of a marble statue (idol) depicting a female form, which most likely originated from the remnants of

Κολοβοῦ, παροίκων ἀτελῶν τεσσαράκοντα ὄωρεάν αὐτῇ παρέχων, ἀνθ' ὧν ἀφηρέθησαν τοπίων ἀπὸ τῶν πάλαι παραδοθέντων τῷ μέρει ταύτης ἐν τῇ τοποθεσίᾳ τῆς Ἐρισσοῦ παρά τῶν ἐνσκηνωθέντων ἐκεῖσε Σκλάβων Βουλγάρων”: J. Lefort, N. Oikonomidès & D. Papachryssanthou (eds), *Actes d'Iviron, des origines au milieu du x^e siècle*, vol. 1, Paris: P. Lethielleux, 1985; hereafter *Iviron* I, p. 11. See also F. Dölger, *Ein Fall slavischer Einsiedlung im Hinterland von Thessalonike im 10. Jahrhundert*, Munich: Bavarian Academy of Sciences, 1952; Dapergolas, “Slavikes egkatastaseis”, p. 108.

²⁷ See also the map no. 4 in Brunet, *op.cit.*, p. 255.

²⁸ B. Martin-Hisard, “La vie de Georges l'Agiorit”, *Revue des Études Byzantines*, 64-65 (2006-2007), 63; P. Peeters, “Histoires monastiques géorgiennes. II. Vie de S. Georges l'Hagiorite”, *Analecta Bollandiana*, 36-37 (1917-1919), 104-5. See also the final pages of this chapter.

²⁹ D. Tchoubinof, *Dictionnaire géorgien-russe-français*, Saint-Pétersbourg 1840, p. 275.

³⁰ Peeters, *op.cit.*, p. 105.

ancient *Stageira*.³¹ In short, we are informed that the Bulgarians had settled in an area extremely isolated due to its dense forest and that they lived a life more primitive than other populations of Halkidiki. This primitivism presupposes also a more direct relationship with their natural environment, as is confirmed by the fact that they were familiar with reptiles, which other inhabitants considered unclean.

In the case of the mines in the region of Sidirokafsia, we observe the appearance of toponyms with different linguistic origins, i.e., Greek *Sidirokafsia*, Slavic-like *Strempenikos*, *Trevenikous* and Turkish-like *Madem-lakkos*, which confirms the mixing of various ethnic groups that came to exploit the mines over a period of time, as attested in the sources.

In contrast to the Slavic language, the Turkish language, another key source of toponyms in Northern Greece,³² has not left significant traces in the toponyms of Halkidiki. This can be explained by the fact that Halkidiki was not an area with major Yürük settlements, except for the parts located near Thessaloniki in the *kazas* of Lagada and Kalamaria.³³ Of the few Turkish oiconyms appearing in Halkidiki, very few are related to the environment. Here lies a basic difference with the Slavic oiconyms, where the reverse phenomenon is observed, i.e., most of them are related to the natural environment and few come from personal names. This phenomenon is seen not only in Halkidiki but across Greece, where most Turkish oiconyms in Greece come from personal names. This is explained by the economic-military organization of the Ottoman Empire, based on the timar system, under which whole villages or some part of them or some areas around them were bestowed upon individuals in return for the latter's military services offered to the empire.³⁴ The villages or the regions took the name of their owners.

Finally it should be noted that the toponyms are a part of the vocabulary used daily. Problems of semantic transparency often occur because of the long gap that separates the speakers from the occasion of the initial naming but also because of the origin of toponyms from languages they do not know. We must not forget that in Halkidiki, apart from the Greek, there also coexist Pre-Greek (Indo-European and non-Indo-European), Latin, Slavic and Turkish toponyms, covering a period of over 4,000 years. So the meaning of the toponyms is often incomprehensible to speakers, as is their connection to a characteristic of the place. This leads to reanalysis of the

³¹ See also a relevant observation of Martin-Hisard, "La vie de Georges l'Agiorit", p. 63, f. 630. For this Bulgarian settlement and its possible connection with the Bulgarian settlement in Ierissos see also G. Soulis, book review of F. Dölger, *Ein Fall slavischer Einsiedlung im Hinderland von Thessalonike im 10. Jahrhundert*, Munich, 1952, published in *Ellinika*, 12.2 (1952), 403.

³² On the Turkish oiconyms of northern Greece see P. Kyranoudis, "Ta tourkika oiconymia tou Elladikou chorou" [The Turkish Oiconyms of Greece], unpublished MA thesis, Aristotle University Thessaloniki 1995.

³³ Kyranoudis, "Ta tourkika oiconymia", p. 12.

³⁴ *Ibid.*, p. 8.

toponyms to give them a form that is comprehensible or to link them with a real and objective characteristic of the place.

A typical case is that of the toponym *Morfonou* (*Μορφονού*), indicating a region in Mount Athos that belongs to the monastery of Great Lavra. It comes from the name of the city *Amalfi*, in Italy. The first mention of the monastery of *Amalfinou* (*μονή του Αμαλφινού*) is in an act of Nikiphoros I in the year 1010 (“τά δίκαια τοῦ Ἀμαλφηνού”, cf. and “ἕτερον μετόχιον τοῦ Ἀμαλφινού” in 1329), while, as indicated by D. Nastase,³⁵ the first safe testimony to the presence of monks from Amalfi on Mount Athos goes back to 1035, with the presence of the signature “+ J(o)h(anne)s hum(ilis) mo(na)chus Amalfitanus”.³⁶ The toponym evolved as follows: *Amalfinou* > *Malfinou* (*Μαλφινού*, the loss of the initial /a/ took place since the eleventh century, cf. the form *του Μalfitanου* [*του Μαλφιτάνου*] in a document of 1089³⁷) > **Molfinou* with labialization of *-ma* > **Morfinou* with the evolution of /lf/ > /rf/ due to the influence of the adjective *omorfos*, *omorfi* (*ὀμορφος*, *ὀμορφη*) ‘beautiful, charming’ > *Morfonou* (*Μορφονού*), the change /l/ > /o/ was due to the previous /f/ (labialization) or to the influence of the adjective *morfonios* (*μορφονιός*) ‘a handsome young man’. This lack of semantic transparency, the phonetic similarity with the adjective *omorfos* and the natural beauty of the place led to the reanalysis of the name as ‘beautiful place’ (the feminine grammatical gender because of the gender-ordinating ending *-ού*, denoting only females).

Then we pass to specific etymologies of toponyms which relate to the natural environment. These names can be distinguished in the following six categories:

2. Toponyms that Indicate the Form of the Region

2.1. Toponyms Denoting Geographical or Geological Features

Athos (*Ἄθως*). This mountain-name has been explained by the Thracian *Athon*, *Athos* < Indo-European **akto(n)*, by the Thracian root *ath-* ‘high, steep coast, cape’ < Indo-European **akt-*, cf. Ancient Greek *ακτή*, Bulgarian *Atija* ‘rocky peninsula to the west of Sozopolis’, which comes from Thracian **Athija* < Indo-European **Aktijā*, which continued to exist under the hellenized type *Antheia* (*Ἄνθεια*).³⁸ The Indo-European /kt/ became to /tt/ (assimilation) in Thracian and subsequently the one /t/ underwent dissimilative loss. Knowing that the Indo-European unvoiced stops /k/, /p/,

³⁵ D. Nastase, “Lanthanousa Athonitiki Moni tou 10ou aiona” [Unknown Athonite Monastery of the Tenth Century], *Vyzantina Symmeikta*, 5 (1983), 290.

³⁶ P. Lemerle, A. Guillou, N. Svoronos & D. Papachryssanthou (eds), *Actes de Lavra, des origines à 1204* (hereafter *Lavra I*), vol. 1, Paris: P. Lethielleux, 1970, no. 15, l. 16, no. 29, l. 21; *eadem*, *Actes de Lavra III, de 1329 à 1500* (hereafter *Lavra III*), Paris: P. Lethielleux, 1979, no. 118, l. 90.

³⁷ D. Papachryssanthou (ed.), *Actes de Xénophon*, Paris: P. Lethielleux, 1986; hereafter *Xenophon*, no. 1, l. 178.

³⁸ I. Duridanov, *Ezikăt na Trakite*, Sofia: Nauka i izkustvo, 1976, pp. 31, 73, 107.

/t/ become unvoiced aspirates (*tenues aspiratae*) /kʰ/, /pʰ/, /tʰ/, in Thracian – cf. Thracian personal name *Kenthos* [Κένθος] (*Desa-kenthos* [Δεσα-κενθος], *Epta-kenthos* [Επτα-κενθος] etc.) < Indo-European **ken-to-s* ‘child, descendant’, cf. Latin *re-cens* ‘fresh, young’,³⁹ – the Greek θ = /tʰ/ in the toponym Ἄθως renders the aspirate Thracian /tʰ/.

This etymology is confirmed by the fact that Thucydides, Diodorus Siceliotus, Herodianus and Stephanus Byzantius also use the toponym *Akti* (Ἀκτῆ) for the most eastern of the three peninsulas of Halkidiki, denoting not only Mount Athos but the whole Athos Peninsula. This toponym is a calque from Thracian into Greek, i.e., the Thracian inhabitants of the peninsula, after their hellenization, translated the Thracian *Athos* as *Akti* in their Greek idiom. This is confirmed by the fact that *Athos* is an older term than the toponym *Akti*, as it already appears in Homer, Herodotus, Hecataeus, etc., denoting not only Mount Athos but the whole Athos peninsula.⁴⁰

The second important piece of evidence confirming this etymology is the morphology of the Athos peninsula, with sheer cliffs in the south and especially south-western part. The slopes of the mountain come down abruptly to the sea, which is very deep here (cf. the disaster of Mardonius’ fleet). The original meaning of the Greek word *Akti* was “sheer coast” (for this reason it is accompanied by the adjectives *προῦχουσα*, *τηρηεῖα*, *ὑψηλή*). From this meaning arose the related meanings ‘cape, naze’, ‘great peninsula’.⁴¹ At the final step of its semantic development, the word was used generally for every coast, even for the bank of a river. The word *Akti* is derived from the Greek root *ak-* < Indo-European **ak-* which gives the meaning of ‘peak’. The root *ak-* has given a large number of derivatives (*aki* [ἀκή], *akis* [ἀκίς], *akmi* [ἀκμή], *akon* [ἀκὼν], *akanos* [ἀκανος], *akros* [ἀκρός], *akmon* [ἀκμων] etc.).⁴² The striking impression made on the Ancient Greeks by the sheer and imposing Mount Athos is clear in the descriptions of various authors.⁴³ Other similar toponyms from the root *akti* exist in Greece, cf. cape *Aktion* (Ἀκτιον), the toponym *Akti* (Ἀκτῆ) for the ‘Piraeus peninsula’,⁴⁴ *Attiki* (Ἀττική) < **Aktiki*, etc.

³⁹ Duridanov, *op.cit.*, pp. 101-2.

⁴⁰ See M. Zahrt, *Olynth und die Chalkidier*, Munich: C.H. Beck’sche Verlagsbuchhandlung, 1971, p. 151; P. Chovardas, “I Akti tis Halkidikis kata tous istorikous chronous” [Akti of Halkidiki during the Historical Period], unpublished MA thesis, Aristotle University of Thessaloniki, 2007, pp. 1, 14, with references to the ancient literature. We must add that a Homeric Hymn to Apollo mentions Athos as “Ὀρήκιός τ’ Ἀθῶς”. The use of the toponym *Athos* for the whole peninsula continued in later times, cf. the description of Strabo, *Geographica*, 7a.1.35: “ἐνταῦθα δὲ καὶ διῶρυξ δεῖκνυται ἢ περὶ τὴν Ἄκανθον, καθ’ ἣν Ἔερεξος τὸν Ἄθω διορύξαι”.

⁴¹ P. Chantraine, *Dictionnaire étymologique de la langue grecque*, vol. 1, Paris: Klincksieck, 1968, and H.G. Liddel, R. Scott, *A Greek-English Lexicon*, Oxford: Clarendon Press, 1996, s.v. *ἀκτῆ*.

⁴² Chantraine, *op.cit.*, s.v. *ἀκ-*.

⁴³ E.g. Strabo, *Geographica*, 7a.1.33: “ἔστι δ’ ὁ Ἄθων ὄρος μαστοιεδῆς ὀξύτατον ὑψηλότατον”.

⁴⁴ Chantraine, *op.cit.*, s.v. *ἀκτῆ*.

From the above we can conclude that the toponym *Athos* was created initially by Thracians to denote the sheer coast of the mountain. It should be added that the toponym had an expressive use in Thracian and Greek, in the sense “par excellence sheer coast” (just as *Polis* [Πόλις] < *Constantinopolis* [Κωνσταντινούπολις] was used to denote the most important city). In the competition between the two toponyms *Athos* and *Akti*, the first prevailed because when the Thracian language ceased to be spoken, the toponym became etymologically non-transparent. This etymological opacity ensured the uniqueness of the connection between signifier and signified a very important factor for the creation of a toponym. In contrast, the Greek *Akti* could not rival *Athos*, as it coincided with the corresponding common noun *akti*, which meant there was no unique connection between signifier and signified.

Sarti (Σάρπη). The toponym *Sarti* in ancient times denoted the name of a city on the southern tip of the Sithonia peninsula⁴⁵ and it survived in the Byzantine period (“τά δίκαια τοῦ Σάρπη”, in a document of 1341).⁴⁶ It returned in the modern era as a scholarly renaming of the *Metochion Xeropotamou* settlement.⁴⁷ The presence of the initial /s/ before a vowel, which in Ancient Greek became a “rough breath” (*daseia*, cf. Ancient Greek *ἔσπομαι* vs. Latin *sequor*), indicates a possible Pre-Greek origin of the name, which Duridanov⁴⁸ identifies with the Lithuanian toponym *Saŕtė*, *Sartà*, Latvian *Sārte*, considering the root of the name to be in the Lithuanian common noun *saftas* ‘open black’ (for horses), Latvian *sarts* ‘red’, ‘lively’ (for a person). This view must be treated with reservation as one cannot exclude the origin of the toponym from the Greek *sartós*, *sartí* (*σαρτός*, *σαρτή*, with an ascent of the accent), a verbal adjective from *sairo* (*σαίρω*) ‘sweep, clean’, cf. *sarmos* (*σαρμός*) “σωρός τῆς γῆς καὶ κάλλυσμα, ἄλλοι χόρτον, ἄλλοι ψάμμον” in Hesychius, *sarma* (*σάρμα*), genitive *sarmatos* (*σάρματος*) ‘chasm in the earth’.⁴⁹

Kouphos (Κουφός). The toponym *Kouphos*, *Porto Koufo* in Toroni appears in Thucydides, *Historiae* V: “σχῶν δὲ ἐς Σκιώνην πρῶτον ἐπι πολιορκουμένην καὶ προσλαβῶν αὐτόθεν ὀπλίτας τῶν φρουρῶν, κατέπλευσεν ἐς τὸν Κωφὸν λιμένα τῶν Τορωναίων ἀπέχοντα οὐ πολὺ τῆς πόλεως”.⁵⁰ The name indicates the ‘calm, quiet harbour’. The natural protection provided by the port is universally acknowledged, as confirmed by the existence of the ancient proverb “κωφότερος τοῦ Τορωναίου λιμένος”, i.e., ‘deaf than the port of Toroni’ mentioned by Zenobius (second century

⁴⁵ W. Pape & G.E. Benseler, *Wörterbuch der griechischen Eigennamen*, Vierter Abdruck, Braunschweig: F. Vieweg and Sohn, 1911, vol. 2, p. 1349.

⁴⁶ N. Oikonomidès (ed.), *Actes de Docheiariou*, Paris: P. Lethielleux 1984; hereafter *Docheiariou*, no. 20, ll. 25 to 26.

⁴⁷ Symeonidis, *op.cit.*, no. 15615.

⁴⁸ Duridanov, *op.cit.*, p. 47.

⁴⁹ P. Chantraine, *Dictionnaire étymologique de la langue grecque*, vol. 4.1, Paris: Klincksieck, 1977 and Liddel & Scott, *op.cit.*, s.v. *σαρμός*, *σάρμα*, *σαίρω*. I owe this etymological proposal to Prof. Chr. Tzitzilis.

⁵⁰ See also Pape & Benseler, *op.cit.*, p. 755.

AD) and the Dictionary of Soudidas (tenth century) entry: “Κωφότερος τοῦ Τορωνέος λιμένος· περί Τορώνη τῆς Θράκης καλεῖται τις λιμὴν κωφός λιμὴν. Εἶρηται δὲ ἡ παροιμία, παρόσον ἐν Τορώνη τῆς Θράκης λιμὴν στενὰς ἔχει καὶ μακρὰς τὰς ἀπὸ τοῦ πελάγους κατάρσεις, ὡς μὴ ἀκούεσθαι τοῖς ἐν αὐτῷ τὸν τῆς θαλάσσης ἦχον”.⁵¹ Cf. also H.G. Liddel & R. Scott, *A Greek-English Lexicon*, s.v. *κωφός*: “κωφός λιμὴν probably the bay of Munychia, as opp. to the noisy Piraeus (Xenophon, *Ελληνικά*, 2, 4.31), κύματι κωφῷ (*Iliada* 14, 16)” ‘with mute wave’. The *Lexicon of Scarlato Vyzantios*⁵² writes “κωφός λιμὴν where is not heard the roaring of the waves”. Regarding the great value of *Porto Koufo*, cf. the note of Piri Reis (1520-1526): “In these places the best natural harbor is Longos (Koufo), located between two mountains”.⁵³ Probably these considerable natural advantages of the port made it strategically important for the entire peninsula and for this reason Piri Reis gives it the name *Longoz*, used for the entire peninsula of Sithonia (*Longoz limani* ‘port of the Longos peninsula, of Sithonia’).

Kelyphos (Κέλυφος). The biggest island in Toroni bay is the arid and harbourless *Kelyphos*. The toponym comes from the common noun *kelyphos* ‘sheath’ and denotes the sheath (carapace) of a turtle, due to the similarity of the island with a turtle shell, when one looks at it from the coast of Sithonia. Although transformations from the neuter ending in *-os* to the masculine are frequent, in this case the neuter *kelyphos* became feminine, due either to the influence of the gender of the hypernym *nisos*, *i* (νήσος, η) ‘island’ or to the gender of the turtle in Greek, which is feminine: *i chelona* / ἡ χελώνα, in either case semantically connected to the island. With the voicing of the initial /k/ and delete of the unaccented /i/, the toponym now appears in the dialect of Halkidiki as *Gelfos* (Γκέλφος).⁵⁴ The local fishermen also use the name *Kefalos* (Κέφαλος),⁵⁵ derived from a form **Kefylos* from the anti-metathesis of consonants /f-l/ > /l-f/ and via folk etymology to *kefali* / *kefalos* ‘head’, ‘mullet’.

Dondas (Δοντάς). The toponym *Dondas* denotes an area on Mount Athos at the border of the monasteries Simonopetra and Xeropotamou, including the cell of St. Nicholas, cultivated lands and mountainous terrain, which, according to the edict of Jonh Ugljesha,⁵⁶ the Serbian Despot of Serres bought from Xeropotamou for 247

⁵¹ V. Katsaros (ed.), *Lexiko Souida 10os aionas m.Ch.* [Soudidas Lexicon. Tenth Century AC], Thessaloniki: Thyrathen, 2002, p. 672.

⁵² *Lexicon tis ellinikis glossis* [Lexicon of the Greek Language], Athens: A. Konstadinidis, 1907, p. 775.

⁵³ D. Loupis, *O Piri Reis (1465-1553) chartografei to Aigaio. I othomaniki chartografia kai i limni tou Aigaiou* [Piri Reis maps the Aegean. Ottoman Cartography and the Aegean Lake], Athens: Trochalia, 1999, p. 180.

⁵⁴ I. Papaggelos, “I Sithonia kata tous vyzantinous chronous. I storia, mnimeia, topografia” [Sithonia in the Byzantine Era. History, Monuments, Topography], unpublished PhD thesis, Aristotle University of Thessaloniki, 2000, vol. 1, pp. 56-7.

⁵⁵ *Ibid.* p. 47, f. 148.

⁵⁶ The edict is included in Patriarch Cyril Loukaris’ sigil of 1623, but the original was issued in 1368. The problem of the date of the edict has been satisfactorily solved by D. Kašić, “Despot Jovan Uglješa kao ktitor Svetogorskog Manastira Simonopetre”, *Bogoslovje*, 20 (1976), pp. 29-36, 42.

coins and donated to the dedicatory monastery. The concession of the cell *Dondas* in Simonopetra is mentioned in 1527-1528 in a decision of the Great Assembly (*Megali Synaxis*, today *Holy Community*) of the Holy Mountain regarding land disputes between the two monasteries, according to which “καί τοῦ δοντά τό κελίον: μετά τῆς περιοχῆς ὅλον ὑπάρχει τοῦ σίμωνος πέτρα”.⁵⁷ The toponym comes from the adjective *dondas* ‘who has big teeth’ < *dontia* (δόντια) ‘teeth’⁵⁸ and has its origin in the serrated form of the ridge of the mountain located just above the cell of Simonopetra and which is now the natural border with Xeropotamou. The ridge consists of some natural rocky edges, resembling large teeth. Etymology from a personal name *Dondas* originally meaning ‘man with big teeth’ cannot be ruled out but it is not confirmed by any other evidence.

Kakkavos (Κάκκαβος). The toponym *Kakkavos*, denoting a mountain in the region of the mines north of Gomati, comes from the medieval common name *kak-kavos* ‘kettle’. It is a toponym that is widespread throughout Greece, e.g., in Lemnos (name of a mountain), Crete, Etoloakarnania (name of a canyon), etc. The mountain probably owes its name to the similarity of its shape with a kettle, as is the case of the mountain *Kakkavos* in Lemnos. That mountain peaks with a rocky top where there is a large open cave making the top look like a kettle. The church of Panagia Kakaviotissa is built inside the opening, the only uncovered church in the world, having as its roof the roof of the cave.⁵⁹

Petros (Πέτρος). The toponym *Petros* in the village Nikiti, although one might first assume its origin to be in the personal name *Petros* ‘Peter’, is actually a name deriving from a geological feature. It is derived directly from the common noun *petra* ‘stone’, which appears also as masculine *petros* ‘stone’. In this case, the use of the masculine form is perhaps for augmentative purposes, i.e., to indicate the characteristic rocky mountain top of Sithonia (Nikiti area), cf. the description by Schinas: “Petros: Rock soaring vertically at the right of the road like a bell tower in the middle of earthen mountains”.⁶⁰ Toponyms based on the common name *petra* ‘stone’ to designate characteristic rocky mountain tops are frequent, cf. *Tourlopetra* (Τουρλό-

⁵⁷ Greek Archive of the Monastery of Xeropotamou, no. 1, see an abstract in P. Gounaridis, “Archeio tis I.M.Xiropotamou, epitomes metavyzantinon eggrafon” [Archive of Xeropotamou Monastery, Compendia of Post-byzantine Documents], *Athonika Symmeikta* 3, Athens: Institute for Byzantine Research of the National Hellenic Research Foundation, 1993, p. 15.

⁵⁸ For the use of the suffix *-as* (-άς) to form adjectives and the problem of their classification in the category of substantive or adjective, see P. Kyranoudis (Monk Kosmas Simonopetritis), *Morfologia ton tourkikon daneion tis ellinikis glossas* [The Morphology of Turkish Loans in the Greek Language], Thessaloniki: Institute of Modern Greek Studies (Manolis Triandaphyllidis Foundation), 2009, pp. 158-72.

⁵⁹ E. Liapi, *Panagia i Kakkaviotissa* (<http://www.mylemnos.gr/panagia-kakaviotisa.html>). The toponym already exists in the Byzantine era: *Actes de Lavra III*, no. 136 (1355), ll. 4, 9.

⁶⁰ N. Schinas, *Odoiporikai simeioseis* etc [Travelling Notes], 3rd issue, Athens: Messenger d’Athènes, 1887, p. 553. Text in Greek: “Πέτρος: Βράχος ὑψοῦμενος κατακορύφως δεξιόθεν τῆς ὁδοῦ ἐν εἶδει κωδωνοστασίου ἐν μέσῳ τῶν γαιωδῶν βουνῶν”.

πετρα) < *troulos* (τρούλος) 'dome' + *petra* 'stone', a boundary between the metochia of monasteries Simonopetra and Pantocrator in Longos. *Tourlopetra* is attributed in Turkish documents as *Sivri taş* 'sharp stone'.⁶¹ The origin of the toponym is more difficult to trace in the toponym *Pitrouds* (Πιτρούδος), which seems to be a diminutive of the personal name *Petros*, when in fact it indicates a lower stony hilltop in the same area. In other words, the diminutive masculine suffix *-ouds* (-ούδος) has been added to distinguish the two rocky tops based on their size.

The category of toponyms denoting features of the ground includes several Slavic toponyms, of which indicatively we mention the following:

Revenikeia (Ρεβενίκεια). The oiconym *Revenikeia* was the old name of the village *Megali Panagia* (Μεγάλη Παναγιά). It is mentioned for the first time in 942 as *Aravinikia* (χωρίον Αραβεινικηα).⁶² This form is confirmed by the existence of the name denoting place of origin *Aravinikiotis* (Αραβινικιωτης) in 1008 and 1010.⁶³ In a document of Docheiariou monastery of 1037 "τό πετίτον Άρα[βε]νικαίας"⁶⁴ is also mentioned. Later the oiconym appears without the initial /a/ as *Ravenikeia*, *Revenikeia*. It comes from the Protoslavic **arvinika* 'plain, level land' < Protoslavic adjective **arvinu* 'plain, level' < Indo-European **orwi*. The adjective has been preserved in almost all Slavic languages, cf. Bulgarian *raven*, Serbo-Croatian *ravan*, Russian *ravnij* etc.⁶⁵

Kamena (Κάμενα), *Kaminikos* (Καμηνίκος). The Slavic common noun *kamen* 'stone' gave in Halkidiki the oiconym *Kamena*, the Byzantine name of the current village *Gomati* (first appearance in 908⁶⁶). The toponym *Kamena* is still preserved, denoting a place at a distance of only 200 m. from the ruins of old *Gomati*.⁶⁷ The toponym *Kaminikos* also denotes a stony area close to the village of Agios Nikolaos in Sithonia, which the inhabitants of the village obtained from Simonopetra Monastery in 1614 in exchange for the winter pasturage which they possessed in Vourvourou.⁶⁸ It is derived from the Slavic **Kamen(ь)ikъ* 'stony land', cf. Serbo-Croatian and Bulgarian *Kamenik* with the same meaning, *Kaminikos* name of a stony

⁶¹ Ottoman Archive of the Monastery of Simonopetra [hereafter: OAMS], vakifname no. 1 (III Ramazan 976/ 9-18 March 1569).

⁶² D. Papachryssanthou, *Actes du Prôtaton* (hereafter *Protaton*), Paris: P. Lethielleux 1975, no. 4, l. 1.

⁶³ *Iviron* I, no. 15, l. 31, no. 16, l. 49.

⁶⁴ *Docheiariou*, no. 1, l. 10.

⁶⁵ *Bălgarski Etimologičen Rečnik*, vol. 6, Sofia: Institute for Bulgarian Language, Bulgarian Academy of Sciences, 2002, p. 139; Skach, *op.cit.*, p. 100; Symeonidis, *op.cit.*, no. 1212, Vasmer, *op.cit.*, pp. 211, 268.

⁶⁶ See I. Papaggelos, "Prospatheia entopismou tis *Kathedras ton Gerondon*" [Attempt to identify the location of *Kathedra ton Gerondon*], *Makedonika*, 23 (1983), 305-16; *Protaton*, no. 2, ll. 52, 53, no. 5 (942-943), l. 67; *Iviron* I, no. 29 (1047), l. 6. etc.

⁶⁷ Papaggelos, "Kathedra", p. 314.

⁶⁸ Contract of 8th November 1614; an abstract published by D. Vamvakas in "I.M. Simonos Petra. Katalogos tou archeiou" [Holy Monastery of Simonos Petra. Catalogue of the Archive], *Athonika Symmeikta* 1, Athens: Institute for Byzantine Research of the National Hellenic Research Foundation, 1985, no. 32.

mountain in Amarantos in Konitsa, etc.⁶⁹ The appearance of *η* in the second syllable is a result of raising of the unaccented /e/ to /i/.

Kornilongos (Κορνίλογγος). The toponym *Kornilongos* is the name of a river mentioned in the demarcation of the “βαλανηφόρου τόπου των Βουρβούρων” (‘oak tree land of Vourvoura’) of 1320 (“καί εισέρχεται μετ’ αὐτῆς εἰς τόν ποταμόν τόν λεγόμενον Κορνίλογγον”),⁷⁰ known today as *Koutsourou rema* (Κούτσουρου ρέμα) ‘stump stream’. It is derived from the Slavic **Горьньѣ Лѡгъ* ‘the upper mountain’.⁷¹ Maybe the adjective *горьньѣ* ‘upper’ was used as distinct from the ‘lower’ region of *Longos*, i.e., the south region of the Sithonia peninsula, given the fact that the name *Longos*, apart from meaning the whole Sithonia peninsula, denotes especially the southern part.⁷² Given the meaning of the Slavic *логъ* ‘wooded area’, we should accept that it was not the wooded area *Kornilongos* that took its name from the stream but the stream that runs through the wooded area that took its name from the wood. *Kornilongos* is mentioned in the Ottoman register of 1568 as *Kori Lonkoz* to denote a winter pasture of the Xenophon monastery.⁷³ This form came from the dissimilation loss of the first nasal /n/ (*Kornilonkoz* > *Korilonkoz*) and reanalysis of the toponym as a compound of the Turkish word *kori* ‘forest’ + the well-known toponym *Lonkoz*. The toponym was reinterpreted as *Kori-i Lonkoz* ‘Lonkoz forest’. This can be deduced from the fact that in the specific register the toponym is written as two words, the word *Lonkoz* being written in the next line below the word *Kori*.

Develikeia (Δεβελίκεια). The oiconym *Develiki* (Δεβελίκι) in the region of *Gomati*⁷⁴ appears at least in 1042 in the form *Develikeia* (Δεβελίκεια): “ἐν τῇ τοποθεσίᾳ τῆς Δεβελικῆς”; and later: “χωράφια κείμενα ὑπὸ Δεβελίκειαν”.⁷⁵ It is derived from the Slavic **Debelíka* ‘land with fertile ground’, ‘Bezeichnung für einige Pflanzen, fruchtbarer Boden, der viel Wasser enthält, dicke Frau, Apfelsorte’⁷⁶ (cf. Serbo-Croatian common noun *debelica* ‘fertile ground, holding water well’)⁷⁷ < Old Slavic adjective *debelŭ* ‘thick, fat, full, large, fertile, fruitful, strong’ (cf. Dialectical Bulgarian *dibel*, *dobel* with the same meaning)⁷⁸ + adjective *-íka* (earlier form of *-ica*), cf. Bulgarian toponyms *Debelec*, *Debelški dol*, *Debelina*, *Debelišnica*, *Debelište*, etc.⁷⁹ The later form **Δεβελιτζα* <

⁶⁹ Vasmer, *op.cit.*, pp. 36, 100.

⁷⁰ *Xenophon*, no. 13, ll. 171-2, 137, 139.

⁷¹ Vasmer, *op.cit.*, p. 273.

⁷² Cf. the above mentioned name *Longoz limani* ‘port of Longos’, given by Piri Reis in the sixteenth century to the port *Kofos*.

⁷³ Başbakanlık Osmanlı Arşivi (hereafter: BOA), Tapu Tahrir Defteri (hereafter: TT) 723, p. 1056.

⁷⁴ Symeonidis, *op.cit.*, no. 4423.

⁷⁵ *Iviron* I, no. 27, l. 83, no. 29, l. 74.

⁷⁶ Skach, *op.cit.*, p. 109.

⁷⁷ Brunet, *op.cit.*, p. 261.

⁷⁸ *Ibid.*

⁷⁹ *Bălgarski Etimologičen Rečnik*, vol.1, Sofia: Institution for Bulgarian Language, Bulgarian Academy of Sciences, 1971, pp. 328-9.

Debelica, where the palatalized form of the Slavic suffix *-ica* has prevailed, is witnessed in 1321 in the surname *Devlitzinos* (Δεβλιτζηνόσ: “χωράφιον τοῦ Δεβλιτζηνοῦ”⁸⁰ in the region of *Ormylia*).

Plana (Πλανά). The oiconym *Plana* in the region of *Vrastama* (a feminine toponym *Plana*, *i* [Πλανά, η]) appears in the region of *Ormylia* in a forged document with supposed date 1321)⁸¹ comes from the medieval common noun to be found frequently in Athonite documents *planina* (πλανινά) or *planini* (πλανινή) ‘mountainous winter pasture’ (cf. “ἀνερχόμε(ε)ν(οι) εἰς τ(ήν) διαφέρου(σαν) τῆ ὑπ’ αὐτ(οὺς) μονῆ πλανη(ν) τ(ήν) οὕτω π(ως) καλουμ(έ)ν(ην) Πουζούχ(ια)”, “χωρίον λεγόμενον τήν Σουσίτζα μετά πάντων ὧν ἔχει κ(αί) τῆς νομῆς καί περιοχῆς αὐτοῦ κ(αί) τῆς πλανινῆς” (in the years 1184 and 1375)⁸² < Slavic *planina* ‘mountain, high mountain’, with delete of the unaccented /i/ and dissimilative loss of /n/ < Protoslavlic **palnejnā*.⁸³ In the Ottoman register of 1519 the oiconym appears in the form *Pilana*⁸⁴ < Greek *Plana*, with a separation of the initial consonant cluster /pl/, which is intolerable in Turkish, by the development of /l/. The Slavic *planina* is still preserved today as a loan common noun in the dialect of Halkidiki, cf. *plani* (πλανή) in Nikiti.⁸⁵

Zavarnikeia (Ζαβαρνίκεια). The oiconym *Zavarnikeia* (Ζαβαρνίκεια) / *Zavernikeia* (Ζαβερνίκεια), dated at least to 1322,⁸⁶ is the name of a village in the region of the lakes and of modern *Gerakarou* (Γερακαρού), abandoned in the sixteenth century.⁸⁷ It is derived from the Slavic *zabǫrdnĭka* ‘place behind a hill’ (earlier form of **zabǫrdnĭca*) < Slavic *za* ‘behind’ + Ancient Slavic **bǫrdo* ‘hill, mound’, cf. Church Slavonic брѣдо, Bulgarian *bǫrdo*, Serbo-Croatian *bǫrdo* ‘hill, mound’. The Slavic **bǫrdo* is preserved today in a hydronym (*Brdo*) in the region of the village *Megali Panagia*.⁸⁸

2.2. Hydronyms

Sermylia (Σερμούλια). One of the oldest hydronyms of Halkidiki is *Sermylia* (Σερμούλια) or *Sermyli* (Σερμούλη, cf. *Σερμουλικός κόλπος* = Sermylia bay),⁸⁹ initially the name of a

⁸⁰ P.Lemerle, A.Guillou, N.Svoronos & D.Papachryssanthou (eds), *Actes de Lavra, des 1204 à 1328* (hereafter *Lavra II*), vol. 2, Paris: P. Lethielleux, 1977, no. 108, l. 559. See also Brunet, *op.cit.*, p. 261.

⁸¹ *Lavra I*, app. X, l. 3, 5, p. 310.

⁸² *Lavra I*, no. 66, l. 1-2 and *Lavra III*, no. 146, ll. 44-5.

⁸³ Skach, *op.cit.*, p. 177.

⁸⁴ E. Kolovos, “Chorikoi kai monachoi stin othomaniki Halkidiki, 15os-16os aiones” [Peasants and Monks in Ottoman Halkidiki, 15th-16th c.], unpublished PhD thesis, of Aristotle University of Thessaloniki 2000, vol. 2, pp. 49-50.

⁸⁵ Information provided by Dr I. Papaggelos.

⁸⁶ *Xenophon*, no. 17, l. 53, no. 23, ll. 4, 20, 26, 28, 36, 39-40, 42.

⁸⁷ Kolovos, *op.cit.*, vol. 2, p. 127. In Ottoman registers appears from 1445 until 1568 as *Zavernik*.

⁸⁸ Information provided by Dr I. Papaggelos.

⁸⁹ Pape & Benseler, *op.cit.*, p. 1372.

river. As we conclude from the presence of /s/ at the beginning of the word before a vowel, it is a Pre-Greek (Thracian) hydronym derived from the Indo-European root **sermo-* ‘river’, cf. Ancient Indian *sarma-h* ‘stream’, Thracian *Sermi* (Σέρμη) > Bulgarian *Strjama*, name of the left tributary of the river *Hebros* (*Marica*) in Bulgaria,⁹⁰ etc. Running through modern-day *Ormylia* (Ορμύλια) there is indeed a stream, which was incorrectly identified as the ancient river of *Chavrias* (Χαβρίας). The form *Sermileia* (Σερμήλεια) was preserved up to at least the tenth century. Later the toponym underwent the loss of the initial /s/ due to *fausse coppure* in its liaison with the final /s/ of other words, e.g., of the preposition *eis* (εἰς) or of the genitive case of the feminine article *tis* (της): *εἰς-Σ-ερμύλιαν* or *της-Σ-ερμύλιας* > *εἰς Ερμύλιαν* or *της Ερμύλιας* > *Ερμύλια*. The change of /e/ > /o/ at the beginning of the toponym was caused either by the influence of the following liquid /r/ or by folk etymology from the Greek verb *ormo* (ορμῶ) ‘rush’, cf. the phrase “Ορμήλια, τῷ ὄντι ὀρμῶσι τὰ περὶχωρα καὶ θρέφονται ἀπὸ σέ!” ‘Ormylia, indeed the surroundings are *rushing* and are fed by you!’.⁹¹

Vromosyrta (Βρωμόςσυρτα). The oiconym *Vromosyrta*, *ta* (Βρωμόςσυρτα, *τα*: modern *Agios Panteleimon*), southwest of *Portaria* and *Agios Mamas*, appears for first time in 1047 (“χωράφια κείμενα ὑπὸ τὴν ὑποταγὴν τῶν Βρομοσυρτ[ων]”),⁹² then in 1078 (“Κοσμάς μοναχός καὶ οἰκονόμος τῶν Βρομοσύρτων τῆς Μεγάλης Λαύρας”⁹³ and in 1249 (“μετόχιον τὰ Βρομόςσυρτα”).⁹⁴ Since 1298 up to the end of the Byzantine period the prevailing forms are *Drymosyrta* (Δρυμόςσυρτα: “ἐν τῇ Καλαμαριά χωρίον τὰ Δρυμόςσυρτα”: 1298, 1304)⁹⁵ and *Drymosita* (Δρυμόςσιτα: 1300, 1321).⁹⁶ In Turkish registers, the oiconym appears as *Vürmösirte* (1445, 1478),⁹⁷ *Virmösirte* (1478),⁹⁸ *Vürümösirti* (*kariye-i Vürümösirti, tabi Kelemeriye*⁹⁹ 1519), *Vurumi Sirti* (1527),¹⁰⁰ *Urumi Sirti* (1568).¹⁰¹

⁹⁰ Duridanov, *Ezikät na Trakite*, p. 48.

⁹¹ Ch. Papastathis, *To chroniko tis Ormylias* [The Chronicle of Ormylia], Thessaloniki: University Studio Press, 2004, p. 34.

⁹² *Iviron* I, no. 29, l. 68.

⁹³ J. Lefort (ed.), *Actes d'Esphigmenou*, Paris: P. Lethielleux, 1973, no. 4, l. 27.

⁹⁴ *Lavra* II, no. 71, l. 58.

⁹⁵ *Lavra* II, no. 89, l. 117, no. 98, ll. 40, 54, 55.

⁹⁶ *Lavra* II, no. 90, ll. 240, 241, 270, 276, 277, 283, 285, 288, no. 108, ll. 363-417, 419, 421, 422, 423, 469 etc.

⁹⁷ OAK 52/59, OAK 45/30, pp. 15a, 15b: see N. Todorov, B. Nedkov [eds], *Fontes Turcici Historiae Bulgaricae, series XV-XVI [=Turski izvori za Balgarskata istorija, serija XV-XVI]*, II, Sofia: Bulgarian Academy of Sciences, 1966, pp. 388-9, 415-7; BOA, TT 7, p. 615.

⁹⁸ BOA, TT 7, p. 615.

⁹⁹ BOA, TT 70, p. 106.

¹⁰⁰ BOA, TT 403, p. 821. Kolovos (*op.cit.*, vol. 2, p. 120) gives only the form *Voromosirta* for all the registers, except for that of 1568.

¹⁰¹ TT 723, p. 354; Kolovos' (*op.cit.*, vol. 2, p. 120) reading *Ivromisirta* is excluded, because the folk etymology of the first component as *Urumi* “Greek” is confirmed by the writing of the oiconym as two unconnected words (in the first component اورومي the ottoman ye/ي is not joined to following sim/س). For the form *urum* (in

From the above mentioned forms of the oiconym, as they appear in the written sources, it is clear that the original form is the form *Vromosyrta*, which survived throughout the Ottoman period until the liberation of Halkidiki. The form *Drymosyrta* of the Athonite documents is a scholarly “correction”, specifically a reanalysis of the oiconym as a compound of *drymos* ‘forest’ in order to avoid the jarring first component *vromo-* (*βρομο-*) ‘dirty’. The form *Drymosita* came from *Drymosyrta* with the dissimilative loss of the second /r/ and influence from *sitos*, pl. *sita* (*σίτος, σίτα*) ‘wheat’, given that the semantic relationship between the two components of the toponym was no longer apparent (*drymos* ‘forest’ + *serno* ‘pull’?). The Turkish forms with *-ti*, *Vürümösirti* (1519), *Vurumi Sirti* (1527), *Urumi Sirti* (1568), provide evidence that in the sixteenth century the masculine form *Vromosyrtis* also prevailed in Greek, exactly as the toponym is registered officially in Greek after Halkidiki became a prefecture of the Greek state.

The etymological suggestion of Symeonidis¹⁰² that “it is initially the name of a small fast-running river which drags soils with it, cf. *Bokloutza, i* (*Μπόκλουτζα, η*)” (< Turkish *bokluk* ‘dirt’) is correct. The oiconym is derived from the hydronym *Vromosyrta* (*Βρομόσυρτα*) ‘stream or river which carries along waste’ < adjective *vromosyrta* (*βρομόσυρτα/ βρομοσυρτά, τα*, with a shift of the accent) < *vromosyrtos* (*βρομοσυρτός*), verbal adjective of a supposed verb **vromosyrno* (**βρομοσύρνω*) ‘carry along waste’ < *vromos* (*βρόμος*) or *vromia* (*βρομιά*) ‘waste, dirt’ + *syro* (*σύρω*) ‘drag, carry along’, cf. post-medieval Greek *kolosyrtos* (*κωλοσυρτός*) ‘dragging his bottom on the ground’ < *kolosyrno*, *koloserno* (*κωλοσύρνω, κωλοσέρνω*) ‘drag something on the ground’, ‘torture’, (passive voice) ‘to be dragged, to be moved with difficulty’,¹⁰³ toponym *Kolosyrtis* (*Κολοσύρτης*, 1307, region of Ormylia¹⁰⁴ < *kolosyrno* [*κωλοσύρνω*]), which denoted a stream or a high place under which there was a deep stream (“εις τό Βαθηπόταμον στρέμματα ε΄ ἀπεδῶθεν τόν Κολοσύρτην, ης τω βουνῷ ἀπάνο, στρέματα ε΄”), oiconym *Kolosyrtis* (*Κωλοσύρτης*, in region of Nafpaktia).¹⁰⁵ The form *Vrimosyrta* (*Βριμόσυρτα*) appears only once¹⁰⁶ and should be explained as an amalgam of the forms *Vromosyrta* and *Drymosyrta*. Already by 1568 the oiconym had undergone a folk etymology in Turkish to *Rum, urum* ‘Greek’ so that some years before the end of the Ottoman period it was registered on an Austrian map of 1899

Ottoman script اوروم, exactly as is written in the register) of the Turkish *rum*, see J. Redhouse, *Turkish/Ottoman-English Dictionary*, Constantinople: SEV Matbaacılık ve Yayıncılık A.Ş., 1999, p. 1201.

¹⁰² Symeonidis, *Op.cit.*, no. 3550.

¹⁰³ E. Kriaras, *Lexiko tis Mesaionikis Ellinikis Dimodous Grammateias, 1100-1669* [Dictionary of Medieval Vulgar Greek Literature 1100 – 1669], vol. 9, Thessaloniki, 1985, p. 59.

¹⁰⁴ *Docheiarion*, no. 10, ll. 2-3.

¹⁰⁵ Symeonidis, *op.cit.*, no. 9055 derives the oiconym from **kalosyrtis* (**καλοσύρτης*) < ancient Greek *kalon* (*κάλον*) ‘wood, timber’ + *syrtis* (*σύρτης*), that means “place appropriate to draw down boles”.

¹⁰⁶ *Lavra I*, app. no. II, l. 36.

as *Rum Sarat*.¹⁰⁷ The folk etymology was preceded by the metathesis of the liquid /r/ in order to break the consonant cluster, intolerable in Turkish, at the beginning of the toponym (vru>vür, we must always have in mind that the Turks heard Greek in a form with northern vocalism [vrumósirta]).

Piavitsa (Πιάβιτσα). The toponym *Piavitsa* denotes today a big grassland between the current villages *Neochori* and *Stageira*, bounded by the stream of *Agios Athanasios* and the mountains *Strembenikos* (Στρεμπενίκος), *Profitis Ilias* (Προφήτης Ηλίας) and *Kamila* (Καμήλα).¹⁰⁸ From the fifteenth up to the seventeenth centuries, it denoted a village, abandoned later and today nonexistent. The oiconym is not mentioned in Byzantine sources. It appears for the first time in the Ottoman register of 1478 as *Biyavic*¹⁰⁹ and with the same form in the registers of 1527¹¹⁰ and 1568.¹¹¹ In parallel, it appears in Ottoman sources since 1485 in the form *Piyavica*.¹¹² According to A. Fotić,¹¹³ in Ottoman documents of Chilandariou Monastery of sixteenth and seventeenth centuries, the oiconym is noted as *Piyāviçe*.¹¹⁴ In 1588 Pierre Belon, who passed through the village in 1547, registers it as *Piavits*.¹¹⁵ In 1624, the Greek form *Piavitzā* (Πιάβιτζα) makes an appearance.¹¹⁶ In 1875 a Greek document gives the form with /b/ and affricate /tʃ/: εις τό μέρος τῆς Μπιάβιτσιας (phonological value: /bjávitʃa/).¹¹⁷ Taking into account that already in the sixteenth century the toponym *Piyavica* denoted also the name of a river in the same region, modern-day *Asrpolak-*

¹⁰⁷ 41° 40' Chalkidike, Vienna, 1899, digital collection of Mount Athos Map Library (hereafter MAML), no. 1925. See also N. Ploutoglou & Ph. Pappa, "Phylla charton tou Atho syntheseis" [Sheets of Maps of Athos, Compositions] in E. Liveriatos (ed.), *Orous Atho gis kai thalassis perimetron, Charton metamorphoseis*, Thessaloniki: Hellenic National Map Library, 2002, p. 306.

¹⁰⁸ See. K. Chioutis, *I Piavitsa ton Sidirokafsion kai to exokklisi tou Agiou Athanasiou* [Piavitsa of Sidirokafsion and the Country Church of Saint Athanasios], Thessaloniki, 2012, pp. 17-9, which gives an enlightening picture of the whole area with its borders.

¹⁰⁹ TT 7, p. 559.

¹¹⁰ TT 403, p. 1025.

¹¹¹ TT 723, p. 168.

¹¹² Kolovos, *op.cit.*, vol. 3, doc. no. 9 (hüccet of middle Safer 890/ 27th February - 8 March 1485, I have not seen the original).

¹¹³ A. Fotić, *Mount Athos and Hilandar in the Ottoman Empire*, Belgrade: Institute of Balkanology SANU, Chilandar Monastery, Holy Congress of Greek-Orthodox Serbian Church, 2000, p. 318.

¹¹⁴ First appearance in 1511. I have not seen the original Turkish documents.

¹¹⁵ Pierre Belon du Mans, *Les observations de plusieurs singularités & choses memorables, trouvées en Grece, Asie, Judée, Egypte, Arabie, & autres pays estranges*, Redigées en trois Livres, Anvers: Imprimerie de Christofle Plantin, 1555, pp. 91v, 92v-93r.

¹¹⁶ S. Kadas, *Ta simeiomata ton chirografon tis Monis Dionysiou tou Agiou Orous* [The Notes of the Manuscripts of the Athonite Dionysiou Monastery], Mount Athos: Holy Monastery of Dionysiou, 1996, p. 214.

¹¹⁷ This reading is based on a photograph (N. Voulgaris' archive), published by K. Chioutis, *op.cit.*, p. 31 (transcription on p. 91). The presence of voiceless postalveolar affricate /tʃ/ is testified by the note of semi-vowel j.

kas,¹¹⁸ we accept that the oiconym came from hydronym *Piavitsa*, which is derived from the Slavic *Pijavica* 'stream with leeches' < Slavic *pijavica* 'leech, *Hirudo medicalis*' (in collective use), cf. Serbo-Croatian *pijavica*, Slovenic *pijāvica*, Dialectical Russian *pijávica*, Bulgarian *pijávica*, Czech *pijavice*, Ancient Czech *pijěvicě*, Slovak *pijavica*, Ancient Polish *pijawica* with the same meaning < Protoslavic **pijāvicā*, **pъjāvicā* 'leech' (initial meaning 'who drinks') < **piti* 'to drink' + adjective of nomina agentis *-āvicā*.¹¹⁹ There were leeches in the region of *Piavitsa* up to the twentieth century, mainly in the place called *Bratzolia* (Μπρατζόλια), where one finds the sources of the river mistakenly called *Chavrias*.¹²⁰ The form *Μπιάφτσα* /bjáftsa/, which is today in use in the local idiom, comes from *Piavitsa* with the delete of the unaccented /i/ due to northern vocalism, the voicing of /p/ before the voiced palatal /j/ (assimilation) and devoicing of /v/ before invoiced affricate /ts/ (assimilation): /pijávitsa/ > /pjávitsa/ > /bjáftsa/.¹²¹ Vasmer¹²² notes the existence of a Slovenic toponym *Pijavica*, *Pijavice* without any other explanations and supposes possible identification of *Pijavica* with Byzantine *Pleavitzā* (Πλεαβίτζα) < Slavic **Plěvica* 'place for the collection of the straw', cf. common Slavic *plěva* 'straw', Serbo-Croatian *pljeva*, toponym *Plevlje*. Although *Piavitsa* could be derived from **Plěvica* > *Pleavitsa* (Πλεάβιτσα) > *Pliavitsa* (Πλιάβιτσα), with the change of the palatal /N/ to a semivowel /l/ and there is no problem semantically for this derivation, as *Piavitsa* is a grassland, nevertheless Vasmer's etymology cannot be accepted, because the toponym *Pleavitsa* was a place in *Phourneia* (Φουρνεία) of Sithonia and no early form of *Piavitsa* is found with /N/.

A significant number of toponyms in Halkidiki indicate swampy areas, often coastal.

Trestenika (Τρεστενίκα). The first safe evidence for the appearance of the toponym *Trestenika*, which today denotes a relatively important marsh on the southwest coast of the Sithonia peninsula (region of *Toroni*), dates to 1491/2, when mention is made in the regulation of a dispute between Pantocratoros and Russian monasteries for a metochion in *Longos*: "ὁ τόπος περι οὗ εἰ φιλονικία· ἄρχεται ἀπὸ τοῦ αἰγιαλοῦ ἤγουν ἀπὸ τό κροτήριον τῆς Ἀρετῆς, ὅπερ ἔστι πλησίον τοῦ αὐτοῦ κροτηρίου βάλτα ὀνόματι Τρισκοινί(αι)α".¹²³ One can date a little earlier its appearance in the same form (βάλτος *Τρισκοινίκα* 'Triskinikia marsh') in the forged sigil of

¹¹⁸ A. Fotić, *op.cit.*, p. 318. *Piavitsa* river is marked as *Viavitsa* / *Βιάβιτσα* in the Kakkavos area in the Austrian military map of 1899, "41° 40' *Chalkidike*", Vienna, 1899, MAML, no. 1925, and in a Greek map of 1910 based on the Austrian, MAML, no. 1912, see also Ploutoglou & Pappa, *op.cit.*, p. 306.

¹¹⁹ *Bǎlgarski Etimologičen Rečnik*, vol. 5, Sofia: Institution for Bulgarian Language, Bulgarian Academy of Sciences, 1996, p. 284, s.v. *pijavica*¹.

¹²⁰ Information provided by Mr K. Chioutis.

¹²¹ See also Chioutis, *op.cit.* p. 17, f. 1.

¹²² Vasmer, *op.cit.*, p. 209.

¹²³ V. Kravari, *Actes du Pantocrator*, Paris: P. Lethielleux, 1991, hereafter *Pantocrator*, no. 28, ll. 5-6.

Patriarch Antonios IV (with supposed date 1st February 1396).¹²⁴ However, we must consider the first appearance of the toponym to be that in the demarcation of the winter pasture *Vava* (*Βάβα*) of Simonopetra Monastery adjacent to Pantokratoros' metochion, given in the "edict" of John Uglesha (1365-1371) with the most likely year of issue 1368, which is saved in a sigil of Patriarch Cyril Lucaris dated to 1623: "εἶπα κατέρχεται εἰς τὸν αἰγιαλὸν τὴν λεγομένην ἀρετὴν, καὶ διαβαίνει εἰς τὴν τρεστενικία".¹²⁵ A letter from the Metropolitan (Bishop) Ioasaf of Thessaloniki dated to December, 1567, defining the borders of the metochia of Pantokratoros and Simonopetra monasteries in Longos, mentions the border "Ἀρετὴ, ἣτις ἐστὶν πλησίον τοῦ καλάμου τῆς Τρεστενικίας"¹²⁶ ("Areti, which is situated close to the reed of Trestenikia"). The word *kalamos*, literally 'reed', is explained by the writer as 'reed bed, mire'. The name also appears in the same form (κάλαμος Τρεστενικίας 'reed of *Trestenikeia*') in a patriarchal document of Anthimos II in July of 1623.¹²⁷

The first known appearance of the toponym in the form used today dates to 1569 in the *vakıfname* (deed of endowment) of Simonopetra with a reference to a *Trestenika deresi* 'stream of Trestenika', where the presence of the arabic letter ق (Qaf), which in Turkish is used for the rendering of the voiceless velar stop /q/, does not leave any doubt that the toponym ends in *-ika* (if it ended in *-ikia*, the Ottoman writer would use the letter ك (Kef), which renders the equivalent palatal stop /c/). The forms *Terşenik* (or *Tirşinik*), *Terştenik* (or *Tirştinik*) in two *temessüks* of the years 1577 and 1612¹²⁸ prove that already since sixteenth century the prevailing form is that ending in *-ika* (*Trestenika/Tristinika*), which is the norm during all the nineteenth century and is used until now in the spoken language, cf. the forms *Tersenika deresi* and *Tersenika deresi* again with ق (Qaf) in a *hüccet* dated to 1845¹²⁹ and in an Ottoman map of the same year, on which the Turkish hydronym is noted with Greek letters as *τρεστενήκα δερεσή* (*Trestenika deresi*).¹³⁰

¹²⁴ A. Pardos, "Archeio tis I. M. Pantokratoros, epitomes eggrafon, 1039 - 1801, part A" [Archives of Pantocrator Monastery. Compendia of the Documents, 1039-1801], *Athonika Symmeikta* 5, Athens: Institute for Byzantine Research of the National Hellenic Research Foundation, 1998, no. 27, considers that the document was forged for use in the aforementioned dispute between the monasteries of Pantocrator and of the Russians (1491/2).

¹²⁵ Kašić, *op.cit.*, p. 44.

¹²⁶ Pardos, *op.cit.*, no. 44. The exact citation has been transcribed by hieromonk Theophilos Pantokratorinos, whom I thank.

¹²⁷ Pardos, *op.cit.*, no. 64.

¹²⁸ OAMS, nos 180 (II Muharrem 985/ 31 March - 9 April 1577) and 196 (I Safer 1021/ 3-12 April 1612).

¹²⁹ OAMS, no. 157 (1 Cemazi-ül-evvel 1261/ 8 May 1845).

¹³⁰ OAMS, map "Longozda Vavo kışlağı Şimo Petre manastırının". The map applies the demarcation of the above mentioned *hüccet* of 1845 (no. 157).

Since the sixteenth century the form *Drestenitsa* (*Ντρεσενίτσα*)/ *Δρεσενίτσα* also appears for the same toponym, cf. *D(i)restenica*,¹³¹ which is also in use until now in the spoken language in parallel with *Trestenika*, but with somewhat lower frequency.

From the above comparison of the forms of the toponym in the earlier sources it can be concluded that the older form is that of *Trestenikeia* (*Τρεσενίκεια*: edict of John Uglesha, 1368), from which also derives the early form *Triskoinikia* (*Τρισκοινίκια*) of the documents of Pantokratoros Monastery, with a northern vocalism (raising of two /e/ to /i/) and dissimilative change of the second /t/ to a palatal /k/(=ç/) (*/trestenica/ > /triscinica/*). This initial form is not in use today, however, as in the spoken language it has been displaced by the form *Trestenika*, which comes from the genitive case **Тръстѣника* (cf. Bulgarian *Trăstenik-a* accusative of *Trăstenik*) of **Тръстенікъ* < Old Slavic *trъstъ* + word-formation suffix -ѣникъ,¹³² cf. *Bestinika* (*Μπεσινίκα*) in Magnesia from genitive *(iz) *Peštъnika* of a **Peštъnikъ*.¹³³ The form *Drestenitsa* comes from the Slavic **Тръстѣника*, cf. Serbo-Croatian *Trstenica*, Czech *Trstěnice*.¹³⁴

The initial form *Trestenikeia* (*Τρεσενίκεια*) is derived from the Old Slavic **Тръстѣніка* 'reed bed' (< Old Slavic *trъstъ* 'reed', cf. Bulgarian *trъst*, Serbo-Croatian *trst*), which is used frequently in South Slavic languages, cf. village *Trstenik* in the region of Doirani in a Slavonic document of 1372-1375,¹³⁵ Serbo-Croatian *Trstènik*, Bulgarian *Trăstenik* etc. This Slavic toponym has given plenty of toponyms in Greece, cf. *Drestenikon* (*Δρεσενίκον*, *Ντρεσενίκον* in Epirus),¹³⁶ *Tristeanikon* (*Τριστεάνικον*, in 1319), *Tristenikou Metochion* (*Τριστενίκου Μετόχιον*, near Fanarion in Thessaly, in the years 1289 and 1348), *Terstenik* (*Τέρστενικ*, Kastoria), *Trestenik* (*Τρέστενικ*).¹³⁷

The toponym *Trestenikeia* is an archaism, because it presents the earlier form -ίκα of the suffix -ίκα, it preserves the Protoslavonic *ръ* of the initial root **trъstъ*, while other later loan toponyms present a metathesis of the liquid /r/, cf. *Terstenik* (*Τέρστενικ*), *Terstika* (*Τέρστικα*, Kastoria).¹³⁸

¹³¹ Ottoman Archive of Monastery of Koutloumousiou (hereafter OAMK), temessük no. 17 (Safer 1076/ 13 August - 10 September 1665).

¹³² For the suffix see F. Miklosich, *Die Bildung der slavischen Personen und Ortsnamen*, Heidelberg: C. Winter, 1927, p. 208.

¹³³ Vasmer, *op.cit.*, p. 308.

¹³⁴ *Ibid.*, p. 214.

¹³⁵ P. Lemerle, G. Dragon & S. Ćirković, *Actes de Saint-Pantéléémon*, Paris: P. Lethielleux, 1982, pp. 170-2.

¹³⁶ For this reason I. Lambridis, *Zagoriaka*, Athens, 1870, p. 80, notes: "κέῖται εἰς κοιλάδα καὶ διασχίζεται πρὸς τὰ κάτω μάλιστα, ὑπὸ βαθεῶς λάκκου" ("it is located in a valley and it is crossed downwards by a deep stream").

¹³⁷ Vasmer, *op.cit.*, pp. 32-3, 54, 98, 196, 201, 214.

¹³⁸ *Ibid.*, p. 285.

The presence of /d/=ντ at the start of the form *Ντρεστενίκα* is due to the voicing of /t/ under the influence of the following voiced /r/, while the presence of /ð/=δ (*Δρεστενίκα*) is due to frication of /d/, if it is not a simple graphemic rendering of the Slavic /d/.

The toponym *Trestenikeia* originally denoted a swamp formed in the mouth of the stream *Vava* (*Βάβα*) < Slavic *baba* ‘old woman’, in Toroni bay. Afterwards it was extended to denote the wider coastal area, including the southern part of the stream *Vava*. Despite the fact that the *Vava*, upstream from its exit into the sea, becomes the boundary between the Simonopetra and Koutloumousiou metochia and the swamp *Trestenika* is included in the boundaries of the Simonopetra metochion,¹³⁹ the name *Trestenika* is also used to denote the region to the east of the above-mentioned stream (cf. the toponym *Vourvourou* below).

Vourvourou (*Βουρβουρού*). The toponym denotes a marshy location on the coast in the northern-eastern part of Sithonia and comes from the common noun *vourvourou* (*βουρβουρού*) < *vorvorou* (*βορβορού*, a form which appears in Cypriot and Pontic dialects)¹⁴⁰ with a northern vocalism < *vorvoros* (*βόρβορος*) + suffix of feminine nouns -ού. The first written evidence for the presence of the toponym is a document of Xenophon Monastery of 1089: “μοναστήριον λεγόμενον τῶν ἱερομνήμων ἦτοι τὰ Βουρβουρού”.¹⁴¹ The Athonite Monastery of Xenophon had been granted the *Vourvourou* monastery by Emperor Basil II to have as its metochion. The toponym appears in 1300 in the register of Demetrius Apelmene in the form of the gender-neutral plural *Vourvoura* (*Βούρβουρα*), cf. dialectal common nouns *vorvora* (*βόρβορα*, τα, Cyprus), *vourvoula* (*βούρβουλα*, Enos of Thrace), Cypriot, Pontic *vorvora* (*βορβόρα*, η), Cypriot *vorvorin* (*βορβόριν*).¹⁴² The place is described as a land of oaks: “βαλανηφόρος τόπος των Βουρβούρων”.¹⁴³ Despite the fact that the feminine form (*Vourvourou*) prevailed, the gender-neutral *Vourvoura* (*Βούρβουρα*) was kept in use at least up to 1569, when it appears in the vakifname of Simonopetra monastery to denote its metochion situated there: “Vurvura nam mevzide”. Although the Xenophon monastery demarcation of its ownership of *Vourvourou* gives an area of about 50,000 acres, which extends to both coasts of the Sithonia peninsula, the toponym *Vourvourou* came most possibly from two marshes, which existed up to the mid-twentieth century on the eastern coast, namely *Livari* (*Λιβάρι*) and *Bara* (*Μπάρα*) or *Vromobara* (*Βρωμόμπαρα*) < Slavic *bara*, cf. Bulgarian

¹³⁹ OAMS, hüccet no. 157 (1 Cemazi-ül-evvel 1261/ 8 May 1845), demarcation: “[the border] comes along the stream Tersenika, located at the coast, in the boundaries of metochion of Koutloumousiou monastery” (“derya kenarina Kutlumuş manastırı metohı sinorında olan Tersenika deresine varır”).

¹⁴⁰ N. Andriotis, *Lexikon der Archaismen in neugriechischen Dialekten*, Vienna: Austrian Academy of Sciences, 1974, s.v. βόρβορος.

¹⁴¹ *Xenophon*, no. 1, l. 145.

¹⁴² Andriotis, *Lexikon der Archaismen*, s.v. βόρβορος.

¹⁴³ *Xenophon*, no. 4, l. 14.

bara, Serbo-Croatian *bàra* 'brook, humid place, pit with water', Slovenic *bàra* 'marsh', etc.,¹⁴⁴ loaned in many Greek idioms. This is confirmed by the fact that located very close to the two marshes is the *kathedra* of the metochion of *Vourvoura*, where one can see the ruins of an Early Christian church on the sea-shore and the metochion church with the ruins of its outbuildings. Thus *Vourvourou* today denotes a region of more than 20,000 acres, from *Livari* until the limits of the Koutloumousiou metochion called *Kounoupades* (*Kounouπάδες*). The second of the two marshes (*Bara*), about 60 acres in area, was recently filled in,¹⁴⁵ with the result that the toponym gradually disappeared as the environmental change brought about a disconnection of signifier and signified.

The same common noun *vorvoros* (*βόρβορος*) also gave toponyms in other regions of Halkidiki, cf. the cultivated land (*mezra*) *Vurvuru* (*ورورو*) in the registers of 1519 (noted as "desolate and uninhabited"),¹⁴⁶ 1527, 1568,¹⁴⁷ cultivated "from outside" by the inhabitants of the village *Portaria* (*Πορταριά*) and the monks of the Konstamonitou monastery. The toponym is located by Kolovos¹⁴⁸ in the Konstamonitou metochion, two kilometres west of the current village of *Dionysiou*, in the vicinity of the village *Agios Mamas*. The same scholar¹⁴⁹ identifies the toponym *ورورو* with Byzantine *Vorvos* (*Βορβός*) and therefore transliterates it as *Vorvoro*. In reality, however, they are two different toponyms which simply coincided phonetically and geographically. The Byzantine oiconym *Vorvos* comes from *Volvos* (*Βολβός*) < common noun *volvos* (*βολβός*) < Ancient Greek *bolbos* (*βολβός*) 'purse-tassels, *Muscari comosum*',¹⁵⁰ while the *mezra Vurvuru* which appears in the same region denotes a marsh between the Konstamonitou and Russian metochia. Despite the distinction between /o/ and /u/ being impossible in Ottoman script, the fact that it is a different toponym from *Vorvos* leads us to read it as *Vurvuru* rather than *Vorvoro*, which is confirmed by the toponym *Vourvourou* of Sithonia, the absence of the form *Vorvoro* in written sources and the raising of /o/ to /u/ in the local idiom.

This distinction between *Vourvourou* and *Vorvos* in *Agios Mamas* is confirmed by a Turkish document of the nineteenth century of the voyvoda (provincial ruler) of *Lagadas* hasses (districts) (*Hasan Edremut Voyvoda havassha-i Lankaz*),¹⁵¹ which defined the demarcation of an area disputed by the Konstamonitou metochion and the metochion of *Agios Nikolaos* (of the Russian monastery) in "places called *Vurvur* on the sea-shore" ("derya kenarında *Vurvur* nam mehalde"). Furthermore, at the time of

¹⁴⁴ See *Bălgarski Etimologičen Rečnik 1, op.cit.*, p. 32.

¹⁴⁵ Papaggelos, "Sithonia", p. 182.

¹⁴⁶ TT 70, p. 104: *mezra Vurvuru, hali ez raiyet, tabi Kelemeriye*.

¹⁴⁷ TT 403, p. 842; TT 723, p. 260.

¹⁴⁸ Kolovos, *op.cit.*, vol. 2, pp. 121-2.

¹⁴⁹ *Ibid.*, vol. 2, pp. 121-2, 177.

¹⁵⁰ Liddel & Scott, *op.cit.*, s.v. *βολβός*.

¹⁵¹ Ottoman Archive of Xenophon Monastery, folder of *Agios Nikolaos* metochion, no. 18.

the expropriation of almost 5.000 acres from the Konstamonitou metochion under decision no. 37/15th November 1932 of the Expropriation Committee of Halkidiki, a marsh of 114,125 acres was recorded.¹⁵² We observe that both marshy areas *Vourvourou* of Sithonia and Agios Mamas are situated in coastal areas.

The common noun *vorvoros* must be regarded as the base of the toponym *Varvarikion* (*Βαρβαρίκιον*), which appears in a demarcation of the village *Krya Pigadia* (*Κρύα Πηγάδια*) in the year 1321, given the fact that within its boundaries there was a *loustra* (*λούστρα*, see below): “ὄπου (καί) λούστρα εὕρισκεται (καί) τόπος ὀνομαζόμενος Βαρβαρίκιον”.¹⁵³ We trace the process *varvarikion* (*βαρβαρίκιον*) < **vorvorikion* (**βορβορίκιον*) ‘small marsh’ (with dissimilation /o/-/a/</o/-/o/ and then assimilation /a/-/a/ and possible influence of *varvaros* [*βάρβαρος*] ‘barbarian’) < *vorvoros* (*βόρβορος*) + diminutive suffix *-ikion* (*-ίκιον*).

Viros (*Βηρός*). The toponym *Viros* can be witnessed from 980, denoting a region in Mount Athos at the borders of Zographou and Konstamonitou Monasteries. It is derived from the Old Slavic common noun *virъ* ‘whirlpool’, a very common Slavic word, which in Modern Bulgarian and Serbian denotes the points of a stream where small pools are formed of relatively great depth and width.¹⁵⁴ The same common noun has also given other toponyms in Greece, such as the well-known Byzantine oiconym *Vira* (*Βήρα*) on the west bank of the river *Hebros*, where in the twelfth century a monastery was built by the Komnenos family, around which developed a settlement, and which constituted an important centre during the Ottoman period under the Turkish name *Ferecik*.

The same Slavic common noun comprised the base for compound hydronyms in Mount Athos, like *Μαύρος Βερίός* [*mávros verjós*], which is in the region of the Simonopetra Monastery and denotes “a big natural water-pit of Dafni’s flume, above Dontas’ region and exactly above the cascade, which has a black colour, because of the big quantity of water”.¹⁵⁵ In the *vakifname* of the Monastery (1569) the hydronym is translated in Turkish as *Kara göl* ‘black lake’, while in a patriarchal sigil of 1623¹⁵⁶ it appears as “synagogi ton ydaton” (“συναγωγή τῶν ὑδάτων”), which means

¹⁵² M. Lilimbaki-Spyropoulou, *Halkidiki: i exelixa tou oikistikou diktyou kata tin periodo 1912-1960* [The Evolution of the Urban Network in the period 1912-1960], Polygyros: Prefectural Authority - Prefectural Committees of Popular Training (NELE) of Halkidiki, 2004, pp. 177-80.

¹⁵³ *Lavra* II, no. 108, l. 485.

¹⁵⁴ K. Pavlikianov, *Slavoi monachoi sto Agion Oros apo ton I' os ton IZ' aiona* [Slav Monks in Mount Athos from 10th to 17th Century], Thessaloniki: University Studio Press, 2002, pp. 187-91; *Bălgarski Etimologičen Rečnik* I, p. 150.

¹⁵⁵ Hieromonk Myron, “Toponymia tis periohis tou monastiriou Simonos Petras” [Toponyms of the Region of Simonopetra Monastery], Simonopetra Monastery (unpublished), p. 8, no. 51. In the Ottoman-Greek map of Alexander Phokaeus (watercolour, Mount Athos, 1878, a photo published in St. Papadopoulos [ed.], *Simonopetra, Mount Athos*, Athens: Hellenic Industrial Development Bank SA [ETBA], 1991, p. 54, fig. 15), the toponym is noted as “Mavros Vyros” (Μαύρος Βυρός).

¹⁵⁶ Kašić, *op.cit.*, p. 42.

'concentration of water', evidence that its writer knew the meaning of the toponym in Slavic.

Gournes (Γούρνες). One of the earliest witnessed Ottoman oiconyms of Halkidiki is *Karguluk*, the Turkish name of Byzantine *Gournes* (Γούρνες), situated some kilometres south-west of *Nea Raidestos*. It appears for the first time in 1094 denoting a village which was abandoned between 1409-1445.¹⁵⁷ The Turkish oiconym appears in the Ottoman register of 1445 as *Gurunya el-meşhur be-Karguluk*, meaning "Gurunya known as Karguluk".¹⁵⁸ In the register of 1478 it appears as *Guruna Karğuluk*, which is equivalent to the Greek *Gourna* (or possibly *Gournes*) *Kargoulouk*, while in the registers of the years 1519-1527 it is recorded as *Gürüne*¹⁵⁹ (equivalent with Greek *Gourna* or *Gournes*) *Karğılık*. The Turkish *Karguluk* is derived from the common noun *karguluk* 'reed bed' < *kargu* 'reed, cane' + suffix *-luk* for collective nouns.¹⁶⁰ The Greek oiconym *Gournes* (Γούρνες) comes from the common noun *gourna*, *i* (γούρνα, η) 'basin, pit' < Ancient Greek *groni* (γρώνη) 'hollow stone' and is evidence of the existence of dug or natural cavities (pits) filled with water for the watering of the livestock.¹⁶¹

Kargi-Giol (Καργή-Γκιόλι). The common noun *karği* has given the oiconym *Kargi-Giol*, name of a muslim settlement in region of *Lagadas* in the time of liberation,¹⁶² registered in Ottoman sources since 1445 as *Karigöli*. It is derived from *Karği göli* < *karği* 'reed, cane' with loss of the Ottoman /ɣ/=ğ, which still often occurs in Eastern Rumelian Turkish Dialects today.¹⁶³ Indeed the "kalamoti (reedy) lake" *Karigöl* still

¹⁵⁷ The historical development of the village is described by Kolovos, *op.cit.*, vol. 2, pp. 61-2 with reference to the sources and literature.

¹⁵⁸ Kolovos, *op.cit.*, vol. 2, p. 61, translates the toponym in Greek as "Gournai Karkoulouk" (Γούρναι Καρκουλούκ). The presence of the suffix *-ia* (*-ια*) denoting plural neuter proves that the toponym has undergone a folk etymology in Greek to *gourounia* (γουρούνια), plural of *gourouni* (γουρούνι) "pig", which is the correct reading of the first component. The reading *Karkoulouk* (Καρκουλούκ, Turkish *Karkuluk*) also must be corrected to *Kargoulouk* (Καργουλούκ, Turkish *Karguluk*) based on the correct etymology of the oiconym from the Turkish *kargu* "reed".

¹⁵⁹ I suggest that it be read *Gürüne* (instead of Kolovos' *Kuruna*) based on the derivation of the toponym from Greek *Gourne(s)* / Γούρνε(ς), which leads us to the conclusion that the initial Ottoman ڪ (kef) had the phonetic value of a palatal /ǰ/ which presupposes front vocalisation of the word (/ül, /el/ instead of /u/, /a/).

¹⁶⁰ From the same Turkish root comes the well known oiconym of Samos island *Karlovasi* (Καρλόβασι) < Turkish *Karğılık çayı* "brook of the reed bed", name of the river *Kerkitios* (Κερκίτιος) < *karğılık* "reed bed", as we conclude from Piri Reis' description (1520-1526): "To the East (of the cape *Kabak Kaya* = *Şeytan*) there is a big river flowing to the north. Its name is *Karğılık* (Kerkitios). It has big canes. Nobody can reach there. It is open to the north. So robbers have lived there since old times. *It has many canes the like of which are not found in the world*". Later (1609) the toponym *Karğuli ovası* "reedy field" appears, referring to the valley of the same river, which due to phonetic evolution and folk etymology turned to *Karlı ovası* "snowy field" > Greek *Karlovasi* (Καρλόβασι). For the etymology of the toponym *Karlovasi* see Monk Kosmas, "I etymologia tou oiconymiou *Karlovasi tis Samou*" [The Etymology of the Oiconym *Karlovasi* of Samos island] (forthcoming).

¹⁶¹ See also Symeonidis, *op.cit.*, nos 4152-8.

¹⁶² *Ibid.*, no. 6815; Kolovos, *op.cit.*, vol. 2, pp. 61-2, where all the sources and literature to be found.

¹⁶³ See Kyranoudis, *Morfologia*, p. 51 onwards.

existed at the beginning of the twentieth century to the west of the village *Valta* (*Βάλτα*) and its name was preserved in the renaming of the settlement as *Kalamoton* (*Καλαμωτόν*).

Glomprouzitsa [Γλομπρουζιτζα]. The medieval hydronym in Halkidiki *Glomprouzitza* (Γλομπρουζιτζα, 943)¹⁶⁴/ *Glombotzitza* (Γλομβοτζιτζα, 982)¹⁶⁵ is the name of a stream which runs into Strymonic bay about one kilometre south-east of the village *Nea Roda* (*Νέα Ρόδα*). The hydronym comes from a Slavic **Globočica* ‘place with deep water’ < Old Slavic *globočъ* ‘deep’ (cf. Slovenic *globòk*, Dialectical Bulgarian *glăbok*, *glibok* ‘deep’, etc.)¹⁶⁶ + suffix *-ica*, cf. Slovenic and Slavomacedonian hydronym *Globočica*.¹⁶⁷ The Slavic toponym preserved the nasal pronunciation of the ancient nasal Slavonic vowel $\bar{x} = /o^n/$ (or */ɔ/*), which created the phonetic environment *nasal + labial stop /b/*. Given the fact that Greek always had stops */b/*, */g/*, */d/* in this phonetic environment (after nasal consonants */m/*, */n/*), the pronunciation of the Slavonic */b/* as a voiced stop was maintained in the Greek. The consonant cluster nasal consonant + labial stop was rendered graphemically either as *mp* (*μπ*) or as *mb* (*μβ*). Nevertheless in both cases its phonetic value was the same (*/mb/*). For this reason, together with all the Slavic toponyms which present nasal vowels + stop */b/*, the toponym *Glomprouzitsa* does not comprise a counterexample with respect to the normal rendering of the Slavic */b/* with Greek β before the end of the eleventh century, as held by N. Dapergolas.¹⁶⁸

Isvoros (*Ισβορος*). The oiconym *Isvoron* (*Ισβορον*), which was changed by the Greek state to *Stratoniki* (*Στρατονίκη*), in the region of Arnaia, comes from the Slavic common noun **izvorъ* ‘spring of water’ < Protoslav **jizwaru*,¹⁶⁹ cf. Serbo-Croatian *izvor*, Bulgarian *izvor* with the same meaning, a frequent toponym in Slavic languages (Serbo-Croatian, Bulgarian *Izvor*), which has given in Greek a large number of toponyms. The specific toponym in Halkidiki appears in 1445 as *Eizvoron* (*Εϊζβορον*).¹⁷⁰ The Slavic */z/* was rendered graphemically, in Greek with σ because the consonant cluster */zv/* is normally rendered in Greek as $\sigma\beta$.¹⁷¹ It is noteworthy that in the forged testament of Sister Agatha of supposed date 20th September 1441, the toponym appears in the form *Gisvoron* (*Γήσβορον*) and is etymologically analyzed by the forger as follows: “καί τό χωρίον Γήσβορον καλούμενον (ὡς ἀληθῶς γῆς βοράν ὄν τῆς μεταλλείας)”¹⁷² (“and the village called Gisvoron (as indeed land

¹⁶⁴ *Protaton*, no. 6, l. 30.

¹⁶⁵ *Ivion* I, no. 4, l. 53 and p. 77, fig. 5.

¹⁶⁶ *Bălgarski Etimologičen Rečnik* I, *op.cit.*, p. 253.

¹⁶⁷ Vasmer, *op.cit.*, p. 29.

¹⁶⁸ Dapergolas, “Exellinismos ton slavikon toponymion”, p. 93, f. 16.

¹⁶⁹ Skach, *op.cit.*, pp. 39-40.

¹⁷⁰ J. Bompaire, *Actes de Xéropotamou* (hereafter *Xéropotamou*), Paris: P. Lethielloux, 1964, no. 30, l. 32.

¹⁷¹ Vasmer, *op.cit.*, 183.

¹⁷² *Xéropotamou*, app. Id, ll. 21-2, p. 238.

prey to the mining)”). It is a folk etymology of the oiconym which is regarded as a compound of the words *gi* (γη) ‘land’+*vora* (βορά) ‘prey’ (cf. the ancient verb *vi-vro-sko* [βιβρώσκω] ‘eat’, from the same root). The forger, who was probably educated, didn’t know the Slavic language, otherwise he would have known the very common Slavic word *izvor*. He reveals that in his time there was considerable mining activity giving the impression that they were “eating up” the earth.

Kokkinolakkas (Κοκκινόλακκας) - *Asprolakkas* (Ασπρόλακκας). The stream *Kokkinolakkas* in the region of *Kakkavos*, which flows into the Ierissos bay, owes its name to the very intense red colour of its water still visible today (*Kokkinolakkas* < *kokkinos* ‘red’+*lakkos* ‘stream’). In contrast to this stream, the name *Asprolakkas* < (*aspros* ‘white’+*lakkos* ‘stream’) was given to another stream, which joins *Kokkinolakkas* shortly before the mouth of the river; its water does not present this intense red colour.

3. Toponyms Denoting the Use of the Land

The above mentioned metochion of *Vourvoura*, Byzantine property of Xenophon Monastery, whose eastern part passed to Simonopetra before 1458, was appropriate land for the breeding of buffaloes due to its marshes. The buffaloes were used for agricultural work and to drag trees cut by woodcutters. From a judicial decree (*hüccet*) of the *molla* (muslim judge) of Sidirokafsia dated to 1578¹⁷³ it seems that Simonopetra Monastery bred water buffaloes (Turkish *su sigirleri*) there.

In the marsh named today *Bara* (Μπάρα), there was a salt pit, already mentioned in 1089.¹⁷⁴ The toponym *Livari* (Λιβάρι) < medieval *Vivarion* (Βιβάριον) with dissimilation /v/-/v/ > /l/-/v/ < Latin *vivarium*, denotes a fishery, which belonged to the prior Monastery of Ieromnimon (*Vourvourou*), donated to Xenophon Monastery in the tenth century. In the eleventh century, the fishery still remained in use, as we conclude from the use of the word as a common noun in a confirmatory document of 1089: “μοναστήριον λεγόμενον τῶν Ἱερομνήμων, ἦτοι τὰ Βουρβουροῦ, ὅπερ ἔδωρήσατο ὁ βασιλεὺς κύρ Βασίλειος τῇ μονῇ εἰς μετόχιον μετὰ [...] τῆς ἀλικῆς καὶ τοῦ βιβαρίου [...]”.¹⁷⁵ This fishery *vivari* is really a small lagoon north of *Vourvourou*, opposite the island *Diaporos* (Διάπορος). It seems that in about 1300 its use was changed to fodder. This change brought about a disconnection of the signifier of the common noun *vivarion* from its signified ‘fishery’ and its change to a toponym, as it appears in the demarcation of 1300: “οὗ πλησίον καὶ λούστρα τῆς αὐτῆς μονῆς Βυβάριν ὀνομαζομένη”,¹⁷⁶ where it is clear that *Vyvarin* denotes the name of a specific

¹⁷³ OAMS, no. 57 (12 Safer 986/ 20 April 1578).

¹⁷⁴ *Xenophon*, no. 1, l. 146.

¹⁷⁵ *Xenophon*, no. 1, l. 146-7.

¹⁷⁶ *Xenophon*, no. 4, l. 18-9.

place now used as *loustra*. The common noun *loustra* < Latin *lustra*, gender-neutral plural of *lustrum* ‘marsh’ (see Vlach *lustră* ‘marsh, place where the pigs wallow’), is still used today in Greek idioms of Macedonia and Thrace with the meaning ‘marsh, puddle, water pit, mucky place’,¹⁷⁷ appropriate for the wallowing of the water-loving buffaloes. The use of *Vivarin* as a toponym, after the designification of the initial common noun, facilitated its phonetic change. Consequently during the period of Ottoman occupation it appears exclusively in the form *Livari* (Λιβάρη), following a dissimilation /v-v/ > /l-v/.¹⁷⁸ From the above, it is clear that the fishing use of the lagoon did not survive during the Ottoman period and remained preserved only in the toponym. Conversely its use for fodder did survive but did not influence the toponym.

The use of *loustra* as a toponym is usual in the medieval period.¹⁷⁹ Its use for fodder also confirms the hydronyms *Loustra tou Makellari* (Λούστρα του Μακελλάρη), a stream name in 1321, literally ‘butcher’s *loustra*’, ‘Butcher’s marsh’ (μακελλάρης ‘butcher’ < Latin *macellarius* < Greek μάκελλον),¹⁸⁰ *Vouvaloustra* (Βουβαλόλουστρα) ‘*loustra* of buffaloes’, *choiroloustra* (χοιρόλουστρα) ‘*loustra* of pigs’.¹⁸¹

Sidirokafsia (Σιδηροκαύσια). The toponym *Sidirokafsia* already appears in the ninth century in the *Life* of Saint Efthymios: “Καί Ἰωάννης μὲν ὁ μακάριος τοῖς Σιδηροκαυσίσις λεγομένοις προσοικίζεται”.¹⁸² The populating of the settlement of Saint John (Ioannis) Kolonos took place in about 866. The oiconym has its origin in the common noun *sidirokauseion* (σιδηροκαυσεῖον) < *sidiros* (σίδηρος) ‘iron’ + verbal root *kafs-* (καύσ-) of the verb *kaio* (καίω) ‘burn’ + suffix *-eion* (-εῖον, cf. *chalkevo* [χαλκεύω] > *chalkeion* [χαλκεῖον]),¹⁸³ which denoted a ‘place where iron was “burnt”, smelted’, ‘iron mines’, etc. The colloquial form *Sidirokapsia* (Σιδηροκάψια) appears from 1259 (“ἐν τῷ χωρίῳ τῶν Σιδηροκαψίων”). The Turkish *Sidre-kapısı* came from this form via folk etymology in Turkish to an izafet compound taking the word *kapi* ‘gate, door’ as the second component: *-κάψι* [kapsi] was reanalyzed in Turkish as *kapi-si*, where *-si* was regarded as the third person ending, added at the end of izafet-constructions.

Karvounas (Καρβουνάς). *Karvounas* is the highest peak in the Vourvourou region and in the Byzantine period it appears with the name *Chalkovounon* (Χαλκό-

¹⁷⁷ Katsanis, “Latin Words”, p. 112; E. Douga-Papadopoulou & Chr. Tzitzilis, *To glossiko idioma tis Oreinis Pierias* [The Dialect of Upper Pieria], Thessaloniki: Society for Macedonian Studies, 2006, pp. 61, 378.

¹⁷⁸ The first appearance of the toponym in its new form *Livari* that I know of is in the above mentioned contract between the Monastery of Simonopetra and the community of Agios Nikolaos from 8th November 1614: Vamvakas, *op.cit.*, no. 32.

¹⁷⁹ See e.g. *Lavra* II, no. 90, l. 166.

¹⁸⁰ N. Andriotis, *Etymologiko lexiko tis koinis neoellinikis* [Etymological Dictionary of Modern Greek], Thessaloniki: Institute of Modern Greek Studies (Manolis Triandaphyllidis Foundation), 1988, p. 196.

¹⁸¹ *Lavra* II, no. 108, l. 316, 466, no. 90, l. 262.

¹⁸² L. Petit, “Vie et office de saint-Euthyme le Jeune”, *Revue de l’Orient Chrétien*, 8 (1903), 191.

¹⁸³ Cf. *dimosiakon sidirokafseion* (δημοσιακόν σιδηροκαυσεῖον) in *Xéropotamou*, no. 25, l. 25.

βουνον). The toponym has its origin in the common noun *karvounas* (καρβουνάς) 'who makes charcoal' < *karvouna* (κάρβουνα) 'charcoals' + productive suffix *-as* (-άς) used as 'the one who makes [the object is denoted by the root]', given that charcoal was made on the mountain until the beginning of the twentieth century.¹⁸⁴ The first evidence for the toponym *Karvounas* is a *hūccet* of 1458 regarding the demarcation of the Koutloumousiou metochion *Kounoupadēs* (Κουνουπάδες).¹⁸⁵ In this document, the toponym appears translated into Turkish as *Kötmürlük* 'place where charcoal is made' < *kötmür* 'charcoal' + productive suffix *-lük* for formation of collective nouns. We observe that the Ottomans translated the base of the toponym *karvouno* to the equivalent Turkish noun *kötmür* and the word formation suffix *-as* (-άς) with their suffix *-lük*. The form *Karvounas* (in Ottoman *Karvüne*) appears in the Ottoman registers of 1568 to denote the metochion of the Simonopetra monastery in Vourvourou.¹⁸⁶

Provlakas (Πρόβλακας). The toponym *Provlakas* (Πρόβλακας) still denotes today (mainly in the form *Ormos Provlaka* [Όρμος Πρόβλακα]) the two kilometre-wide isthmus which joins the hinterland of Halkidiki with the Athos peninsula, where Xerxes' famous canal is located. The toponym is mentioned for the first time in 1008/1009 in the guarantee of monk George¹⁸⁷ in the form *Pravlaka, i* (Πράβλακα, η: "εν τη τοποθεσία της Πραβλακας πλεισιον της Υπεραγίας Θεοτόκου") and later in another document of Megisti Lavra from 1018 (εις την Πράβλακα).¹⁸⁸ The form *Preavlakas* (Πρεαύλακας: "Μετόχιον τῆς μονῆς τοῦ Σπηλαιώτου εἰς τὸν Πρεαύλακα") appears in 1047¹⁸⁹ and *Proavlakas, o* (Προαύλακας, ο) in 1101 (εις τὸν Προαύλακα).¹⁹⁰ In Slavonic Athonite documents the toponym appears in 1295 in the forms (*na*) *Prěvlacě* ("za kupljenicu na Prěvlacě") and in 1300 as *Prěvlaka*.¹⁹¹ The toponym goes back to the Old Slavic *prěvlakъ* 'diolkos' (= 'slipway for passage of ships across the Isthmus of Corinth'),¹⁹² 'isthmus' < Protoslavlic preposition *per-* 'on, through'+Protoslavlic verb **welk* 'draw, drag, trail along, give a tow', survived in Bulgarian *provlak* 'isthmus', *prevleka*, *provlača*, Serbian *provlačiti* 'pull, draw'.¹⁹³ The

¹⁸⁴ See D. Smagas, *Randevou tou Agiou Nikolaou me tin istoria* [Agios Nikolaos' appointment with History], Thessaloniki: Local Council, Associations and Unions of Agios Nikolaos, 2003, pp. 152-4.

¹⁸⁵ OAMK, no. 4 (I Cemazi-ül-evvel 862/ 17-27 March 1458).

¹⁸⁶ TT 723, p. 1052.

¹⁸⁷ *Lavra* I, no. 13, l. 7.

¹⁸⁸ *Lavra* I, no. 24, l. 19.

¹⁸⁹ *Iviron* I, no. 29, l. 92.

¹⁹⁰ J. Lefort, N. Oikonomidēs & D. Papachryssanthou (eds), *Actes d'Iviron, du milieu du XI^e siècle à 1204*, vol. 2, Paris: P. Lethielleux, 1990; hereafter *Iviron* II, no. 50, ll. 24, 61.

¹⁹¹ M. Živojinović, V. Kravari, Chr. Giros (eds), *Actes de Chilandar, des origines à 1319* (hereafter *Chilandar* I), vol. I, Paris: P. Lethielleux, 1998, no. 15. p. 158, App. II, p. 295.

¹⁹² Liddel & Scott, *op.cit.*, s.v. διοικός.

¹⁹³ Bl. L. Niederle, *Manuel de l'antiquité slave*, vol. 2 (*La civilisation*), Paris: Librairie ancienne Honoré Champion 1926, p. 253; Vasmer, *op.cit.*, p. 210; Skach, *op.cit.*, pp. 177-9; Soustal, *op.cit.*, pp. 181-2; K. Pavlikianov, *The Mediaeval Greek and Bulgarian Documents of the Athonite Monastery of Zographou (980-*

Slavic common noun *prěvlakъ* is possibly a calque from Greek *diolkos*. The Greek toponym *Diavripou* appears in the same region (*Διαυρίπου*: “ρύαξ του Διαυρίπου” ‘brook of Diavripou’ or “τάφρος του Διαυρίπου” ‘ditch of Diavripou’) < *ενίρος* (*εύριπος*) ‘canal, ditch’,¹⁹⁴ which in Athonite documents from 982 up to the fourteenth century denotes the stream debouching into the western exit of Xerxes Canal. Consequently the toponym *Provlakas* denotes the use of *diolkos* for the passage of ships from the one sea coast to the other, whilst the toponym *Diavripou* (*Διαυρίπου*) the existence of a ditch - canal.¹⁹⁵ The later form *Proavlakas* (*Προαύλακας*) comes from reanalysis (folk etymology) of the toponym in Greek as a compound from the preposition *pro-* and the noun *avlaχ* (*αύλαξ* ‘chute, groove’), in genitive case *avlakos* (*αύλακος*).

4. Toponyms Denoting Human Interventions in the Natural Environment

The toponym *Strembenikos* (*Στρεμπενίκος*) denotes a mountain situated in the region of current *Stageira* (close to current *Arnaia*). It is also known by the name *Stratonikon* (*Στρατονικόν*).¹⁹⁶ The toponym comes from the Slavic *Srebrenikъ* ‘place for silver mining’ due to the presence there of a mine the main product of which was silver. *Srebrenikъ* > **Strembenikos* (**Στρεμπενίκος*) after development of an accompanying phoneme /t/ in order to support the pronunciation of the consonant cluster /sr/ > *Strembenikos* (*Στρεμπενίκος*) and dissimilative loss of the second /r/. The base of the toponym is the Slavic common noun *srebro* ‘silver’, cf. the toponym *Strembenon* (*Στρέμπενον*) in Florina, which Vasmer¹⁹⁷ derives from the personal name *Srebreni* (from the same root *srebro*), the Bosnian city *Srebrenica*, etc. On the presence of a Slavic-speaking population in *Siderokavsia* see P. Belon’s observation “ceux qui habitent aux minieres de Siderocapsa, sont gens ramassez, et usent de langage different, comme Esclavon, Bulgare, Grec, Albanois”. The presence of the labial stop /b/ (graphemically *μπ*) instead of /v/ (*β*) in Greek proves that it is a later loan (after the twelfth century). The morphological adaptation of the toponym in -os is evidence of the presence of the Slavic *ъ* at the end, otherwise according to the laws

1600), Sofia: St. Kliment Ohridski University Press, 2014, pp. 134-5, 196, 197, 250, 488; Pavlikianov, *Slavoi monachoi*, p. 186; *Bălgarski Etimologičen Rečnik*, vol. 1, *op.cit.*, p. 164.

¹⁹⁴ Liddel & Scott, *op.cit.*, s.v. *εύριπος*.

¹⁹⁵ On the issue of the digging of a canal or the use of *diolkos* by Xerxes see I. Papaggelos, E. Kambouroglou, “Istorikes kai archaiogeomorphologikes erevnes gia tin dioryga tou Xerxou stin hersoniso tou Atho” [Historical and archaeological-geomorphological surveys on the Canal of Xerxes in the Athos peninsula], *Tekmiria*, 4 (1998), pp. 177-88.

¹⁹⁶ Chioutis, *Piavitsa*, pp. 17-9 (photograph).

¹⁹⁷ Vasmer, *op.cit.*, p. 196.

of the morphological adaptation of Greek¹⁹⁸ one would expect its adaptation as neuter **Strembeniki* (**Στρεμπενίκι*).

Trevenikous (*Τρεβενίκους*). The toponym *Trevenikous* (*Τρεβενίκους*), *Tervenikous* (*Τερβενίκους*), *Drevenik*, *Dirvenik* appears at the beginning of the seventeenth century in the same region of *Strembenikos* as the name of a settlement and a river.¹⁹⁹ The toponym and hydronym probably have the same origin with the hydronym *Τερβηνίκου ποταμός* 'river Tervenikou' in the Serres region. It comes from the Slavic **terbьnikъ*, Ancient Bulgarian *trěbьnikъ* 'a cleared land' (in German 'Rodeort') < Protoslavlic **terbinejku* < **terbitěj* 'pull out by the roots, extirpate', cf. Modern Bulgarian *trebja* 'extirpate'. Cf. also the toponyms *Trebenište* (region of Bitola), Serbo-Croatian *Trebnje*, *Trebinje*, *Trebin*, Greek *Trembenon* (*Τρέμπενον* in the region of Ptolemaida), *Triveni* / *Trivouni* (*Τριβένι* / *Τριβούνι* in the region of Kozani), Slovenic *Trebnik*, Austrian *Tribernik*, etc.²⁰⁰ The origin of the toponym from a word meaning 'cleared land' may be connected to the activity of the mines of the region.

The toponym *Perigardikeia* (*Περιγαρδικεία*) appears for first time in a document of Constantine Kamatiros of 1037, where it mentions "ἡ ἐν τῷ Ἁγίῳ Ὄρει ἐπ' ὀνόματι τοῦ ἁγίου Νικολάου) ἰδρυμένη μονή, Δάφνη [ὀνομαζομένη] καὶ τοῦ Δοχειαρίου ἐπιλεγομένη, ἀγρόν ὑπὸ τὸ πετίτον Ἀρα[βε]νικείας [δ]ιακει[μενον καὶ Περιγαρδικείαν] ἐπονομαζόμενον κέκτηται μικράν τινα παραψυχὴν εἰς διατροφὴν τοῖς ἐν αὐτῇ θεαρέστοις μοναχοῖς παρεχόμενον".²⁰¹ The toponym *Perigardikeia* comes from the Old Slavic **Pergardika* / **Pergordika* 'fenced place' < Protoslavlic preposition **per-* (πρѣ-) + *gardъ* 'fenced, separated land, garden' + Old Slavic suffix *-ika*, cf. Old Slavonic *πρѣградити*,²⁰² Greek toponym *Perigardi* (*Περιγάρδι*), Serbo-Croatian toponym *Pregrada*, *Pregradje*, Russian *peregoródka* 'diaphragm' etc.²⁰³ It is a Slavic archaism, as confirmed by the following data: a) Lack of the Slavic liquid metathesis of */r/*, as the older form *gardъ* appears in the word instead of the later *gradъ*, a process completed by the ninth century,²⁰⁴ cf. the numerous Slavic oiconyms *Gardiki(on)* (*Γαρδίκι[ον]*) of Greece < Old Slavic **Gordьkь*, which comprises the precursor of Old

¹⁹⁸ Kyranoudis, *Morfologia*, pp. 67-85.

¹⁹⁹ V. Anastasiadis, "Archeio tis I. M. Chilandariou, epitomes metavyzantinon eggrafon" [Archives of Chilandar Monastery. Compendia of the Post-byzantine Documents], *Athonika Symmeikta* 9, Athens: Institute for Byzantine Research of the National Hellenic Research Foundation, 2002, nos 7, 12; Fotić, *op.cit.*, pp. 318-25.

²⁰⁰ Vasmer, *op.cit.*, pp. 222, 60-1, 189; Skach, *op.cit.*, pp. 175, 195.

²⁰¹ *Docheiariou*, no. 1, ll. 8-12, see also l. 25 and the appearance of the toponym in a document of 1089 (no. 2, ll. 20, 32, 34, 36 etc.).

²⁰² *Bălgarski Etimologičen Rečnik*, vol. 3, Sofia: Institute for Bulgarian Language, Bulgarian Academy of Sciences, 1986, p. 270.

²⁰³ Vasmer, *op.cit.*, p. 144.

²⁰⁴ See Brunet, *op.cit.*, pp. 243-4; Soustal, *op.cit.*, p. 181.

Slavic *gradъcbъ*.²⁰⁵ b) The presence of the non-palatalized form of the suffix *-íka* in the place of later *-ica* (> Modern Greek suffix *-ítsa* / *-ίτσα*). In the Ottoman sources the toponym appears for first time in 1478 as *Birğadik*, while in parallel it continued to appear in the forms *Barağardik* (1519), *Barağardik* (1568) rendering the Byzantine form *Perigardikeia* (Περιγαρδίκηια).²⁰⁶ The form *Pyrgadikia* (Πυργαδίκηια), prevailing still today and used as the name of the village arising out from the Byzantine metochion of Docheiariou Monastery, need not necessarily be taken to be the result of folk etymology relating it to Greek *pyrgos* (πύργος) ‘tower’,²⁰⁷ because it could arise from the original Old Slavic **Pergardíka* as a result of phonetic evolution. Namely the Slavic preposition **per-* was reanalyzed as Greek *peri-* (περι-), while the second /r/ fell due to dissimilation. This process resulted in the form **Perigadikia* (**Περιγαδίκηια*, cf. Ottoman *Birğadik*) appearing initially. From this form, with a raising of the unaccented /e/ to /i/ and delete of /i/ of the second syllable due to the northern vocalism, arose the form *Pyrgadikia*. What is certain is that folk etymology relating to the word *pyrgos* influenced the writing of the oiconym with *u*.

Mademochoria (Μαντεμοχώρια). The toponym *Mademochoria*, which is used for the villages of the mines (*Galatista*, *Babdos*, *Kazantzi Machalas* [today *Stageira*], *Stanos*, *Varvara*, *Liaringovi* [*Arnaia*], *Novoselo* [today *Neochori*], *Isvoros* [*Stratoniki*], *Chorouda*, *Revenikia* [*Megali Panagia*] and *Ierissos*) is a compound word using as its first component the Turkish loan *mademi* (μαντέμι) ‘mine’ < Balkan Turkish *madem* < *maden* ‘mineral, ore, metal’, ‘mine’, a loan-word in Turkish from Arabic.²⁰⁸ The oiconym denotes the villages which were members of the *Sabor* (< Slavic *sabor* ‘assembly’) or *Koinon* (Κοινόν < Greek *koinon* ‘common, community, assembly’) of *Madem*, i.e., of the confederation of villages engaged in working the mines during the Ottoman period.²⁰⁹

Madem-lakko(s) (Μαντέμ-λάκκο[ς]). The common noun *madem* ‘mine’ has left its vestiges also on other toponyms of Halkidiki, like the well known *Madem-lakkos*, which is a partial translation from Turkish *madem dere(s)*, that means ‘stream of the mine’, cf. the Bulgarian hydronyms *Madenska reka*, *Mademska reka*, *Mademska rekička*, *Majdanska reka*, *Maden d[e]r[e]*, *Madem deresi* have all taken their name

²⁰⁵ See Vasmer, *op.cit.*, pp. 26, 151, 161, 287-289; Symeonidis, *op.cit.*, nos 3692-3701, as well as the toponym *Perigardi* (Περιγάρδι) in the Chronicle of Morea (Vasmer, *op.cit.*, pp. 144).

²⁰⁶ See Kolovos, *op.cit.*, vol. 2, pp. 49-50.

²⁰⁷ This is the interpretation of Symeonidis, *op.cit.*, no. 15003; Soustal, *op.cit.*, p. 181.

²⁰⁸ *Lexiko tis Koinis Neoellinikis* [A Dictionary of Standard Modern Greek], Thessaloniki: Institute of Modern Greek Studies, hereafter *DSMG*, 2001, p. 820; St. Stachowski, *Studien über die arabischen Lehnwörter im Osmanisch-Türkischen*, vol. 2, Wrocław-Warsaw-Krakow-Gdańsk: Polish Academy of Sciences, 1977, pp. 63-4.

²⁰⁹ Kolovos, *op.cit.*, vol. 2, pp. 92, 99-101, 116-7, 125; I. Papaggelos, “To *koinon* tou Mademiu” [The Confederation of the Mines], in N. Pantazopoulos, A. Karathanasis (eds), *I diachroniki poreia tou koinotismou sti Makedonia*, Thessaloniki: Kentro Istorias Thessalonikis, 1991, pp. 255-72.

from iron mines.²¹⁰ Despite the fact that the noun *madem* passed as a separate loan in Greek, the Greek-speaking people preserved *madem* unadapted and translated only the second component *dere*. The whole toponym moreover appears as indeclinable, cf. the title of the book “Η ‘μεγάλη απεργία’ των μεταλλωρύχων της Ολυμπιάδας και του Μαντέμ Λάκκο” (instead of Λάκκου).²¹¹

Resetnikia (Ρεσερνίκια). The toponym *Resetnikia*, old name of the village *Agios Prodromos* in the region of *Galatista*, appears in written sources for first time in 996 as *Resetinikia* (Ρεσετηνίκι[α]), the name of a village destroyed by the Bulgarians. Its inhabitants were obliged to move to *Polygyros*.²¹² The next written appearances of the toponym are in the Ottoman registers as *Rešetnik* (1478), *Reşednik* (1519), *Rešetnik* (1527-1568).²¹³ The toponym comes from the Protoslavlic **Rešetinika* ‘place where somebody sifts’²¹⁴ < Protoslavlic **rešeta* ‘sieve with big holes’, cf. Old Slavic рѣшето, рѣшето, Bulgarian *rešeto* ‘sieve made of leather for the sieving of wheat’, Serbo-Croatian *rešeto* ‘a big coarse sieve’, Russian *rešeto*, *rjašeto* ‘coarse sieve’ etc.²¹⁵ Cf. also the Serbo-Croatian toponyms *Rešetnica* (Sarajevo), *Rešetar*.²¹⁶ Symeonidis²¹⁷ explains the toponym as ‘place where sieves are made’. We must note that, besides the village, the name *Rešetnik* appears also with respect to the river *Olynthios* (Ολύνθιος), which traverses the same village. In an Ottoman map of 1901/2 the river is called *Resetenik deresi* (‘stream of *Rešetnik*’). In 1929 the archaeologist M. Robinson, who visited the region in 1902, used the name “River *Retsinikia*”.²¹⁸ It is possible that the name of the river and the village are connected with the sieving of the river sand for the abstraction of alluvial gold; it is known that gold deposits exist in the sand of the river *Olynthios*. Evidence of the sieving of the sand of this river from ancient time in order to abstract the alluvial gold exists in the so-called *agramades* (Greek *agramada* < Slavic *gramada*) along it, i.e., big stone piles made by the gold-diggers when they extracted the stones of the river in order to sieve the deeper sand.²¹⁹ The form *Retsinikia*, registered in 1918 before the village was renamed *Agios Petros* (1927) and *Agios Prodromos* (1928), is a result of phonetic development and folk etymology. It comes from the

²¹⁰ I. Duridanov, *Die Hydronymie des Vardarsystems als Geschichtsquelle*, Cologne - Vienna: Böhlau, 1975, pp. 197-8.

²¹¹ A. Stavropoulou, *Η “megali apergia” ton metallorychon tis Olympiadas kai tou Madem Lakko* [The Great Strike of the Miners of Olympiada and of Madem-Lakko], Athens: Enallaktikes Ekdoseis – Notios Anemos, 2003.

²¹² *Iviron* I, no. 10, l. 18.

²¹³ Kolovos, *op.cit.*, vol. 2, p. 102.

²¹⁴ Skach, *op.cit.*, p. 104.

²¹⁵ *Bălgarski Etimologičen Rečnik*, vol. 6, *op.cit.*, pp. 240-1.

²¹⁶ Vasmer, *op.cit.*, pp. 211.

²¹⁷ *Op.cit.*, no. 15214.

²¹⁸ See I. Sarafis, “To resetnikiotiko potami (Olynthios)”: http://agios-prodromos.blogspot.gr/2009/04/blog-post_04.html.

²¹⁹ I. Papagelos, “*Agramades* kai proschomatikos chrysos” [*Agramades* and Alluvial Gold], *Technologia*, 7 (1994), pp. 52-4.

form *Restenikia* (cf. *Reştenik* in later Ottoman sources)²²⁰ via a change in the consonant cluster /št/ to /tš/ (antimetathesis) and the influence of *retsini* (ρετσίνι) ‘resin’, *retsina* ‘the drink *retsina*’.

5. Toponyms Denoting the Kind of Vegetation or Cultivation

Many toponyms offer information about the flora of the region, the density or the quality of vegetation, etc. See below:

Sykia (Συκιά). The toponym *Sykia* (Συκιά) < common noun *sykea* (συκέα), *sykia* (συκιά) ‘fig tree’ in collective use, denotes today a village on the south-eastern coast of the Sithonia peninsula. It is a very frequent toponym, which has often been used as oiconym.²²¹ The Ottoman admiral Piri Reis registered the toponym between 1520-1526 as *İncir limanı*,²²² i.e., ‘port of fig tree’, translating the Greek word *sykia* with the equivalent Turkish phytonym *incir*.

Olynthos (Όλυνθος). Moreover, already in ancient times the rarer toponym *Olynthos*, *i* (Όλυνθος, η) exists, coming from the masculine phytonym *olynthos*, *o* (όλυνθος, ο in collective use) 1) ‘edible fruit of the wild fig’, 2) ‘sterile summer fruit of the cultivated fig’, a substrate (non-Indo-European) non-etymologized word of Ancient Greek.²²³ The change of grammatical gender is caused by the influence of the hypernym *polis* (πόλις). The toponym became an accepted oiconym in ancient times but disappeared in the medieval period. The name *Olynthos* of the current village is a recent scholarly renaming of the Byzantine oiconym *Mariana* (Μαριανά,²²⁴ already from 996), a name of Latin origin coming from the name of the Roman hamlet *Mariana* < *Marius*. The common noun *olynthos* survives in various Greek idioms in the forms *olyththas* (όλυθθας), *elythos* (έλυθος; Chios), *elyththas* (έλυτθας; Astypalaia island), *alothas* (άλοθας), *aloththos* (άλοθθος; Rhodes), *alythos* (αλύθος; Symi island), *elyssos* (έλυσσος; Cythera), *elysos* (έλυσσος; Peloponnese), etc., meaning 1) ‘edible fruit of the wild fig’, 2) ‘wild fig’.²²⁵

Aphytos (Άφυτος). We must be very careful before explaining the ancient oiconym *Aphytos* (Άφυτος), *Aphyti* (Αφύτη), *Aphytis*, gen. *Aphytios* (Άφυτις, -ιος)²²⁶ of

²²⁰ Kolovos, *op.cit.*, vol. 2, p. 102.

²²¹ Symeonidis, *op.cit.*, nos 1327-8 registers nine oiconyms *Sykea* (Συκέα), six *Sykeai* (Συκέαι), one *Syki* (Συκή) and eight *Sykia* (Συκιά). Cf. also the toponym *Pikrosykia* (Πικροσύκια) in the region of Nikiti, Papagelos, “Sithonia”, p. 32.

²²² Loupis, *op.cit.*, pp. 180, 182, 185.

²²³ Liddel & Scott, *op.cit.*, s.v. *όλυνθος*; P. Chantraine, *Dictionnaire étymologique de la langue grecque*, vol. 3, Paris: Klincksieck, 1974, s.v. *όλυνθος*.

²²⁴ According to Symeonidis, *op.cit.*, no. 12940. See also J. Lefort, *Villages de Macédoine, 1. La Chalcidique occidentale*, Paris: Centre de Recherche d'Histoire et Civilisation de Byzance, Monographies 1, 1982, pp. 97-100.

²²⁵ Andriotis, *Lexikon der Archaismen*, s.v. *όλυνθος, ολύνθιον*.

²²⁶ Aelius Herodianus et Pseudo-Herodianus, *De prosodia catholica*, 3,1, 221.7.

Kassandra peninsula, which survives today, as a compound by sterile *a-* + *phyton* (*φυτόν*) 'plant', i.e. as 'land without plants'. The description of *Aphytis* by Xenophon does not indicate a land where nothing germinates. Specifically, recounting Agesilaos' desire to be moved to *Aphytis* and the nearby temple of Apollo, he writes: "ὡς δὲ πρόσθεν ἑορακότα τὸ ἐν Ἀφύτει τοῦ Διονύσου ἱερὸν ἔρωσ αὐτὸν τότε ἔσχε τῶν τε σκιερῶν σκηνημάτων καὶ τῶν λαμπρῶν καὶ ψυχρῶν ὑδάτων".²²⁷ Such a description leads us – with some reserves – to the explanation of the initial *a-* of the word as a copulative or augmentative prefix (αθροιστικόν / επιτατικόν). In this case the toponym *Aphytis* has the opposite meaning, i.e., 'land with many plants, with abundant vegetation', cf. Ancient Greek adjectives *axylos* (*ἄξυλος*) 'thick with trees', *abios* (*ἄβιος*) 'rich', *apedos* (*ἄπεδος*) 'plain, flat' etc.²²⁸ The absence of aspiration of the copulative *á-* /*ha*/ can be attributed to a dissimilation of aspiration to the following aspirated /*p*^h/ (graphemically *φ*): /*hap*^hutos/ > /*ap*^hutos/. Moreover, as Chantraine observes,²²⁹ due to dissimilation to forms like *alochos* (*ἄλοχος*), *adelphos* (*ἀδελφός*), *akolouthos* (*ἀκόλουθος*), the copulative *á-* gave rise to a variety of forms without the aspiration (*á-*), which extended later to other words, particularly those in which dissimilation of aspirates was impossible, mainly in the psilotic dialects, e.g. Homeric *akoitis* (*ἀκοίτης*), but also in the Attic dialect or in Greek of later periods, e.g., *apedos* (*ἄπεδος*), *abios* (*ἄβιος*), etc. Given that in the Byzantine period the use of the copulative *á-* ceased, the *a-* in *Aphytos* became considered to be privative. However, the absence of any connection of the oiconym with the natural characteristics of the place, i.e., an expected but absent lack of vegetation, led to a folk etymology and to the forms *Aphetos* (*Ἀφετος*, cf. *aphesis*/*ἄφεσις* 'remission'), *Athytos* (*Ἄθυτος*, cf. *thyma*/*θύμα* 'victim').²³⁰

Akanthos (*Ἀκανθος*). Ancient *Akanthos* on the isthmus of the Athos peninsula was a colony of *Andros* island. It was located on the site of old *Ierissos* (the town before the earthquake in 1932).²³¹ The toponym comes from common noun *akanthos* (*ἄκανθος*) 1) 'bearsfoot, *Acanthus mollis*', 2) 'sitlah tree, *acacia arabica*', a variety of Ancient Greek *akantha* (*ἄκανθα*) 'thorn, prickle', 'any thorny or prickly plant'.

The Byzantine name of the city *Erisos* (*Ερισός*)/ *Ierissos* (*Ιερισσός*) has prevailed up to today. The toponym *Erisos* appears for the first time in 883 in a sigil of the Emperor Vasileios I in the form *Erisos, o* (*Ερισός, ο*: "τοῦ Ἐρισοῦ ἡ ἐνορία"), which recurs in a document of Leon VI of 908 ("ἐνορίαν τοῦ Ἐρισοῦ"), but also in other

²²⁷ Xenophon, *Hellenica*, 5.3.19.3.

²²⁸ Chantraine, vol. 1, *op.cit.*, s.v. *á-*.

²²⁹ *Ibid.*

²³⁰ Symeonidis, *op.cit.*, no. 2628.

²³¹ The old *Ierissos* was built on a hill but after its destruction by the earthquake of 1932 it was moved to the place where is situated today.

documents of the tenth century (934, 942).²³² The feminine form *teis Erisou* (τεις Ερισου) appears in 942-943, in parallel with the masculine *Erisos*. It is noteworthy that in the first appearances the toponym denotes the *castle of Erisos* (κάστρον Ερισού).²³³ The form *Ierissos* (κάστρον Ίερισσοῦ) appears for first time in 927,²³⁴ subsequently used in parallel with *Erisos* (Ερισός).²³⁵ From the time period between the two forms of the toponym, we conclude that the form *Ierissos* is a result either of folk etymology of the initial *Erisos* (Ερισός) with the adjective *ieros* (ιερός) 'holy' or of a scholarly "correction" maybe made by Athonite monks.

To explain the oiconym *Erisos* we should first bear in mind the settlement of a Latin-speaking community in *Akanthos* between 85-57 BC, of which we are informed by an inscription found in the acropolis of *Ierissos* (known as *the marble of Ladiava / το μάρμαρο της Λαδιάβας*) dated between 27 BC - 14 AC. The Roman community (*conventus civium Romanorum*) was comprised of Latin-speaking merchants (*negotiatores*) who, according to Samsaris,²³⁶ must have been involved in the exploitation of the mines and of the timber from the nearby forests. The members of the Roman Community were probably bilingual, speaking Latin and Greek. The Roman geographer Pomponius Mela mentions *Akanthos* as follows: "inter Strymona et Athon, turris Calarnaea et portus Κάπρου λιμὴν Capru limen, urbs Acanthos et Echinia".²³⁷ Unfortunately we don't have any other information about the city *Echinia*.²³⁸ It can be supposed, however, from the fact that Pomponius Mela mentions the two names together, that the two cities were very close to each other²³⁹ and that possibly they were one and the same, i.e., *Echinia* was another name of *Acanthos*. As Mela would normally use the plural for two different cities, it would be expected that in this case he would write "urbes Acanthos et Echinia" not "urbs Acanthos et Echinia". Consequently, when the bilingual Romans settled in *Akanthos* in the first century BC, either

²³² *Protaton*, no. 1, l. 15, no. 2, ll. 8, 50, no. 3, l. 10, no. 4, ll. 23, 25, 27, no. 5, l. 24.

²³³ *Protaton*, no. 5, ll. 1, 11, 19, 24, 28, 53, 66, no. 6, ll. 4-6.

²³⁴ "Ἡ τῶν οἰκητόρων τοῦ κάστρου Ἰερισσοῦ ἀπειθία καὶ σκληρότης...", see *Iviron* I, no. 1, ll. 1; *Iviron* II, no. 31, l. 54.

²³⁵ E.g. in 982 "ἐν τῷδε τῷ θεοσώστῳ κάστρῳ Ἰερισσοῦ", see *Iviron* I, no. 4, l. 19, and afterwards no. 5, l. 15, no. 7, ll. 10, 22, 27, no. 15, l. 53, no. 16, ll. 3-4, 47, 57; *Lavra* I, no. 18, l. 26, no. 24, l. 8; *Xéropotamou*, no. 4, l. 6 etc.

²³⁶ Οἱ Ῥωμαῖοι καὶ ἡ Χαλκιδικὴ [The Romans and Halkidiki], in *Praktika tou Protou Panelliniou Symposiou Istorias kai Archaialogias tis Chalkidikis, Polygyros, 7-9 Dekemvriou 1984, Chronika tis Chalkidikis* (annex), Thessaloniki: Historical and Folklore Society of Halkidiki, 1987, pp. 113-25.

²³⁷ Pomponius Mela, *De Chorographia Libri Tres*, liber II, 32-3, Lipsiae in aedibus B.G. Teubneri, 1880, p. 35.

²³⁸ Zahrt, *op.cit.*, pp. 185-6.

²³⁹ Cf. Zahrt *op.cit.*, p. 185: "Ein Echinia wird nur von Mela 2, 30 neben Acanthos genannt". The interpretation that *Echinia* was another name of *Acanthos* is also given by S. Liakos: "Mela who lived during the first century AD reveals to us that Acanthos was also called Echinia", see G. Apostolidis, *Akanthos: Erissos-Ierissos and Agiorites* [Akanthos: Erissos-Ierissos and Athonite monks], Ierissos: Municipality of Stageira-Akanthos, 2004, p. 121.

they found that in Greek the name *Echinia* was used for the city as well as *Akanthos* in the same century (about 45 BC) or they found a settlement called *Echinia* very close to *Akanthos*.

The oiconym *Echinia* comes from the common noun *echinos* (ἐχίνος), which during this period (first century BC) was the standard word for 'hedgehog'. From the early Byzantine period, however, the word *echinos* is used mainly to mean 'sea urchin', displacing the meaning 'hedgehog' (the Modern Greek *achinos* [αχινός] 'sea urchin' derives from this use). For 'hedgehog' the Greeks later used the compound *akanthochiros* (ἀκανθόχοιρος) which didn't exist in Ancient Greek.²⁴⁰ Bilingual Romans, who in parallel in their Greek idiom used the common noun *echinos* 'hedgehog', translated the Greek oiconym *Echinia* (or possible *Echinos*) into Latin as *Ericius* 'hedgehog'. After the palatalization of the palatal stop /k/ before a front vowel, which appeared in Balkan Latin from the third century AC,²⁴¹ this became **Erišus* > Greek *Erisos*. The presence of /š/ instead of /tš/, which is the usual result of palatalization of the palatal stop /k/ in Balkan Latin, could be explained either as a phenomenon of Balkan Latin, cf. Balk. Latin *Dalmasius* = *Dalmatius*, *deposio* = *depostio*, *Eustasiae* = *Eustatae*, *Eustasia* = *Eustatia*, *Lutasius* = *Lutatus*, *innocensius* = *innocentius* etc. (third or fourth century AC)²⁴² or as a phenomenon of Greek, i.e., as an early rendering of Latin /tš/ with Greek /s/ because of the lack of /tš/ in Greek. Consequently the oiconym *Erisos* consists of a loan translation (calque) in Latin from Greek *Echinos*. In the local idiom up to today the oiconym appears as *Nirsos*, ο (*Νιρσός*, ο),²⁴³ *Irsos*, ο (cf. [iršóts] or [ršóts] 'a man from Ierissos').²⁴⁴

We must add that the toponym *Erisos* < **Erišus* is an earlier and different form from the common noun *αρίτσιου* [arítšus], which appears in many northern Greek dialects, even in Halkidiki, e.g., in Ierissos *aritsoumenous* (αριτσουμένους) 'somebody whose hair is like the spines of the hedgehog',²⁴⁵ where one sees the expected

²⁴⁰ The meaning 'urchin' already appears as the basis of *echinos* in Hesychius (fifth century BC). See *Hesychii Alexandrini Lexicon*, v.s. *Echinos*: ἐχίνος: "μικρόν τῆς θαλάσσης ζῶον" (small sea animal). The normal word for 'hedgehog' according to the same ancient lexicographer is *akanthochiros* (ἀκανθόχοιρος), as we can conclude from the fact that he gives it as the interpretation in the dictionary entry ἐχίνος: "πέμμα νησιωτικόν... καί οἱ ἀκανθόχοιροι".

²⁴¹ Katsanis, "Latin Words", p. 106.

²⁴² H. Mihăescu, *Limba latină în provinciile Dunărene ale imperiului Roman*, București: Academia Republicii populare române, 1960, p. 93; *eadem*, *La langue latine dans le sud-est de l'Europe*, București-Paris: Editura Academiei, 1978, pp. 197-8.

²⁴³ The first to argue the etymology of oiconym *Erisos* from Latin *ericus* was S. Liakos, see his letter to G. Apostolidis, published by the latter in *Akanthos*, *op.cit.*, pp. 119-22. In this not entirely scientific work (pp. 115-28) an etymology from Latin *ericus* is propounded, which, despite several serious inaccuracies, does move in the right direction.

²⁴⁴ Information Dr. I. Papaggelos.

²⁴⁵ Apostolidis, *op.cit.*, p. 127.

result of the palatalization /ki/ > /tʃi/ (*ericus* > /arítʃus/) in Balkan Latin. These forms in the Greek dialects do not comprise loans from the Vlach language (cf. Romanian *ariciu*), as is often argued, but Romance loans, i.e., loans transferred via the folk channel of Balkan Latin before the formation of the four Romance languages of the Balkans (in the sixth to tenth centuries).²⁴⁶ Moreover, the classic Latin *ericus* ‘hedgehog’ is preserved in almost all Romance languages, cf. Romanian *ariciu*, Italian *riccio*, Provençal, Catalan *aritz*, Spanish *erizo*, Portuguese *ouriço*, French *hérisson* etc.²⁴⁷

Concerning the more specific semantic relationship between the toponym and the Latin *ericus* ‘hedgehog’, I would argue that the toponym *Echinia* has its origin in the fortification of the city. Its use was perhaps similar to that mentioned by Hesychius (fifth century AC) under the entry *echinoi* (ἐχίνοι): “καὶ οἱ τῶν τειχῶν ἀγκῶνες” (the ‘elbows’ of the walls).

Based on the above, we can not exclude the possibility that *Erissos* is a calque directly from Greek *Akanthos* identified with a common noun *akanthos* (ἀκανθος) ‘hedgehog’, without any intercession of an *Echinia*, cf. Ancient Greek *akanthai* (ἄκανθαι) ‘prickles or spines of the hedgehog’, *akanthion* (ἀκανθίον) ‘hedgehog’.²⁴⁸ A semantic evolution *akanthos* ‘spines of the hedgehog’ > *akanthos* ‘hedgehog’ in the local Ancient Greek idiom is very possible. See also Hesychius, s. *Akanthion* (ἀκανθίον) “ράμνος καὶ ἐχίνος” (‘prickly shrub and hedgehog’), s. *akanthos* (ἀκανθος) 2 “περίγραμμα ὑφασμένον καὶ ζῶον” (‘woven outline and animal’).

Symeonidis argues that the oiconym *lerissos* comes from the Latin *cerissus* ‘thorn’.²⁴⁹ In order to substantiate this view he cites E. Trakasopoulou-Salakidou.²⁵⁰ She in turn cites L. Parlama.²⁵¹ However, since the latter makes no reference to the existence of such a word in Latin nor is the word known from any source in the Latin or Romance languages, this etymology can not be accepted. This etymology would also leave unexplained the loss of the original Latin /k/ (*cerissus* > *erissus*?).

²⁴⁶ N. Katsanis, “Ta latinika kai latinogeni daneia stis dialektous kai sta idiomata tis Neas Ellinikis” [Latin and Romance Loan-Words in the Dialects and Idioms of Modern Greek], *Neoelliniki Dialektologia*, 1 (1994), 195-201.

²⁴⁷ On the appearance of *ericus* in Romance languages and its different meanings in them, see W. Meyer-Lübke, *Romanisches etymologisches Wörterbuch*, Heidelberg: C. Winter, 1911, no. 2897.

²⁴⁸ Liddel & Scott, *op.cit.*, s.v. ἄκανθα.

²⁴⁹ Symeonidis, *op.cit.*, no. 5815.

²⁵⁰ See E. Trakasopoulou-Salakidou, “Oi anaskafes stin archaia Akantho” [Excavations in ancient Acanthus], in *Praktika tou Protou Panelliniou Symposiou Istorias kai Archailogias tis Chalkidikis, Polygyros, 7-9 Dekemvriou 1984, Chronika tis Chalkidiksi* (annex), Thessaloniki: Historical and Folklore Society of Halkidiki, 1987, p. 84.

²⁵¹ See L. Parlama “Kafseis sto klasiko nekrotafeio tis Akanthou” [Cremations in the classic graveyard of Acanthus], *Archaialogika Analecta ex Athinon*, 11.1 (1978), 5, f. 1.

Gargi limani (Γκαργκί λιμάνι). The toponym *Gargi limani*²⁵² or *Kargi Liman* (Καργή Λιμάν),²⁵³ today *Nea Moudania*, refers to a swampy - reedy area. It goes back to the Turkish *Karǧı limanı* 'reedy port, port with reed beds' < Turkish *karǧı* 'reed' + *li-man* 'port' (a loan-word in Turkish from the Greek). The form *Γκαργκί* (λιμάνι) recorded by Schinas is derived from the dialectical Western Rumelian Turkish form *gargi* 'reed', with the preservation from the Ancient Ottoman of /g/, appearance of /i/ at the end (instead of /i/ or /u/ of the common Turkish) and the change from /k/ to /g/ at the beginning of the word. In contrast, the form *Καργή* (λιμάνι) of official bureaucracy, as the toponym was recorded after 1912, renders the form of the common Ottoman and Eastern Rumelian Turkish dialects, which turn the Ottoman stop /g/ to the fricative /ɣ/.²⁵⁴

Spalathronisia (Σπαλαθρονήσια). *Spalathronisia*, known today as *Nisia* (Νησιά) 'the Islands', is a cluster of three small islands, located northwest of Cape *Papadia* (Παπαδιά) or *Punda* (Πούντα) of Sithonia. Their name is due to the thorny bush *spalathria* (σπαλαθριά) or *sfalathra* (σφαλάθρα) < *aspalathos* (ασπάλαθος) 'Calycotome villosa', abounding in them. The largest of the three islands is *Spalathron* (Σπάλαθρον) / *Rosa* (Ρώσα) / *Spalathion* (Σπαλάθιον).

Psakoudia (Ψακούδια). The ancient name of the tree *pitys* (πίτυς) 'pine species' had given a series of toponyms in Halkidiki already by medieval times. Best known today is the toponym *Psakoudia*, seaport of the village *Ormylia*, which is a written form of *Ptsakoudia* (Πτσακούδια), recorded by Schinas in 1887²⁵⁵ < **Pitsakoudia* (with delete of /i/ due to northern vocalism) < *pitsakas* (πίσσακας, cf. toponym *Pitsakas* in Nikiti)²⁵⁶ < *pitsaki* (πιτσάκι) < **pityakion* (πιτυάκιον) < *pitys* (πίτυς) 'umbrella pine, *Pinus pinea*', with palatalization of the syllable *-ti-*. The words *pitsakas*, *pitsaki*, as Papaggelos notes,²⁵⁷ were used until the 1950s in Sithonia to indicate large and small pine trees respectively, cf. medieval *pitsakes* (πίσσακες).²⁵⁸ The toponym *Ptiki* (Πτίκι) < *Pity-iki* (Πιτυ-ίκι) in Nikiti seems to come from a form without palatalization. The toponym *Ptsiada* (Πτσιάδα) in the region of *Vrasta* comes from the same root.²⁵⁹

Whilst in ancient times the toponym does not denote the common pine but the 'umbrella pine' (or stone pine), it seems that in Halkidiki since medieval times the term was used to designate the common pine. This is reflected in the name of the

²⁵² Schinas, *op.cit.*, p. 566: "Από Γκαργκί λιμάνι διά Πορταριάς εις Πολύγυρον", "Γκαργκί Λιμάνι ή στα λιοντάρια".

²⁵³ Symeonidis, *op.cit.*, no. 636.

²⁵⁴ For these characteristics of the Rumelian Turkish dialects, see Kyranoudis, *Morfologia*, pp. 52-4.

²⁵⁵ Schinas, *op.cit.*, p. 543.

²⁵⁶ Papaggelos, "Sithonia", p. 72, f. 176.

²⁵⁷ *Idid.*, p. 72, f. 176.

²⁵⁸ L. Petit & B. Korablev, *Actes de Chilandar* [Actes de l'Athos V], Amsterdam: A.M. Hakkert, 1970, no. 40, ll. 46, 70, 79.

²⁵⁹ Papaggelos, "Sithonia", p. 72, f. 176.

small island *Pitzakonisi* (Πιτζακονήσι, first appearance in written sources: 1491-1492)²⁶⁰ located very close to the shore at the border between the metochia “Azapiko” and “Agia Kyriaki” of the monasteries Pantocrator and Esphigmenou in Sithonia. The toponym is used today as *Ptsakonisi*. It owes its name to the Aleppo pine (*Pinus halepensis*), which covers both the island and the coast opposite (which the island formed part of in the past) right down to edge of the winter sea level,²⁶¹ i.e., *Pitzakonisi* was the ‘island with *pitzakes*’.

Rendina (Ρεντίνα). The Byzantine oiconym *Rendina* in the area of Lake Volvi of *Lagadas* appears in at least 1104,²⁶² then in 1295.²⁶³ It is derived from a Slavic **Rēdina* < *reḍb* ‘line’ (Ancient Slavonic рѣдъ ‘line’), cf. the toponyms Bulgarian *Redina*, Serbo-Croatian *Redine*, Slovenic *Redna*.²⁶⁴ The same Slavic toponym is preserved today in the mountainous region of Agrafa in Thessaly (Karditsa). The stable rendering of the Slavic /d/ with Greek *nt* (*vr*) in writing proves the continuance of the Slavic /d/ in Greek as a stop (without change to the fricative /ð/) because of the previous nasal /n/, due to the Slavonic nasal front vowel *ǫ* [= /e^h/ or /ɛ/]. I.e., the toponym passed into Greek from a Slavic form still maintaining the nasal pronunciation of Slavonic *ǫ* and the accent of the oiconym during the Byzantine period was the same as today [rendína]. This observation is confirmed by the consistent recording of the village as *Erendina*, *Rendina* in the Ottoman registers of the fifteenth and sixteenth centuries.²⁶⁵ Concerning the exact meaning of the toponym, Vasmer connects it with the Serbo-Croatian common noun *redina* ‘barrier from live trees’, that is ‘natural barrier’. Symeonidis accepts this view explaining the toponym as “barrier of dense and impenetrable trees”. Our view is that if we take into account the presence of the Bulgarian-speaking population in the not distant village of *Olympiada* (see below), the toponym initially had the meaning of ‘sparse forest’, which agrees with the meaning of the common noun *rediná* in the Bulgarian dialect.²⁶⁶

Strolongos (Στρόλογγος). The toponym *Strolongos* seems to have the opposite meaning to *Rendina*. Modern day *New Madytos*, *Strolongos* lies close to *Rendina* (in the southwest) and appears at least since 1300 in the form *Ostrolongos* (Οστρόλογγος).²⁶⁷ Vasmer²⁶⁸ has rejected the etymology from **Ostrъjъ* *Lqgъ* on the grounds

²⁶⁰ *Pantocrator*, no. 28, l. 13.

²⁶¹ A Touplikiotis, “Ekthesi dendrochronologisis kai perigrifi tis vlastisis ton nison Spalathronisi, Chteni kai Tsakonisi” [Dendrochronology Report and Description of Vegetation of the Islands of Spalathronisi, Chteni and Tsakonisi], Thessaloniki, 2004 (unpublished).

²⁶² *Iviron* II, no. 52, l. 119.

²⁶³ J. Lefort, N. Oikonomidès, & D. Papachryssanthou (eds), *Actes d'Iviron, de 1204 à 1328*, vol. 3, Paris: P. Lethielleux, 1994; hereafter *Iviron* III, no. 67, ll. 5, 120.

²⁶⁴ See Vasmer, *op.cit.*, pp. 96, 249; Symeonidis, *op.cit.*, nos 15199-15200.

²⁶⁵ Kolovos, *op.cit.*, vol. 2, pp. 54-5, where informations about the evolution of the settlement during the Ottoman period.

²⁶⁶ *Bălgarski Etimologičen Rečnik*, vol. 6, *op.cit.*, p. 201.

²⁶⁷ *Lavra* II, no. 91, l. 36.

that he could not identify any such compound toponyms in Slavic languages and instead derives it from a Slavic **Ostra Lōka* 'sharp bend, turn', connecting it with the Serbo-Croatian toponyms *Oštra Luka*, Polish *Ostrołęka*, etc. This view is accepted by Symeonidis,²⁶⁹ considering that the "sharp turn" refers to the river. However, the description of the toponym *Ostrolongos* in a demarcation of 1350-1²⁷⁰ leaves no doubt about its exact etymological origin: "κ(αῖ) ἀποδήδι εἰς τὴν ράχην τὴν υψιλήν τοῦ Ὀστρόλογκου, κατέρχεται τὸ βόριον μέρος(ς) τὴν ράχην..." ("and it leads onto the high ridge of Ostrolongos, it descends the northern part of the ridge..."). From this description (usage of the words *ypsili* 'high' and *katerchetai* 'descends') we conclude that is a sharp (high) ridge. The Greek word *rachi* 'back, mountain ridge' semantically can be identified with Slavic *lōgъ* 'forest' (> Greek common noun *longos* [λόγγος]) and not *lōka*. We would therefore agree with the correction of the etymology by Brunet²⁷¹ to Slavic **Ostrъ lōgъ* 'steep forest, steep ridge', also accepted by Skach,²⁷² who further derives the toponym from Protoslavlic **astralangu* 'spitz zulaufende Au' < Protoslavlic **astru* (< **asru* < Indo-European **ak'ru-* 'sharp, acute', 'stone'). As indicated by the description of 1350, *Ostrolongos* did not then indicate an oiconym and must have become a village name later, which is why the village appears in Ottoman registers (since 1445) initially as *Nihori* 'new village'. The name *Strolongos* (*Ístro-lonko*) appears as the second name of the same village from the register of 1519 and onwards.²⁷³

Myriofyton (*Μυριόφυτον*). The oiconym *Myriofyton* appears already in 892 in the *Life of Saint Theodora of Thessaloniki* (*Myriofytos komi* / *Μυριόφυτος κώμη*) and was located at current *Olynthos*.²⁷⁴ It is a common toponym in the Byzantine period, derived from the adjective *myriofytos* 'that has a myriad plants too many to measure, with great variety of plants', cf. *μυριόφυτος αγρός* 'myriofytos field', *μυριόφυτος παράδεισος* 'myriofytos paradise' in late Byzantine texts.²⁷⁵ On this use of *myrios* 'myriad', cf. Byzantine *myriokarpōs* (*μυριόκαρπος*) 'with countless fruits', *myriovlastos* (*μυριόβλαστος*) 'with countless sprouts', *myriokrounos* (*μυριόκρουνος*) 'with countless sources', etc.²⁷⁶

²⁶⁸ Vasmer, *op.cit.*, p. 213.

²⁶⁹ Symeonidis, *op.cit.*, no. 16599.

²⁷⁰ *Lavra* III, no. 160, ll. 17-8.

²⁷¹ Brunet, *op.cit.*, p. 263, no. 59.

²⁷² Skach, *op.cit.*, pp. 57-8.

²⁷³ S. Paschalidis, *O vios tis osiomyrovlytidos Theodoras tis en Thessaloniki* [The Life of Saint Theodora the Myrrh-Flowing of Thessaloniki], Thessaloniki: Iera Metropolis Thessalonikis, 1991, pp. 178, 272; Kolovos, *op.cit.*, vol. 2, pp. 88-9.

²⁷⁴ Kolovos, *op.cit.*, vol. 2, pp. 86-7.

²⁷⁵ E. Trapp, *Lexicon zur byzantinischen Gräzität, besonders des 9.-12. Jahrhunderts*, 5 Faszikel, Vienna: Austrian Academy of Sciences, 2005, p. 1059.

²⁷⁶ Trapp, *op.cit.*, pp. 1056-9.

6. Toponyms from Zoonyms

Mendi (Μένδη). According to Thucydides,²⁷⁷ Ancient *Mendi* in the Kassandra peninsula (ancient *Pallini*) was founded by *Eretria* (a city on Euboia island). Excavation finds would seem to suggest that *Eretria* sent out a first wave of colonists at the time of the first Greek colonization, in the late thirteenth or twelfth century BC.²⁷⁸ Up to now, it has been held that *Mendi*:

took its name from minthi, the wild mint (*Mentha viridis*) which still grows in its fields. Mint grew at Eretria, too, where there was a deme of Minthous. The Macedonian pronunciation, which tended to remove the aspiration from consonants, turned Minthe into Minde, and that is the form in which we encounter it on the earliest coins of the city, minted in the sixth century BC. After the fifth century, perhaps under Attic influence, Mende became the usual form.²⁷⁹

This etymology was first argued by P. Oikonomos²⁸⁰ and subsequently accepted by all scholars. However, there is no doubt that the oiconym *Mendi* is derived from the Thracian **mendi* ‘ass, donkey’, ‘horse’ < IE **mend(i)-* ‘horse’, cf. Thracian *mezēna* ‘horseman, knight’ (< IE **mendiānā*), which appears in the inscription on a gold ring found in the region of Douvanli (in Plovdiv of Bulgaria) in the form MEZHNAI (dative singular masculine of Thracian *mezēna*).²⁸¹ The inscription is inscribed around the figure of a horseman. The name *Μεζηννα/ Mezēna* is identified with the name of the messapic deity (*Iuppiter*) *Menzana* (also < Indo-European **Mendiānā*) denoting an ‘equestrian deity’ to whom horses were offered as sacrifices. From the same root come the Albanian *mes*, *mezi* ‘stallion horse’, Romanian *mînz* ‘stallion horse’ (a word derived maybe from a Dacian substrate), Illyrian *mandos* ‘small horse’.²⁸² The change from short /e/ to /i/ is witnessed in the Thracian language. According to Duridanov, in a later period of the Thracian language and possibly in specific dialects the short /e/ before -nt(h)- started to be changed to /i/, as we can conclude from the parallel form *-cinthus* (in the personal name *Dias-cinthus*) with *-centhus*, *-kenthos* (in *Dias-centhus*, *Dias-kenthos*) from Indo-European **kento-*

²⁷⁷ “Ἐν τούτῳ δὲ Μένδη ἀφίσταται αὐτῶν, πόλις ἐν τῇ Παλλήνῃ, Ἐρετριῶν ἀποικία.” (Thucydides 4. 123§1).

²⁷⁸ J. Vocotopoulou, “Chalcidice in Ancient Times”, in: J. Vokotopoulou & I. Papagelos (eds.), *Chalcidice*, Athens: The Holy Coenobium of the Annunciation – Ormylia, 2003, p. 53.

²⁷⁹ *Ibid.*

²⁸⁰ P. Oikonomos, “*Mindi - Mendi*, i patris tou Paioniou” [*Mindi – Mendi*: the home city of Paionios], *Archailogiki Ephimeris* (1924), 27-32.

²⁸¹ The inscription was regarded as Thracian but Tzitzilis has satisfactorily explained it from Greek except for MEZHNA, which he accepts is Thracian. See “Paratiriseis stis ‘thrakikes’ epigrafes tou Duvanlii” [Observations on the “Thracian” Inscriptions of Douvanlii], in A.-Ph. Christidis & D. Jordan (eds), *Glossa kai mageia: Keimena apo tin archaiotita* [Language and Magic: Texts from the Antiquity], Athens: Istos, 1997, pp. 133-4.

²⁸² Duridanov, *Ezikāt na Trakite*, pp. 77, 90-1; VI. Georgiev, *Trakite i tehniyat ezik*, Sofia: Bulgarian Academy of Sciences, 1977, pp. 112-4; Tzitzilis, “Douvanlii”, pp. 133-4.

s 'child, descendant' (cf. Latin *re-cens* 'fresh, young'). Also we observe that the form *Mindi* (*Μίνδη*) does not appear in the ancient sources as a parallel form of the city name *Mendi* (*Μένδη*).²⁸³ The form **Mindi* (*Μίνδη*) is reconstructed on the basis of the presence of the form *mind-* in the name *Mindaion* (ΜΙΝΔΑΙΟΝ, also in abbreviation ΜΙΝ) on the earliest found coins of the city. But these earliest forms of the adjective denoting the place of origin *mindaion* (*μινδαῖον*) could be explained as a result of raising of the unaccented /e/ to /i/ in the local Thracian idiom, which is witnessed in the parallel Thracian forms *Desa-(kenthos) / Diza-(centus), Diza-(kenthos)* < Indo-European **dhweso* 'God', cf. Greek *theos* (θεός). Moreover, the time period between the appearance of the forms ΜΙΝΔΑΙΟΝ (first coin dated to 520-480 BC) and ΜΕΝΔΑΙΟΝ (first coin dated to 460-423 BC) is about sixty years.²⁸⁴ Forms with *mind-* continued to appear later in parallel with those with *mend-*.²⁸⁵ For this reason we can suppose that the form with *mind-* was a parallel form of the same word *me(i)ndaion* and not necessarily the original form.

The etymology of *Mendi* from *minthi* (*μίνθη*) 'wild mint' is phonetically problematic. Despite the fact that the deaspiration of the Indo-European voiced aspirated stops (IE */*b^h/, /*d^h/, /*g^h/* > Macedonian */b/, /d/, /g/*) is witnessed in the Macedonian dialect²⁸⁶ of Ancient Greek, the deaspiration of the Indo-European voiceless aspirates (*/*p^h/, /*t^h/, /*k^h/*) is unknown. For example, the Macedonian word *ἀβροῦτες*, a cognate of Attic *ὄφρῦς*, plural *ὄφρύες* 'eyebrow', mentioned by Oiconomos as an example of deaspiration in Macedonian, comes from the Indo-European **h₃b^hr(e)uH-*, i.e., Macedonian demonstrates a deaspiration of Indo-European */b^h/* and not of Indo-European */p^h/*. Tzitzilis has proved the existence of two Macedonian strains, one with voicing of the unaspirated */b/* (**ἀβρῦς*) and another without the voiceless aspirate */p^h/* (**ἀφρῦς*). The last form is today preserved in the modern vernacular spoken in the area of Upper Pieria, e.g., *frouta* (*φρούτα*) 'knitted decorations on the border of a garment', and the Macedonian *γαβαλά*, a cognate of the Attic *κεφαλή* 'head', cited by Oikonomos as another example of deaspiration in Macedonian coming from Indo-European **g^heb^h-*.²⁸⁷

²⁸³ D. Gerothanasis, "Dionysiaka stoicheia sta nomismata tis Chalkidikis" [Dionysian Elements in the Coinage of Halkidiki], unpublished MA thesis, Aristotle University of Thessaloniki, 2011, pp. 20-36; Oikonomos, *op.cit.*, pp. 27-32.

²⁸⁴ Gerothanasis, *op.cit.*, pp. 20, 27.

²⁸⁵ E.g. in coins dated to the first half of fourth century BC: Gerothanasis, *op.cit.*, pp. 35-6, nos 59, 66.

²⁸⁶ The most recent linguistic research has doubtless proved the Greek character of Macedonian language variety, see M.J. Dosuna, "Ancient Macedonian as a Greek dialect: A Critical Survey on Recent Work", in G. Giannakis (ed.), *Ancient Macedonia: Language, History, Culture*, Thessaloniki: Ministry of Education, Centre for the Greek Language, p. 133.

²⁸⁷ Dosuna, *op.cit.*, pp. 134-7; Chr. Tzitzilis, "Ancient Macedonian Elements in the Dialect of Upland Pieria and the Relationship of Macedonian with Thessalian and the North-West Doric Dialects", in M. Theodoropoulou (ed.), *Licht und Wärme. In Memory of A.-F. Christidis*, Thessaloniki: Centre for the Greek Language, 2008, pp. 228-9.

The word *minthi* (μίνθη), however, is a loan from a substrate²⁸⁸ Pre-Greek (most possibly non-Indo-European) language. For this reason it could not be argued that the voiceless aspirate /tʰ/ in *minthi* comes from the Indo-European voiced aspirate /dʰ/ such that in the Macedonian dialect spoken in *Mendi* it became an unaspirated /d/. If there was a phenomenon of deaspiration, as Oikonomos and Vokotopoulou argue, the direct result would be **Minti* not **Mindi*. Apart from this, Ancient Greek does not have a form of *minthi* (μίνθη) 'mint' with /e/ instead of /i/ (*μένθη) which might explain the duplicate *Mindi* / *Mendi*.²⁸⁹ Furthermore, the hypothesis that the form *Mendi* became the usual form under Attic influence must be ruled out given that in Attic Greek the word *minthi* is known and the toponym would be preserved as **Minthi*. One concludes therefore that *Mendi* is a Thracian loan in Greek.

The etymology from Thracian **mend(i)* 'ass' is confirmed by the archaeological findings on the site of the ancient city. Thirty-eight coins found during the excavations depict a sole ass, sacred animal of Dionysus, on the obverse in different scenes (29 are the earliest found coins, i.e., between 520-480 BC); the obverse of 12 coins depicts Dionysus or Hephaistos reclining on the back of an ass; five coins depict Satyrs with an ass; 11 later coins depict only the head of Dionysus; two coins depict a head of Dionysus on the obverse and an ass on the reverse.²⁹⁰ The ass is strongly connected with the cult of Dionysus and for this reason, together with the wellknown cultivation of the vine in *Mendi*, one might suppose that there was an important temple of Dionysus in the city.²⁹¹ A similar case of a place taking its name from a symbol strongly connected to the cult of Dionysus by the Thracians in Halkidiki, in this case a plant, is that of the mountain *Kissos* (*Cissus*, today *Chortiatis*) and the Thracian city of the same name.²⁹² The Thracian origin of Dionysus' cult needs no reminder.²⁹³

A further point is that from the above statistics, it is clear that the basic theme of the coins of *Mendi* is the sacred ass and not Dionysus himself. The new coins with the bearded figure of a deity added to the obverse came later, ca. 460 BC.²⁹⁴ So the central role in the cult of *Mendi* is played by the ass. This conclusion is confirmed by the presence of the sacred ass on the stamp of a roof tile found in *Mendi*.²⁹⁵ A.M.

²⁸⁸ Chantraine, *op.cit.*, vol. 3, s.v. μίνθη.

²⁸⁹ Oikonomos, *op.cit.*, p. 30.

²⁹⁰ Gerotheranasis, *op.cit.*, pp. 20-36, 72-9.

²⁹¹ *Idid.*, pp. 80, 124, 131-6.

²⁹² M. Manoledakis, "Kissos. Proseggisi tis istorias mias archaias thrakikis polis" [Kissos. Approach to the History of an Ancient Thracian City], in *Thrace in the Greco-Roman world, Proceedings of the 10th International Congress of Thracology, Komotini-Alexandroupolis 18-23 October 2005*, Athens, 2007, p. 361.

²⁹³ See for example Manoledakis, *op.cit.*, p. 361.

²⁹⁴ A.M. Knoblauch, "Myth and Message in Northern Greece: Interpreting the Classical Coins of Mende", in K.J. Hartwick & M. Hurgeon (eds), *Stephanos, Studies in Honor of B.S. Ridgway*, 1998, p. 156.

²⁹⁵ J. Vokotopoulou, "Anaskafi Mendis" [Excavation at Mendi], *To Archaialogiko Ergo sti Makedonia kai Thraki*, 2 (1988), 335 and fig. 3.

Knoblauch argues that the ass would have served as a direct reference to Dionysus himself. The users of the coins would recognise him in this non-anthropomorphic form. Furthermore she claims that Hephaistos is not only a possible but an appropriate identification of the figure on the back of a wild donkey in the coins of *Mendi*. In her opinion, if we accept that the donkey represents Dionysus, it is more appropriate that Hephaistos is on its back.²⁹⁶ Combining the basic meaning of the ass in the cult of *Mendi* with the Thracian origin of the city's name, we are obliged to consider whether the ass was originally the focus of a cult for the Thracians of *Mendi* without any connection to Dionysus and whether it was in reality a purely equestrian deity (as the messapic *Menzana*), identified only later with Dionysus. Cf. Vladimir Georgiev's²⁹⁷ view that the name *Mezēna* in the inscription of Douvanli denotes the wellknown Thracian horseman.

From the same Thracian root with *Mendi* comes the Modern Greek name *kyr-Mentios* (κύρ-Μέντιος) used as the name of a donkey (just as the name *kyra-Marjo* / *κυρα-Μαριώ* is used for a fox).²⁹⁸ This name could be derived either from an adjective *Mendion* or *Mendios* [onos] / *Μενδίων* or *Μένδιος* [όνος] 'Mendian donkey' (because of its wide recognisability through the coins as a 'speaking symbol' of *Mendi*'s principal agricultural and export product, wine)²⁹⁹ or directly from Thracian *mendi* 'donkey' as a survival from a Thracian substrate.

The correct etymological explanation of the oiconym *Mendi* could enrich our knowledge about the history of the ancient city and the whole of Halkidiki. It is most possible that the Eretrian colonists were neither the founders of the city *Mendi* nor the importers of the Dionysus cult. They probably found there a thriving Thracian city with a strong cult of the ass probably in an outstanding temple, connected or not with Dionysus. They took this cult from the Thracians and gradually gave it an anthropomorphic character focusing more on Dionysus himself than his sacred ass. But the memory of the ass remained strong and was possibly preserved in the appellation *kyr-Mentios*.

Alopochorion (Αλωποχώριον). Two oiconyms appear in Halkidiki with the name *Alopochorion*, one existed in the area of Polygyros from 1047³⁰⁰ and the other in Kassandra from 1333, in the *Sivri* (Σίβρη) metochion of Xenophon monastery.³⁰¹ The second toponym also appears in 1338 in the form *Alopekochorion* (Αλωπεκοχώριον),³⁰² a scholarly "correction" of *Alopochorion* under the influence of

²⁹⁶ Knoblauch, *op.cit.*, pp. 157-60.

²⁹⁷ Georgiev, *op.cit.*, pp. 112-4.

²⁹⁸ The etymology of *kyr-Mentios* from Thracian **mendi(i)* firstly proposed by Chr. Tzitzilis, in *Greek and Thracian* (forthcoming).

²⁹⁹ Vocotopoulou, "Chalcidice", p. 53.

³⁰⁰ Lefort, *Villages*, p. 30.

³⁰¹ *Xenophon*, no. 22, l. 21.

³⁰² *Xenophon*, no. 25, l. 53.

alopez, genitive *alopekos* (αλώπηξ, αλώπεκος) ‘fox’. This is a very common oiconym throughout Greece,³⁰³ denoting “village frequented by foxes” with as the first component the medieval noun *alorou* (αλωπού) ‘fox’ < ancient *aloros* (αλωπός), feminine *alopa* (αλωπά).³⁰⁴ In 1409 it appears in the form *Alourochorion* (Αλουροχώριον),³⁰⁵ derived from the post-Byzantine *alourou* (αλουρού) ‘fox’.³⁰⁶

7. Oiconyms of Uncertain Etymology

Finally we mention two toponyms of particular interest in their etymology, given that attempts to connect them with the natural environment have not been etymologically convincing.

Kalamaria (Καλαμαρία). The oiconym *Kalamaria* appears in written sources for first time in 1089 as the name of a *theme*: “ἐν τῷ θέματι Καλαμαρίας μετόχ(ιον) τό λεγόμενον τοῦ Χαρτοφύλακος”.³⁰⁷ More specifically after 1204 the oiconym *Kalamaria* was used to indicate one of the ten *katepanikia*, which comprised the Thessaloniki *theme*. In the Byzantine period *Kalamaria* was the name given to the area immediately south-east of Thessaloniki extending from the foothills of Chortiatis up to the isthmus of the Kassandra peninsula and from the west coast of Halkidiki in the Thermaikos Bay up to the stream *Vatonia* (ancient *Olynthios*), which flows into the bay of Toroni, just east of the present village of Agios Mamas.³⁰⁸

Until G. Theocharidis’ study,³⁰⁹ the dominant etymology for *Kalamaria* was that of M.E. Cousinéry, according to which the toponym comes from *Kala meria* (Καλάμερία) ‘beautiful places’: “Cette part de la montagne qui se dirige à l’ouest et au sud, port chez les turcs le nom Kalameria, nom qui, dans la langue greque, forme l’équivalent de beaux-lieux [...] Le mot calamari est un corruption, comme on le voit, des deux mots Kala-Meria.”³¹⁰ Some of the language difficulties cited by Theocharidis³¹¹ against this etymology do not hold, specifically the conversion of the plural neuter *kala-meria* to singular feminine (*i Kala-meria*), since transformation of gender is a phenomenon common in the field of toponyms. On the other hand, he puts forward a sound argument in rejection of the etymology that “nowhere else in Greece is

³⁰³ See Symeonidis, *op.cit.*, nos 1364-72, where he registers eight *Alepochoria*.

³⁰⁴ E. Kriaras, *Lexiko tis Mesaionikis Ellinikis Dimodous Grammateias, 1100-1669* [Dictionary of Medieval Vulgar Greek Literature 1100 – 1669], vol. 1, Thessaloniki, 1965, p. 206; Liddel & Scott, *op.cit.*, s.v. *άλωπός*; *DSMG*, p. 62.

³⁰⁵ Dionysiou, no. 11, 3.

³⁰⁶ Kriaras, *op.cit.*, p. 208.

³⁰⁷ *Xenophon*, no. 1, l. 151.

³⁰⁸ G. Theocharidis, “Kalamaria. Apo tin istorian tis vyzantinis Halkidikis” [Kalamaria. From the History of the Byzantine Halkidiki], *Makedonika*, 17 (1977), 263-8.

³⁰⁹ Theocharidis, “Kalamaria”, pp. 273-93.

³¹⁰ M.E. Cousinéry, *Voyage dans la Macédoine*, Paris: Imprimerie royale, 1831, vol. 1, p. 53.

³¹¹ Theocharidis, “Kalamaria”, p. 273.

found [...] another toponym Kalameria in the sense of beautiful place (ta kala-meria, i Kalameria)". But the same difficulty, namely the absence of any example of lexicalization of lexical phrases to give a one-word toponym with the common noun *meria* (μερία-μεριά) as the second component, exists with his etymology of the oiconym from a supposed *Skala-meria* (Σκάλα-μερία).³¹² The toponym *Kalavatares* (Καλαβατάρης), *Kalavataras* (Καλαβατάρης) < Latin *Scalas veteres* of Procopius ("Peri ktismaton" / On buildings) mentioned³¹³ as a corresponding example is not about *Kalamaria*, as it is a loan from Latin and not an evolution in Greek, as in the case of *Kalamaria*.

Both etymological attempts, which in reality were mere assumptions without any documentation, should be rejected for another serious reason. Although the toponym *Kalamaria*, as rightly observed by Theocharidis,³¹⁴ occurred between 904 (given that it is not mentioned by Kameniatis) and 1089, when it first appeared in Mount Athos sources, it is not found in any form that indicates the lexicalization of any lexical phrases but instead consistently appears in the form *Kalamaria*. Given that for quite a number of toponyms in Halkidiki appearing from the tenth century it is common to find, before their consolidation, their precursor forms, it would be expected that if the toponym *Kalamaria* originated from a lexical phrase of the type *Kala-meria* or *Skala-meria*, this would appear in the written sources in various precursor forms, e.g. **Kalameria*.

Instead of this, however, the only other alternative of the toponym that appears in the sources is *Kalamarades* (Καλαμαράδες). This form first appeared in 1262: "εις τούς Καλαμαράδας χωρίον ὁ Κάτω Βολβός";³¹⁵ again in 1275 in a document of the Xeropotamou monastery: "τό [εις τὰς Καλα]μαράδας διακειμένον χωρίον τό ἐπιλεγόμενον ὁ Ἐπάνω Βολβός".³¹⁶ In a document of censor-taker Demetrios Apelmenes of 1300, the *katapanikion* of *Kalamarades* replaced *the theme of Kalamaria* for the topographic definition of exactly the same Xenofontos metochion of *Kalamaria* or *Stomion*. This observation leaves no doubt about the correlation of the two toponyms *Kalamaria* and *Kalamarades*: "[...] εἰς ἦν κατεῖχεν ἡ τοιαύτη μονὴ γῆν ἐν τῷ κατεπανικίῳ Καλαμαράδων κἀν τῇ περιοχῇ τοῦ Στομίου διακειμ(έ)νην..."³¹⁷

Moreover the identification of the two toponyms is confirmed by the topographic information accompanying the toponym *Kalamaria* in the two previous documents of 1262 and 1275, since both villages, *Kato* and *Epano Volvos* (Κάτω and Ἐπάνω Βολ-

³¹² *Idid.*; G. Theocharidis, *Katapanikia tis Makedonias* [Katapanikia of Macedonia], *Makedonika annex 1*, Thessaloniki: Society for Macedonian Studies, 1954, p. 13.

³¹³ Theocharidis, "Kalamaria", p. 273.

³¹⁴ *Idid.*, p. 292.

³¹⁵ *Ivion* III, no. 59, l. 93.

³¹⁶ Reading by J. Lefort, see "De Bolbos a la Plain du Diable", *Travaux et Memoires*, 7 (1979), 482, f. 62, which is completing the gap in *Xeropotamou*, no. 10, l. 24.

³¹⁷ *Xenophon*, no. 3, ll. 8-10.

βός) indeed were located in *katapanikion of Kalamaria*. Theocharidis,³¹⁸ who was unaware of the two other appearances of the name *Kalamarades* for *Kalamaria* in the documents of Iviron (1262) and Xeropotamou (1275), erroneously assigns the form *Kalamaradon* (*Καλαμαράδων*) to copier error.

Although the toponym *Kalamarades* appears in the sources about two centuries after *Kalamaria*, the two appearances are the first following the form *Kalamaria* in 1089. The toponym *Kalamaria* reappears only in 1298 (“έν τη Καλαμαρία χωρίον τὰ Δρυμόσουρα”).³¹⁹ Therefore we conclude that it is a chronologically parallel form of the same toponym. The toponym *Kalamarades*, however, can not be derived from *Kalamaria* for linguistic reasons, since the suffix *-as* (*-άς*) is not used to form derivatives from toponyms to indicate ‘origin’ (the name denoting place of origin would be *Kalamarianos*, *Kalamarinos*³²⁰ or *Kalamariotis*) but to indicate profession.

The toponym *Kalamarades* clearly denotes possession (*ktitorikon*: ‘the place of *Kalamarades*’). The personal name *Kalamarades* goes back to Byzantine *kalamari(on)* (*καλαμάρι[ον]*) (< Ancient Greek *kalamos* (*κάλαμος*) ‘pen made of a cane’ + suffix *-arion* (*-άριον*), neuter of *-arios* (*-άριος*) < Latin *-arius* (cf. late Latin *calamarius* with the same meaning),³²¹ which at the time of the appearance of *Kalamaria*, between the ninth and twelfth century,³²² has the meanings 1) ‘reed, writing tool, inkwell’, 2) ‘squid’. During the same period the derivative *kalamaras* (*καλαμαράς*) has the meanings ‘Fедerfuchser, Schreiberseele, Bürokrat’, “απαιτητής” (literally ‘claimant’),³²³ ‘manufacturer of *kalamaria*’.³²⁴ The use of *Kalamaras* as an “ironic characterization of a scholar, a man of letters, used to underline the distance that separates him from the mentality and the interests of the common people” is still preserved in everyday Modern Greek³²⁵ but mainly in the Cypriot dialect, where the term *Kalamarades* was used for the Greeks as opposed to the “non-literate” native Cypriots.

Kalamaras is a usual personal name during the late Byzantine period, occurring principally in Halkidiki and the island of Lemnos.³²⁶ The presence of *Kalamarades* in Kalamaria is witnessed in the years 1301 (*Δημήτριος Καλαμαράς* in *Drimyglava* [*Δρι-*

³¹⁸ Theocharidis, *Katapanikía*, pp. 7-8, f. 1.

³¹⁹ *Lavra* II, no. 89, ll. 116-7.

³²⁰ Cf. paroikos *Constantine Kalamarinos* (*Κωνσταντίνος Καλαμαρηνός*) in 1317, see *Lavra* II, no. 104, ll. 158-9.

³²¹ *DSMG*, p. 642, s.v. *καλαμάρ*².

³²² E. Trapp, *Lexicon zur byzantinischen Gräzität, besonders des 9.-12. Jahrhunderts*, 1 Band, Vienna: Austrian Academy of Sciences, 2001, p. 742.

³²³ Trapp, *op.cit.*, p. 742.

³²⁴ E. Kriaras, *Lexiko tis Mesaionikis Ellinikis Dimodous Grammateias, 1100-1669* [Dictionary of Medieval Vulgar Greek Literature 1100 – 1669], vol. 7, Thessaloniki, 1980, p. 260.

³²⁵ *DSMG*, p. 642.

³²⁶ E. Trapp, R. Walther, H.-V. Beyer & K. Sturm-Schnabl (eds), *Prosopographisches Lexikon der Palaiologenzeit*, vol. 5, Vienna: Austrian Academy of Sciences, 1985, nos 10224-34.

μύγκλαβα]),³²⁷ 1321 (Δημήτριος ὁ Καλαμαρᾶς in the village of *Agia Efimia* [Ἁγία Ευφημία], “ἀμπέλιον πλησίον τοῦ Καλαμαρᾶ” in the region of *Neochori* above the village of *Avramites*), 1409 (Ἰωάννης ὁ Καλαμαρᾶς, Νικόλαος ὁ Καλαμαρᾶς in the village of *Vromosyrta* [Βρομόσυρτα]).³²⁸ The existence of toponyms from the personal name *Kalamaras* is testified in the name of the river *tu Kalamara* (τοῦ Καλαμαρᾶ) in the region of *Ormylia* in 1321 (“εἰς τόν ποταμόν τοῦ Καλαμαρᾶ”)³²⁹ and in the toponym “παλαιόσπητα τοῦ Καλαμαρᾶ” (‘ruined houses of *Kalamaras*’) in *Cassandra* (1333, 1338).³³⁰

The identification of *Kalamaria* with the Byzantine village of *Agia Maria* (Ἁγία Μαρία) in the same area by *Theodoretus Lavriotis* (1803: “ἐν τῇ Ἁγίᾳ Μαρίᾳ, τῇ νῦν Καλαμαρία λεγομένη”)³³¹ is incorrect. There are no precursor forms, e.g., **Kali Maria* ‘good Mary’, to support the etymology of the toponym *Kalamaria* from the name of this village.

Livizasda (Λιβιζάσδα). The oiconym *Livyzasda* (Λιβυζάσδα), *Livysdias* (Λιβυσδιάς), *Livysdos* (Λιβυσδός) appears in 1047 to denote a ‘suburb’ (“προάστειον”) of the *Iviron Monastery* (Προάστειον ἢ Λιβυζασδα ‘suburb *Livyzasda*’), then in 1079 in an edict of *Nikephoros III Botaneiates* in the form τὸ προάστειον ἢ Λιβυσδιάς (‘the suburb *Livysdias*’) and in 1104 in the *Minutes of Sevastos Ioannis Komninos* in the form *Livysdos*: “καὶ τὸ ἐν τῇ Ρεντίνῃ προάστειον τὴν Λιβυσδὸν σὺν τῇ νήσῳ τῶν Καυκανάδων”.

Livizasda is the current *Olympiada*, opposite the island of *Kafkanas* on the *Strymonikos* coast, where ancient *Stageira* is located. From the demarcation of the suburb of *Livysdos* of *Iviron Monastery* in 1104 it can be seen that the village of *Livysdias* (“χωρίον Λιβυσδιάς”) already existed from that time: “Προάστειον ἢ Λιβυσδός ἄρχεται ἀπὸ τοῦ αἰγιαλοῦ [...] τὸ σύνορον τοῦ χωρίου Λιβυσδιάδος τοῦ διαφέροντος τῇ μονῇ τοῦ Παντεπόπου” (the genitive *Livysdiados* [Λιβυσδιάδος] is mentioned in this document five times).³³² The document also manifests the author’s strong scholarly tendency to ‘correct’ toponyms, e.g. *Straton*, *Stratonos* (Στράτων, Στράτωνος) instead of *Stratoni* (Στρατώνι).

We observe that the oiconym appears in the *Ottoman registers* in forms with the voiced palato-alveolar fricative /ʒ/, attributed in *Ottoman* with the letter ژ (ze):

³²⁷ J. Bompaire, J. Lefort, V. Kravari & Chr. Giros (eds), *Actes de Vatopédi I, des origines à 1329*, Paris: Lethielleux, 2001, no. 30, l. 16.

³²⁸ *Lavra* II, no. 109, ll. 140, 279; *Lavra* III, no. 161, ll. 30, 31.

³²⁹ *Lavra* II, no. 111, l. 25.

³³⁰ *Xenophon*, no. 22, l. 25; no. 25, l. 51.

³³¹ *Lavra* III, p. 135.

³³² *Iviron* I, no. 29, l. 70; *Iviron* II, no. 41, l. 64, no. 52, ll. 119, 167, 169, 173, 179, 182.

Livičazda or *Livipčazda* (1527),³³³ “*Lipjajda* mines” (1556), *Libijajda* (1581).³³⁴ These forms allow us to reconstruct the pronunciation of the original *Livyzasda* as [livižázda]. The oiconym also appears in Georgian as *Livizdia*, *Livizdiaj*.³³⁵ These forms can lead to the conclusion that the toponym *Livyzasda* is Slavic, since /ž/ does not exist in Turkish at the time of the first appearance of oiconym in the eleventh century and it is very doubtful that it existed in the local Greek dialect. The form *Livysdias* probably constitutes a scholarly “correction” of a *Livysdiada*, which was taken to be accusative and by analogy to be formed from the “nominative” *Livysdias*.

Towards the end of the Ottoman period the oiconym appears as *Licaz*, *Lepsada*, *Limbaz*,³³⁶ *Lipsasda* (Λιψάσδα),³³⁷ *Lipsasa*,³³⁸ *Lipsada* (1914),³³⁹ *Lybjadha* / Λυμπζιάδα (1835).³⁴⁰ The forms *Lympiada* (Λυμπιάδα; 1884),³⁴¹ *Limpiada* (Λιμπιάδα; 1879)³⁴² of the nineteenth century are derived from a false etymology to *Olympias*, the famous mother of Alexander the Great, as is clear from the following passage of Leake:

The bay, plain, paleokastro, and scala, are all known by the name of Lybjádha, which the natives derive from that of the mother of Alexander, and not without probability; since the omission of the initial o, the third case, and the conversion of Λυμπιάδα into Λυμπζιάδα, are all in the ordinary course of Romaic corruption.³⁴³

The new name of the village (*Olympias*) came from this *Limpiada* of Leake with the addition of the “lost” first vowel /o/.

The oiconym is connected by Dapergolas with an Ancient Bulgarian adjective **lebežda* ‘place of swans’.³⁴⁴ This etymology (**lebežda* < Slavic **lebedja* < *lebedь* ‘swan’ + suffix *-ja*) is given by Vasmer for the Epirotic oiconym *Livisda* (Λιβίσδα), as it

³³³ In the Ottoman register TT403, p. 1040. The letter before the Ottoman چ (ç) may be read as ي (i) or ب (b/p). Kolovos’ reading, *op.cit.*, vol. 2, p. 81, *Livipčazda*, must be corrected to *Livipčajda* (the author has omitted in the Latin transcription the denotation of the [Slavic] voiced palato-alveolar fricative /ž/[j]).

³³⁴ Ottoman Archive of the Monastery of Xeropotamou, nos 76 (10 Rebiy-ül-ahır 963/ 22 February 1556) and 153 (II Safer 989/ 17-26 March 1581), see Kolovos, *op.cit.*, vol. 3, pp. 66, 133.

³³⁵ In the *Life* of Saint George Iviritis, who lived in the eleventh century, but the *Life* is written later; see. B. Martin-Hisard, “La vie de Georges l’Agiorite”, p. 63 and f. 626.

³³⁶ Kolovos, *op.cit.*, vol. 2, p. 81.

³³⁷ M. Dimitzas, *Archaia Geographia tis Makedonias* [Ancient Geography of Macedonia], Thessaloniki: Institute for Balkan Studies (photomechanical reprint), 1988, vol. 2, pp. 486, 491.

³³⁸ In the Bulgarian map *Karta na Makedonija*, Sofia 1934, MAML, no. 2175. See also Ploutoglou & Pappa, *op.cit.*, p. 314.

³³⁹ D. Feissel & M. Sève, “La Chalcidique vue par Charles Avezou (avril-mai 1914). Notes de voyages et inscriptions”, *Bulletin de correspondance hellénique*, 103 (1979), 317.

³⁴⁰ W.M. Leake, *Travels in Northern Greece*, London: J. Rodwell, 1835, vol. 3, pp. 165-7.

³⁴¹ In a Greek map, MAML, no. 1923. See also Ploutoglou & Pappa, *op.cit.*, p. 305.

³⁴² Dimitzas, *op.cit.*, p. 491.

³⁴³ Leake, *op.cit.*, p. 166.

³⁴⁴ Dapergolas, “Slavikes egkatastaseis”, p. 99, f. 14.

appeared in John Kantakouzenos (mid fourteenth century) citing frequent Russian toponyms *Leb'ažbje*, *Leb'ažja*.³⁴⁵

The etymology is supported by the presence in the word of the consonant cluster /žd/ (< /dj/), a phonetic feature of Ancient Bulgarian, while, as mentioned in the introduction, *Livyzasda* in the eleventh century was inhabited by a Bulgarian-speaking population. But if the derivation from the Ancient Bulgarian **lebežda* is correct, one cannot exclude the possibility that the original form of the name was the plant name *lebeda* 'artiplex, pigweed, psyllium', which is abundant in the region and has a common root with *lebed* 'swan'.³⁴⁶

But the above etymologies do not satisfactorily explain the older form *Livyzasda*, which appears once but is confirmed by the forms appearing in the Ottoman sources, *Liviçažda* or *Livipçažda*, *Lipjajda*, *Libijajda* and Georgian *Livizdiaj*. Furthermore it is difficult to explain the absence in the first sources of any form with /i/, which exists in the first two syllables of the Slavic word *lebedь* 'swan'. It can hardly be attributed to a phenomenon of raising of /e/>/i/ at such an early period for a general occurrence of the phenomenon. The appearance in the written sources of forms with /i/ leads to the reconstruction of a form with /i/ as the original.³⁴⁷

³⁴⁵ Vasmer, *op.cit.*, pp. 39, 257, 297, 306; see also Skach, *op.cit.*, p. 168.

³⁴⁶ *Bălgarski Etimologičen Rečnik*, vol. 3, *op.cit.*, pp. 332-3. See also Skach, *op.cit.*, p. 168.

³⁴⁷ Similar review on Vasmer's etymology by E. Skach, *op.cit.*, pp. 218-9, led her to a different etymology of the Epirotic toponym *Lidisda* (Λιδισδα).

Palynological Investigation of the Tristinika Marsh in Halkidiki (North-Central Greece): A Vegetation History of the Last Three and One-Half Millennia

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1. Introduction

Palynological studies (*παλύνω* = to spread in dust form) focus mainly on the imprint that pollen and spores of a certain vegetation type leave when accumulated in the sediment in the course of time. Since the dominant vegetation types (e.g., forests, meadows, heaths, and wetlands) are shaped by seed plants it is self-evident that pollen is the key in this line of research, which in its first steps was introduced as pollen analysis.

Pollen is produced in the flowers of all seed plants and aims to reach the female part and fertilise the egg. Wind-pollinated plants produce immense amounts of pollen compared to insect-pollinated or autogamous plants. Almost all pollen falls to the ground where it is buried. However, only under anoxic conditions (lack of oxygen) the outer wall of pollen grains and spores remains intact. The outer wall and its features allow for the discrimination of the various plant taxa and hence the assessment of past vegetation changes.¹

The results of pollen analysis are depicted usually through pollen diagrams, where distinctive changes in pollen assemblages mark zones of different vegetation composition and allow comparisons between different time periods. Pollen analysis offers the possibility to trace vegetation changes that are not attested in written or other sources. It is also a tool that can provide further evidence on historical events, which are marked by the strong impact of man on vegetation and are documented by archaeological and/or written sources.²

¹ Knut Faegri & Johannes Iversen, *Textbook of Pollen Analysis*, Chichester: John Wiley & Sons, 1989, p. 328.

² *Ibid.*

The work of Bottema³ can be considered a milestone for palynological research in Greece, as he analysed a series of sediment cores from lakes (e.g., Kastoria, Ioannina, Chimaditis) and peat lands (e.g., Nisi Fen) of west and north-central Greece. He also provided an insight on the relationship of modern pollen precipitation and the various modern types of vegetation by analysing moss samples, which are known for preserving well modern pollen. Bottema's pollen zones have been used as benchmarks in the interpretation of a series of pollen diagrams from mountainous sites in northern Greece.⁴ The pollen diagram from Mount Paiko⁵ is a good example where written sources about historical periods (the Macedonian era, the period of Ottoman rule) that had a significant impact on vegetation are well correlated with pollen analysis results.

There is a clear separation as to the type of sites analysed for past vegetation and climatic changes between northern and southern Greece. In the latter the majority of the published pollen diagrams derive from sites in the lowlands⁶ or near the coast.⁷ Sites like these are usually in the proximity of human settlements, offering clues on the interactions between historical and natural landscapes even from prehistoric times.⁸ In northern Greece the only coastal site that was investigated for its past vegetation changes was Variko,⁹ a dried marsh located near Litochoro (Pieria).

Although there are potentially suitable sites in Halkidiki for reconstructions of past vegetation no such investigation has been carried out. The present research seeks to rectify this lacuna by presenting the results of a palynological study from the coastal marsh of Tristinika for the last three and one-half millennia.

³ Sytze Bottema, "Late Quaternary History of Northwestern Greece", unpublished PhD thesis, University of Groningen, 1974, p. 190.

⁴ For example, see Nikolaos Athanasiadis, Achilles Gerasimidis & Sampson Panajiotidis, "A Palynological Study in the Beles Mountains, Northern Greece", in *Aspects of Palynology and Palaeoecology*, Sofia: Pensof, 2003, pp. 185–98; Achilles Gerasimidis, Nikolaos Athanasiadis & Sampson Panajiotidis, "Mount Paiko (Northern Greece)", *Grana*, 47.4 (2008), 316-8; Achilles Gerasimidis, Nikolaos Athanasiadis & Sampson Panajiotidis, "Mount Voras (North-West Greece)", *Grana*, 48.4 (2009), 316-8.

⁵ Achilles Gerasimidis, Nikolaos Athanasiadis & Sampson Panajiotidis, "Syschetisi stoicheion tis exeliktikis poreias tis vlastisis me istorika dedomena se diagramma gyris tou orous Paiko" [Correlation of Data Regarding the Course of the Development of Vegetation with Historical Facts from a Pollen Diagram of Mt Paiko], in *Tenth Panhellenic Forestry Congress*, Athens: Geotechniko Epimelitirio Elladas, 2002, pp. 226-36.

⁶ For example, see Margaret Atherden, Jean Hall & James C. Wright, "A Pollen Diagram from the Northeast Peloponnese, Greece: Implications for Vegetation History and Archaeology", *The Holocene*, 3-4 (1993), 351-6; Susanne Jahns, "On the Holocene Vegetation History of the Argive Plain (Peloponnese, Southern Greece)", *Vegetation History Archaeobotany*, 2 (1993), 187-203.

⁷ For example, see M.V. Triantaphyllou, K. Kouli, T. Tsourou, O. Koukousioura, K. Pavlopoulos & M.D. Dermitzakis, "Paleoenvironmental Changes Since 3000 BC in the Coastal Marsh of Vravron (Attica, SE Greece)", *Quaternary International*, 216 (2010), 14–22; Katerina Kouli, "Vegetation Development and Human Activities in Attiki (SE Greece) During the Last 5,000 Years", *Vegetation History Archaeobotany*, 21 (2012), 267–78.

⁸ Kouli, *op.cit.*, pp. 267-78.

⁹ Nikolaos Athanasiadis, "Zur postglazialen Vegetationsentwicklung von Litochoro Katerinis und Pertouli Triaklon (Griechenland)", *Flora*, 164 (1975), 99-132.

As part of a multidisciplinary project that is involved with the environmental history of Halkidiki it is necessary to provide some general information about the geography and vegetation of the region, focusing on the Sithonia peninsula, where the investigated Tristinika marsh lies.

2. The Geographical Setting

The prefecture of Halkidiki lies in the central part of northern Greece (Fig.1). It borders with the Thessaloniki prefecture to the north and is surrounded by the Aegean Sea to the south, east and west. Its southern part ends in three “finger-like” narrow and long peninsulas: the “hilly” Cassandra, the “semi-mountainous” Sithonia, and the “mountainous” Athos. The largest mountain range of Cholomondas occupies the central part of the region and is succeeded in the east by Mount Stratoniko. The highest peak of Mount Athos is ca. 2,030 metres, while Mount Itamos (ca. 800 metres), named after the few old yew trees (*itamos* = *Taxus baccata*) growing in the area, occupies the central part of the Sithonia peninsula.

Several water bodies in the form of saline marshes are found in the coastal areas of Halkidiki (e.g., the “Natura 2000” network site “lagoon of Agios Mamas”). Near the tip of the Sithonia peninsula, six kilometres north of the village of Toroni, at about sea level, lies the Tristinika marsh (Fig.1). According to an inventory of Greek wetlands,¹⁰ the total area of the permanently flooded salt-brackish water marsh (wetland code: 127083000) is 35 hectares. However, the total area of the marsh covered by a water body fluctuates between dry and wet seasons. Touristic development has a significant impact on the ecological conditions of the marsh, which are affected by domestic sewage and land filling.¹¹

3. Vegetation

Halkidiki is characterised by diverse vegetation. All vegetation zones,¹² with the exception of that of cold-tolerant conifers (boreal forest), are encountered. This vegetation diversity is determined by altitude, soil and climatic conditions, and a long history of human impact. Below, we provide information about the vegetation of Halkidiki retrieved from the “Natura 2000” network, and special studies on Mount Cholomondas,¹³ Mount Athos¹⁴ and the Sithonia peninsula.¹⁵

¹⁰ Georgios C. Zalidis & Antonios L. Mantzavelas, (eds), *Inventory of Greek Wetlands as Natural Resources (First Approximation)*, Athens: Greek Biotope/Wetland Centre (EKBY), 1994.

¹¹ *Ibid.*

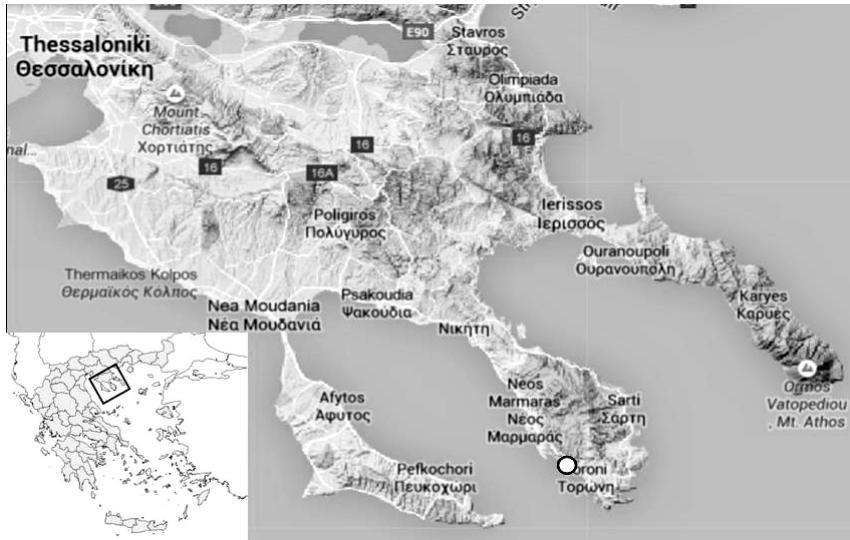
¹² Nikolaos Athanasiadis, *Dasiki Fytokoinoniologia* [Forest Phytosociology], Thessaloniki: Giachoudis, 1985, p. 119.

¹³ Konstantinos Theodoropoulos, “O kathorismos ton fytokoinoniologikon monadon tou panepistimiakou dasous Taxiarchi Halkidikis” [Definition and Classification of the Plant Sociological Units of the University Forest of Taxiarchis Halkidiki], unpublished PhD thesis, Aristotle University of Thessaloniki, 1991, p. 200.

¹⁴ Nikolaos Athanasiadis, Konstantinos Theodoropoulos, Achilles Gerasimidis, Eleni Eleftheriadou, Ioannis Tsiropidis & Georgios Korakis, *Monades vlastisis, tis zonis, ton aeifyllon platyfyllon tou Agiou Orous* [Vegetation

Fig.1

Map of Halkidiki. The Tristinika marsh is marked with a white circle.



Forests, woodlands or stands of beech (*Fagus sylvatica* s.l.) are found in high altitudes of Mounts Cholomondas, Stratoniko and Athos. Sparse stands and individuals of fir (*Abies* sp.) are found on Mount Athos. Mid-altitudes are covered mainly by thermophilous oak (*Quercus* sp.) forests and woodlands. Evergreen broad-leaved formations are encountered in low altitudes in all three peninsulas and the hillsides of Cholomondas and Stratoniko.

The vegetation of the Sithonia peninsula is a diverse mixture of pine woodlands (*Pinus halepensis*, *P. nigra* and *P. pinea*), evergreen broad-leaved species (*Quercus coccifera*, *Erica arborea*, *E. manipuliflora*, *Arbutus unedo*, *A. adrachne*, *Phillyrea latifolia*, *P. media*, *Pistacia lentiscus*), and phrygana (e.g., *Cistus salviifolius*, *C. creticus*, *C. monspeliensis*, *Sarcopoterium spinosum*). These are supplemented by nitrophilous, halophytic vegetation (mainly members of the Chenopodiaceae family), grazed meadows, cultivated fields, and olive groves where a variety of ruderals and weeds can be found intermixed between the different land-use types. Pine woodlands are accompanied very often by an understory of evergreen broad-leaved shrubs especially *Erica* spp.

Units of the Evergreen Broadleaved Zone of the Holly Mountain], Thessaloniki: Eidiki Ekdoti Thessaloniki Politistiki Protevousa tis Evropis 1997, 1998, p. 87.

¹⁵ Georgios Pavlidis, "I chloris kai i vlastisis tis chersonisou Sithonias Halkidikis" [Flora and Vegetation of the Sithonia Peninsula in Halkidiki], unpublished PhD thesis, Aristotle University of Thessaloniki, 1976, p. 300.

Impressive thick pockets of reeds (mainly *Phragmites communis* and to a lesser extent *Typha latifolia*) are found in the periphery and the centre of the marsh.¹⁶ At the edges of this formation cushions of sedges (*Scirpus maritimus*) and rushes (*Juncus maritimus*) are encountered. Present day vegetation around the marsh comprises olive groves, halophytic vegetation, a pine stand on the north hillside, thick evergreen broad-leaved formations and grazed meadows.

4. Materials and Methods

4.1. Coring

A seven-metre long sequence was recovered close to the centre of the Tristinika marsh in June 2014 using a hand driven chamber corer (Eijkelkamp, 04.09). Half-cylindrical segments 50cm long and 5cm wide were wrapped with plastic membrane packed in semi-cylindrical plastic tubes and stored in cool temperature (4°C) for further processing. In the frame of the current project, 4,5m were sampled and analysed for their content in palynomorphs covering the last 3,500 years.

4.2. Dating

Five bulk samples were extracted from various depths of the core including the deepest part and were sent to the CHRONOS laboratory of the University of Belfast for dating with AMS C¹⁴. Contrary to conventional radiocarbon methods, the AMS method can provide very accurate dates assigned with a very low error.¹⁷

4.3. Chemical Preparation

Successive samples of 2cm³ were extracted ca. every 8cm and placed in plastic centrifuge tubes with conical bottom. Prior to any step of chemical processing, two *Lycopodium* tablets (batch No: 124961) were added to all samples. The addition of an exotic marker,¹⁸ here *Lycopodium*, enables the calculation of pollen concentration and pollen accumulation rate values.

Samples were first boiled in 10% potassium hydroxide (KOH) to loose and soften organic material and sieved with a metal mesh of 250µm to remove larger than this diameter organic or mineral particles. Silica and clay were removed by boiling the samples in ~40% hydrofluoric acid (HF). Prior and after that step samples were subjected to warm 10% hydrochloric acid (HCl) to prevent formation of colloids. Samples rinsed with distilled water and water was removed with glacial acetic acid (CH₃COOH). Acetolysis is the final step in removing organic content of the samples by boiling them in a mixture of

¹⁶ Pavlidis, *op.cit.*, p. 204.

¹⁷ Mike Walker, *Quaternary Dating Methods*, Chichester: John Wiley & Sons, 2005, p. 286.

¹⁸ Jens Stockmarr, "Tablets with Spores Used in Absolute Pollen Analysis", *Pollen et Spores*, 13 (1971), 615-21.

9:1 acetic anhydride (CH₃CO)₂O to sulfuric acid (H₂SO₄). Samples were rinsed again with acetic acid and double rinsed with distilled water. Samples were sieved with a fabric mesh of 10µm stained with fuchsin and placed in small vials with glycerine.

4.4. Pollen Counts

At least 350 pollen grains were counted in each slide. Identification of pollen grains and spores was based on a key adapted to the Greek flora,¹⁹ routine keys,²⁰ photographic material²¹ and the use of reference material stored in the Laboratory of Forest Botany-Geobotany.

4.5. Charcoal Counts

Charcoals are microscopic particles produced by the incomplete combustion of organic matter at temperatures between 280°-500°C.²² As charcoals were recognised all black opaque, angular particles larger than 10µm. We also encountered black opaque spheroidal particles that probably derived from mining and metallurgical work where charcoal was used as a fuel. Microscopic charcoals can be counted together with pollen on a slide and provide information about past fires. We counted the number of charcoal particles instead of the area,²³ and the total count of both charcoals and the exotic marker, *Lycopodium*, was larger than 200-300 particles per slide.²⁴ Two size classes were recorded 10-200 µm and >200 µm. The second size class indicates that the fire event took place near the sampling site.²⁵

4.6. Remarks on Pollen Identification

Two pollen types of *Quercus* were distinguished, namely the evergreen oak (*Quercus coccifera*- type) that comprised *Q. ilex* and *Q. coccifera*, and the deciduous (*Q. robur*-type) that included all other oak species. *Carpinus orientalis* and *Ostrya*

¹⁹ Pamela Chester and Ian Raine, "Pollen and Spore Keys for Quaternary Deposits in the Northern Pindos Mountains, Greece", *Grana*, 40 (2001), 299- 387.

²⁰ Hans-Jürgen Beug, *Leitfaden der Pollenbestimmung für Mitteleuropa und angrenzende Gebiete*, Munich: Verlag Dr. Friedrich Pfeil, 2004, p. 542; Peter Moore and Judith Webb, *An Illustrated Guide to Pollen Analysis*, London: Hodder and Stoughton, 1978, p. 133.

²¹ Hans-Jürgen Beug, *op.cit.*, p. 542; Maurice Reille, *Pollen et spores d'Europe et d'Afrique du Nord*, Marseille : Laboratoire de Botanique historique et Palynologie, 1992, p. 543 ; Maurice Reille, *Pollen et spores d'Europe et d'Afrique du Nord*, supplément 1, Marseille : Laboratoire de Botanique historique et Palynologie, 1995, p. 331.

²² Cathy Whitlock, Chris Larsen, "Charcoal as a Fire Proxy", in John P. Smol, John Birks, William Last (eds), *Tracking Environmental Change Using Lake Sediments*, vol. 3: *Terrestrial, Algal, and Siliceous Indicators*, New York: Kluwer Academic Publishers, 2002, p. 361.

²³ Willy Tinner and Feng Sheng Hu, "Size Parameters, Size-Class Distribution and Area-Number Relationship of Microscopic Charcoal: Relevance for Fire Reconstruction", *The Holocene*, 13.4 (2003), 499-505.

²⁴ Walter Finsinger and Willy Tinner, "Minimum Count Sums for Charcoal-Concentration Estimates in Pollen Slides: Accuracy and Potential Errors", *The Holocene*, 15.2 (2005), 293-7.

²⁵ Unpublished data of the author.

carpinifolia constitute one pollen type (*Ostrya/Carpinus orientalis*) as they are inseparable in terms of their pollen morphology.²⁶ Erica-type includes both species namely *E. arborea* and *E. manipuliflora*. Even though *Cistus monspeliensis*-type can be distinguished from *C. salviifolius*-type, both types are combined in one curve as their values are relatively low and their depiction as separate curves does not improve ecological interpretation. Poaceae pollen includes all pollen of wild grasses. In our samples the majority of the Poaceae pollen belongs probably to *Phragmites*-type even though the size barrier (<30µm) is somewhat larger from that reported elsewhere (<25µm).²⁷ Plantago pollen type is also a combination of different types with *P. lanceolata* being the dominant followed by *P. coronaria* and *P. major*.²⁸ Since in the largest part of the diagram the presence of all three types is sparse and low they were amalgamated in a common curve. A common curve was drawn for the various Asteraceae pollen taxa encountered e.g. Senecio-type, Carduus-type. Centaurea-type is formed by the combination of *Centaurea cyanus*-type and *Centaurea solstitialis*-type, which were both counted in very low numbers.

4.7. Pollen Diagrams – Sample Dates

The pollen percentage diagram was based on two different sums. One sum contains all upland taxa (trees, shrubs and herbs) while the second has the addition of local taxa (Poaceae, Typha, Cyperaceae, Juncaceae). We have removed local vegetation from the first sum so as to avoid the large pollen input of mainly Poaceae that would have distorted the signal of vegetation that lies further away. Pollen percentage values for upland taxa were based on the first sum while those of local vegetation, aquatic plants, spores of ferns and charcoal classes on the second sum. Smooth spline was chosen for assigning dates to all samples of the core that were analysed. Pollen, spore and charcoal concentration values (palynomorphs/cm³) were calculated and converted to palynomorph accumulation rates (pollen, spores, charcoal particles/cm²/year). The latter conversion demands the calculation of sedimentation rate (cm/year) based on the four calibrated radiocarbon ages. The accumulation rate value for any palynomorph is simply the product of concentration multiplied by the sedimentation rate. All calculations and graph depictions were performed with TILIA software.²⁹

²⁶ Bottema, *op.cit.*, p. 23.

²⁷ For example, see the special key to Poaceae in Faegri and Iversen, *op.cit.*, p. 286.

²⁸ Chester and Raine, *op.cit.*, pp. 361-3.

²⁹ Eric C. Grimm, *Tilia, Tilia-Graph and TGVView*, Springfield: Verenigde Staten, 1992-2011.

4.8. Remarks on Pollen Indicators – Pollen Representation – Pollen Source Area

Human activity manifested as arboriculture, agriculture and animal husbandry is depicted in pollen diagrams by pollen taxa that are directly or indirectly related to these types of land-use. Cultivated woody plants like *Olea*, *Vitis*, *Juglans*, *Castanea* are among the most important indicators of arboriculture. Agricultural activity is detected by pollen of cereals that can be distinguished from wild grasses in terms of pollen grain, and pore size (*Triticum*) and pollen grain shape (*Secale*). *Hordeum*, on the other hand, can be confused with wild grass taxa, which are abundant in Sithonia. A series of weeds and ruderals/secondary indicators associated with farming and/or favoured by animal husbandry provide indirect information about the intensity of these activities. This large group include taxa like Cichoriaceae, Asteraceae, Centaurea, Plantago lanceolata type, P. coronopus, Caryophyllaceae, Potentilla.³⁰ Modern flora studies in Sithonia³¹ point to the inclusion of taxa like Liliaceae, Xanthium, Brassicaceae, Fabaceae, Chenopodiaceae. Chenopodiaceae are also a major constituent of the halophytic vegetation and this fact calls for a careful interpretation of changes in their pollen values.

It is well known that not all taxa produce the same amount of pollen or disperse their pollen equally efficiently. Comparisons of modern pollen assemblages and vegetation forms have shown some important features of the pollen dispersion of woody taxa that play also a central role in the vegetation of the Sithonia peninsula. Among the evergreen broad-leaved taxa, Quercus coccifera, Erica sp. are very well represented in pollen spectra, while taxa like *Arbutus* spp., *Phillyrea*, *Pistacia* spp. are poorly represented. A few percentages of the latter two taxa signal a rather common occurrence.

³⁰ For example, see Nikolaos Athanasiadis, Achilles Gerasimidis & Sampson Panajotidis, *I elia sta diagrammata gyris kai i simasia tis apo istorikoarchaeologiki apopsi* [The Olive Tree in the Pollen Diagrams and its Significance from a Historical and Archaeological Point of View], Athens: Politistiko Technologiko Idryma ETBA, 1993, pp. 78-91; Nikolaos Athanasiadis, Achilles Gerasimidis & Sampson Panajotidis, *I ampelos sta diagrammata gyris tis Voreias Elladas kai i simasia tis apo istorikoarchaeologiki apopsi* [The Vineyard in the Pollen Diagrams of Northern Greece and its Significance from a Historical and Archaeological Point of View], Athens: Politistiko Technologiko Idryma ETBA, Idryma Fani Boutari, 1993, pp. 78-91; Karl-Ernst Behre, "The Interpretation of Anthropogenic Indicators in Pollen Diagrams", *Pollen et Spores*, 2.3. 1981, 225-45; Karl-Ernst Behre, "Some Reflections on Anthropogenic Indicators and the Record of Prehistoric Occupation Phases in Pollen Diagrams from the Near East", in *Man's Role in the Shaping of the Eastern Mediterranean Landscape*, Rotterdam: Balkema, 1990, pp. 219-31; Sytze Bottema & Henk Woldring, "Anthropogenic Indicators in the Pollen Record of the Eastern Mediterranean", in *Man's Role in the Shaping of the Eastern Mediterranean landscape*, Balkema: Rotterdam, 1990, pp. 231-64; Elena Marinova & Juliana Atanassova, "Anthropogenic Impact on Vegetation and Environment during the Bronze Age in the Area of Lake Durankulak, NE Bulgaria: Pollen, Microscopic Charcoal, Non-pollen Palynomorphs and Plant Macrofossils", *Review of Palaeobotany and Palynology*, 141 (2006), 165-78; Florence Mazier, Didier Galop, Marie- José Gaillard, C. Rendu, C. Cuny, A. Legaz, O. Peyron & Alexandre Buttler, "Multidisciplinary Approach to Reconstructing Local Pastoral Activities: An Example from the Pyrenean Mountains (Pays Basque)", *The Holocene*, 19.2 (2009), 171-88.

³¹ Pavlidis, *op.cit.*, pp. 255-65.

Cistaceae have also a low representation in pollen rain and Sarcopoterium even lower. Forests of deciduous *Quercus* spp. if degraded, as for example through coppicing, are not well represented in the pollen rain due to much reduced flowering.³²

Pioneer studies³³ have modelled the pollen load that a site, usually a lake, receives. Considering the distance as a radius from the centre of the basin, the pollen load has a local (0-20m), extra-local (20m-2km), regional (2-200km) and extra-regional (>200km) origin.³⁴ In the vast majority of cases part of the extra local component is the area where changes in the vegetation are reflected in pollen load. For lakes with a radius of 2-250m this area is between 50-100m to 600-800m. This area is called the relevant source area of pollen and the pollen that derives from outside that area is called the background pollen. The latter directly depends on the size of the lake, the larger the lake the more background pollen it receives. In the above mentioned cases, background pollen as a percentage ranges from 55% to 70% of the total pollen deposited in the lake. The Tristinika marsh lies at the side of a "strip" of hilly land and is actually engulfed in water for several kilometres, which literally means no vegetation. This "peculiarity" allows us to identify the pollen signal of some taxa like *Fagus*, *Abies*, as solely background, while for other taxa like *Pinus*, *Quercus* (evergreen and deciduous), *Erica* background component constitutes a considerable part of their total load. The wind patterns of the area³⁵ indicate the Athos peninsula and north, north-east Halkidiki as the major source of background pollen deposited in the Tristinika marsh.

5. Results

5.1. Dating

Results of radiocarbon dating are given in (TABLE 1) as well as corresponding depths.

³² Bottema, *op.cit.*, p. 41.

³³ For example, see Colin Prentice, "Pollen Representation, Source Area, and Basin Size: Toward a Unified Theory of Pollen Analysis", *Quaternary Research*, 23 (1985), 76-86; Shinya Sugita, "Pollen Representation of Vegetation in Quaternary Sediments: Theory and Method in Patchy Vegetation", *Journal of Ecology*, 82 (1994), 881-97.

³⁴ Per Sjögren, "The Development of Pasture Woodland in the Southwest Swiss Jura Mountains over 2000 Years, Based on Three Adjacent Peat Profiles", *The Holocene*, 16.2 (2006), 210-23.

³⁵ Ulrich Kotthoff, Ulrich C. Müller, Jörg Pross, Gerhard Schmiedl, Ian T. Lawson, Bas van de Schootbrugge and Hartmut Schulz, "Lateglacial and Holocene Vegetation Dynamics in the Aegean Region: an Integrated View Based on Pollen Data from Marine and Terrestrial Archives" *The Holocene*, 18 (2008), 1019-32.

Table 1
Calibrated AMS C¹⁴ radiocarbon dates. Calibration is given in calendar years

Lab. code	Depth (cm)	14C age (years B.P.)	Calibrated age (BC/AD)
UBA-28837	60	211 ± 31	1644-1944 AD
UBA-28836	160	1094 ± 23	892- 1010 AD
UBA-28835	310	2660 ± 25	893- 796 BC
UBA-28834	460	3272 ± 31	1624- 1460 BC
UBA-28833	698	5138 ± 31	4036- 3805 BC

The analysed sequence covers a period of around three and one-half millennia.

5.2. Pollen Assemblage Zones (PAZ)

Seven pollen assemblage zones (PAZ) indicated with the prefix *Tris* and numbered from the bottom to the top of the sequence were identified (Fig. 2). The zones are described on the basis of qualitative and quantitative changes of major terrestrial taxa. The median and maximum pollen percentage values for abundant taxa are given in all seven zones. For those with a low presence only the maximum pollen percentage value is given. The description of the changes in pollen zones is grouped according to major vegetation types.

Tris-1 (448- 372 cm, 10 samples, fifteenth-twelfth century BC)

Pine forest - evergreen/broad-leaved heaths: *Pinus* pollen (median: 8.8%, max: 11.5%) shows a steady occurrence through the entire zone. *Erica* (heaths, 50.5%, 65.6%) curve is dominant in this zone, showing its largest peak towards the end of the zone. The curve of evergreen oaks (*Q. coccifera* type, 6.5%, 12.2%) fluctuates throughout this period, with its lowest value towards the end of the zone.

Mid-high forests: The curve of *Fagus* (2%, 3.6%) fluctuates through the whole zone but a trend of decline from the middle of the zone is also visible. The same holds for *Abies* (1.2%, 1.7%), though its values are smaller than *Fagus*. Signs of *Picea* (max: 1.4%) are encountered for the first time in this zone. The curve of deciduous oaks (*Quercus robur* type, 8.9%, 13.3%) shows a continuous fluctuating reduction before it begins to rise just after the middle of the zone. The values of *Ostrya/C. orientalis* (2.4%, 3.6%) fluctuate, showing two distinct peaks before the middle and at the end of the zone. *Carpinus betulus* is steadily present with very low values (1%, 1.4%), while *Corylus* (1.4%) has a discontinuous curve.

Farming/animal husbandry: First signs of *Olea* (1.4%) and *Vitis* (0.6%) cultivation. Signs of cereal cultivation are found in the middle and the upper boundaries of the zone. A wide range of pollen indicators of grazing and abandoned fields, and weeds growing in cultivated land are encountered. *Asteraceae* (5%), *Chenopodiaceae* (4.2%),

Caryophyllaceae (3.3%), *Ranunculus acris* type (1.7%) are those with the highest maximum values. Secondary vegetation adapted to fire is represented by phrygana like *Cistus* (3.2%, 7.1%) and *Sarcopoterium* (0.3%, 0.8%). *Asphodelus* also appears sporadically.

Tris-2 (372- 236cm, 17 samples, twelfth century BC – first century AD)

Pine forest - evergreen/broad-leaved heaths: *Pinus* (7.4%, 12.9%) pollen values are as a rule lower than those of the previous zone, though the maximum value of this zone is higher than the previous. Higher values are encountered at the start and towards the end of the zone. *Erica* heaths (47.8%, 62.8%) pollen values fluctuate intensely and are somewhat lower than those of the previous zone. The curve of evergreen oaks (8%, 21.8%) fluctuates intensely with its maximum value being one of the largest for the entire sequence. The size of the median value however indicates that its lowest values are comparable to those of the previous zone. *Phillyrea* presence (1.2%, 2.9%) is continuous and significant showing its maximum value just after the middle of the zone.

Mid-high forests: The *Fagus* (2.4%, 4.1%) curve starts alike with the end of the previous zone and shows in the second half of the zone a continuous high presence that terminates at the end of the zone. The curve of *Abies* (0.6%, 1.2%) becomes discontinuous, while its values are lower than the previous zone. Signs of *Picea* (0.7%) are found at the beginning and the end of the zone. The curve of deciduous oaks (9%, 16.9%) remains steady for a large part of the zone, showing peaks at the first and last quarter of the zone. The curve of *Ostrya/C. orientalis* (3.1%, 5%) is fluctuating, while its maximum values usually alternate with those of *Q. robur* type. The trend of the curve of *Carpinus betulus* (0.3%, 1.5%), as in the previous zone, is similar to that of *Fagus*, though its values are lower. A discontinuous curve characterises the *Corylus* (0.3%, 1.8%) occurrence in this zone.

Farming/animal husbandry: The zone is characterised by the intense cultivation of *Olea* (4.2%, 12.4%). Signs of *Vitis* (0.4%) cultivation are traced on the upper middle part of the zone. Cereal cultivation (0.3%, 1%) becomes evident in the entire zone but more systematic in its upper part. *Ranunculus acris* type (4.4%), Caryophyllaceae (3.6%), Asteraceae (3.3%), Chenopodiaceae (2.4%) are the pollen indicators with the highest maximum values. In relation to the previous zone, a change in values in favour of *Sarcopoterium* (0.6%, 1.5%) is observed, although *Cistus* values are still larger (2.4%, 3.7%).

Tris-3 (236- 188cm, 6 samples, first century AD – sixth century AD)

Pine forest - evergreen/broad-leaved heaths: This zone is characterised by the lowest values of *Pinus* (4.3%, 8.7%) for the entire sequence. On the contrary, the curve of *Erica* (64.5%, 87.9%) shows a continuous rise, scoring the highest values for the entire sequence. At the end of the zone, *Erica* becomes the single dominant type in the pollen diagram. Pollen values of evergreen oaks (6.4%, 10.7%) are the lowest of the se-

quence, showing at the end of the zone a drop similar to that of *Pinus*, *Ostrya/C. orientalis*, *Q. robur* type. The *Phillyrea* (0.3%, 1.1%) occurrence retreats to low values before disappearing at the end of the zone.

Mid-high forests: From this zone onwards the curve of *Fagus* (1.3%, 1.7%) shows low values and gains values as high as those of the previous zones only at the top of the sequence. *Abies* (0.3%, 0.6%) continues its retreat, which is evident just after the start of the zone. A faint yet visible *Picea* signal occurs at the start of the zone. The curve of deciduous oaks (6.6%, 8.1%) retreats continuously, showing largest and minimum values at the boundaries of the zone. From this zone onwards, *Ostrya/C. orientalis* (0.6%, 1.9%) retreats, although its values increase at the end of the zone. A sporadic occurrence characterises *Carpinus betulus* not only for the specific zone but also those that follow.

Farming/animal husbandry: A withdrawal of *Olea* cultivation (2.7%, 4.5%) is observed. Cereal cultivation (2%, 4.3%) expands, apparently replacing *Olea*. *Asteraceae* (2.6%), *Chenopodiaceae* (2.4%), *Caryophyllaceae* (1.2%) are the pollen indicators with the highest maximum values. *Cistus* values (1.4%, 3.1%) continue dropping while *Sarcopoterium* (1.1%) appears on the upper half part of the diagram.

Tris-4 (188- 140cm, 6 samples, sixth century AD – eleventh century AD)

Pine forest - evergreen/broad-leaved heaths: An abrupt expansion of *Pinus* (16.1%, 20%) characterises this zone, gaining high values that will characterise the zones to follow. On the contrary, a sharp declining course is taken by *Erica* (50.2%, 57.9%) which, will be temporarily suspended at the end of the zone. Unlike *Pinus*, evergreen oaks (6.8%, 10.7%) seem to expand but this trend becomes clear at the end of the zone. The *Phillyrea* (0.3%, 0.6%) curve retreats to the level of zone Tris-1.

Mid-high forests: Opposite directions follow the curves of *Fagus* (0.9%, 2.1%) and *Abies* (1%, 1.8%). The former is absent at the beginning of the zone but continuously present in the rest of the zone, while the presence of the latter is reduced towards the end of the zone. In this zone the signal of *Picea* (0.3%, 0.8%) becomes almost continuous. A sharp rise and fall characterise the curve of deciduous oaks (8.4%, 14.9%), with the maximum value reached at the middle of the zone. At the start of the zone, *Ostrya/C. orientalis* (1.6%, 4.8%) reaches for the last time such a size of maximum value.

Farming/animal husbandry: *Olea* cultivation (1.6%, 2.4%) is literally abandoned and the same holds true for cereals (1.2%). Signs of *Vitis* (0.3%) cultivation are traced at the upper edge of the zone. *Chenopodiaceae* (7.3%), *Asteraceae* (2.6%), *Caryophyllaceae* (2.3%) and *Cichoriaceae* (1.5%) are the pollen indicators with the highest maximum values. Pollen values of *Cistus* (1.3%, 3.6%) are stabilised, while *Sarcopoterium* is continuously present but with low values (0.3%, 0.8%).

Tris-5 (140- 100cm, 5 samples, eleventh century – mid-fifteenth century AD)

Pine forest - evergreen/broad-leaved heaths: The expansion of *Pinus* (17.9%, 27.2%), which started in the previous zone, continues in the current with two maxima at the

boundaries of the zone. Though fluctuant, the curve of *Erica* (17.7%, 27.1%) reaches the lowest recorded value for the whole sequence at the end of the zone. The curve of evergreen oaks (16.7%, 20.9%) starts a fluctuating but rather steep rise, reaching its maximum value at the middle of the zone. *Phillyrea* (1.8%, 3%) returns to levels similar to those of zone Tris-2. *Pistacia* (2.3%) appears for the first time around the middle of the zone, with a continuous occurrence.

Mid-high forests: The pattern that was shown for *Fagus* (1.2%, 2.3%) and *Abies* (0.4%, 0.7%) in the previous zone is repeated again, only this time the former taxon prevails over the latter. No *Picea* pollen was recorded in this and the next zone. The zone is characterised by the highest occurrence of deciduous oaks (17.9%, 20.7%) recorded in the sequence. The pollen values remain steadily high in the whole zone. The curve of *Ostrya/C. orientalis* (1.5%, 2.3%) is marked by low pollen values.

Farming/animal husbandry: *Olea* cultivation (7.6%, 13.7%) is intensified, reaching values that are the highest for the whole sequence. Cereal cultivation (1.1%) continues with the same intensity as in the previous zone. *Vitis* cultivation (0.9%) is traced in the entire zone. *Chenopodiaceae*, with an astonishing 18.6%, *Asteraceae* (4.9%), *Ranunculus acris* type (2%) and *Plantago* (1.7%) are the pollen indicators with the highest maximum values. The pollen values of *Cistus* (0.6%, 1.9%) drop further in relation to the previous zone. *Sarcopoterium* (0.8%) is only present in the boundaries of the zone.

Tris-6 (100- 76cm, 3 samples, mid-fifteenth – mid-seventeenth century AD)

Pine forest - evergreen/broadleaved heaths: The zone is marked by a sharp drop of *Pinus* (6.9%, 10.2%), followed by a steady rise of its curve. *Erica* recovers (39.4%, 41%) but not to the levels of the first four zones. On the contrary, the curve of evergreen oaks (16.7%, 20.9%) continues its rather steep rise, reaching its maximum value for the whole sequence at the start of the zone. *Phillyrea* (1.3%, 1.4%) and *Pistacia* (1.1%, 1.3%) show the same trend in their curves with a drop in the middle of the zone.

Mid-high forests: *Fagus* (1.4%, 1.4%) has a steady but low presence while *Abies* (0.4%) is virtually absent. Deciduous oaks (10.2%, 11%) retreat abruptly at the start of the zone and partially recover by the end. The curve of *Ostrya/C. orientalis* (0.7%, 1.2%) is marked by its very low trend.

Farming/animal husbandry: *Olea* cultivation (6%, 7.8%) remains intense though the maximum pollen value is lower than the previous zone. A short abandonment of cereal cultivation (1%) is succeeded by a noticeable expand. *Vitis* cultivation (0.6%) continues to be present. *Caryophyllaceae* (2.3%), *Asteraceae* (2.2%), *Chenopodiaceae* (1.6%), *Cichoriaceae* (1.6%), are the pollen indicators with highest maximum values. Pollen values of *Cistus* (1.9%, 3.2%) increase in relation to the previous zone while *Sarcopoterium* (0.9%) is only present with low values.

Tris-7 (76- 8cm, 9 samples, mid 17th century AD- mid 20th century AD).

Pine forest- evergreen/broadleaved-heaths: *Pinus* curve (20.5%, 25.5%) shows characteristic peaks in the boundaries and the middle of the zone. The size of its pollen values is similar to that of zone Tris-5. *Erica* (23.7%, 30.6%) pollen values alternate with those of *Pinus*, showing a peak around the end of the zone. The curve of evergreen oaks (12.7%, 21.9%) starts alike with the end of the previous zone but continues showing a steady reduction until the middle of the zone, when it starts rising again. *Phillyrea* (2.2%, 2.8%) and *Pistacia* (1.3%, 3.6%) show the same trend in their curves, characterised by fluctuations and higher values than in the previous zone.

Mid-high forests: *Fagus* (1%, 3%) shows a steady increase all the way to the top of the zone. *Abies* (0.5%, 0.9%) reappears with fluctuating but quite low values. Deciduous oaks (7.3%, 13%) pollen values fluctuate around “normal” levels for that sequence. The same holds for the curve of *Ostrya/C. orientalis* (1%, 1.7%), as its values reflect the trend of retreat shown in the upper half of the sequence.

Farming/animal husbandry: *Olea* cultivation (5%, 11.5%) is established as the main human activity. Cereal cultivation (2.7%, 8.2%) becomes almost equally important by the middle of this zone only to return by the end of the zone in its usual values. The last signs of *Vitis* cultivation (0.6%) are encountered in the beginning of the zone. *Chenopodiaceae* (8.1%), *Plantago* (7.7%), *Caryophyllaceae*, *Asteraceae* (3.4%), *Ranunculus acris* type (3.1%) and *Cichoriaceae* (2.3%) are the pollen indicators with the highest maximum values. Pollen values of *Cistus* (2.3%, 3.2%) are stabilised in relation to the previous zone, while *Sarcopoterium* (0.6%) is only discontinuously present.

6. Discussion

6.1. Olive Cultivation

Signs of olive cultivation are traced in the lowest part of the diagram (Tris-7), corresponding to the Mycenaean period, in particular around the fourteenth century BC. Signs dating to this period have also been traced in the diagram of Giannitsa.³⁶ Intense olive cultivation characterised the age from the archaic period to the early Roman occupation. This is a much earlier period than the one assigned in the diagram of Lake Volvi,³⁷ where the earliest intense cultivation (values of around 3%) goes back to the late classic/early Roman period. The temporal decline in olive cultivation during the mid-Byzantine period (early seventh to tenth century) is attributed to the turmoil of the period characterised by Slavic raids in the area. However other causes, like the “Justinianic plague” (sixth to eighth century) that devastated the Mediterranean basin³⁸

³⁶ Athanasiadis et al., “I elia sta diagrammata gyris kai i simasia tis”, pp. 78-91.

³⁷ *Ibid.*

³⁸ Michaela Harbeck, Lisa Seifert, Stephanie Hansch, David M. Wagner, Dawn Birdsell, Katy L. Parise, Ingrid Wiechmann, Gisela Grupe, Astrid Thomas, Paul Keim, Lothar Zoller, Barbara Bramanti, Julia M. Riehm &

and proved equally fatal to the Black Death pandemic, cannot be ruled out considering the fact that Toroni remained an important port during this period. Parallel to the decline in olive cultivation was the decline in cereal cultivation and animal husbandry, both of which signalled a very intense pressure on the human landscape. From the eleventh century onwards olive cultivation re-expanded as large parts of the peninsula were granted to the monasteries of the Holly Mountain, which reorganised agriculture and stockbreeding in the area, managing thus to sustain the population of the peninsula. Even though there was a decline in olive cultivation during the period of Ottoman rule, olive groves remained a significant component of the human landscape at least around Tristinika. The settlement of Ottoman semi-nomadic pastoralists (end of fourteenth century) in Halkidiki shifted human activity towards stockbreeding and farming. This fact, together with an observed decrease in the population of Sithonia during the fifteenth and sixteenth century, may account for the decline in olive cultivation in the area. However, the occurrence of *Olea* in the pollen records of the period from the fourteenth to the eighteenth century is noticeable. It might be that the large scale cultivation at Mount Athos,³⁹ which is recorded in eighteenth-century archives, compensated for the pollen load of *Olea* as its “travelling” over large distances is well known.⁴⁰

6.2. Agriculture / Animal Husbandry

Signs of cereal (*Secale/Triticum*) cultivation are already visible in the Mycenaean era. Throughout the Geometric and Archaic period the cultivation of cereals was not continuous, though it became so after the establishment of ancient Toroni in the eighth century BC, reaching its first peak in the early Byzantine years. Toroni was a significant city in ancient times with a well-known harbour trading in wood and metals. A landscape that would sustain a relatively large population had to develop, one where the cultivation of crops and animal husbandry would have played an important role. In the early Byzantine period a shift towards cereal cultivation was already visible, while olive cultivation retreated. The breakdown in human activity during the middle Byzantine era was also manifested, as mentioned above, by the abandonment of agriculture for a significant part of that period. The increased occurrence of Chenopodiaceae, known as nitrophilous taxa, during this period is the strongest evidence on the existence of fallow lands. Cereal cultivation returned in the post-Byzantine era, though as supplementary

Holger C. Scholz, “*Yersinia pestis* DNA from Skeletal Remains from the 6th Century AD Reveals Insights into Justinianic Plague”, *PLoS Pathogens*, 9.5 (2013), e1003349.

³⁹ See the chapter by Elias Kolovos and Phokion Kotzageorgis in this volume.

⁴⁰ Marleen Vermoere, Leo Vanhecke, Marc Waelkens & Erik Smets, “A Comparison Between Modern Pollen Spectra of Moss Cushions and Cundill Pollen Traps”, *Grana*, 39.2-3 (2000), 146-58; Achilles Gerasimidis, Sampson Panajiotidis, Sheila Hicks & Nikolaos Athanasiadis, “An Eight-year Record of Pollen Deposition in the Pieria Mountains (N. Greece) and its Significance for Interpreting Fossil Pollen Assemblages”, *Review of Palaeobotany and Palynology*, 141 (2006), 231-43.

to olive cultivation. Secondary indicators of both types of crop cultivation are noticeable in this period. From the end of the sixteenth an ongoing growth of the land used for cereal cultivation together with the increase in the size of pasturelands is observed. The versatile and strong presence of secondary indicators, like Chenopodiaceae, Plantago, Ranunculus acris type, Asteraceae, Cichoriaceae and Matricaria type, substantiates the shift towards these activities.

Pastoralism is probably the only continuous activity in the period covered by the analysed sequence. Human- and fire-induced secondary vegetation present as heaths (*Erica*) and phrygana (*Cistus*, *Sarcopoterium*) is the soundest indicator of this activity. Heaths could be characterised as the supreme vegetation type, especially for the period up to the eleventh century. As other woody species like *Pinus* and *Quercus* were being exploited, the former for its wood the latter for charcoal production, heaths dominated the landscape, followed by dwarf *Cistus* shrubs. At the turn of the eleventh century heaths will begin to retreat, never regaining their former large expansion, though still they will remain first among co-dominant taxa like *Pinus* and *Quercus*.

Grazing took place not only in dry pastures (heaths) but also in wet meadows, especially around the marsh of Tristinika. The presence of *Pteridium* and *Polypodium* ferns is the strongest indicator of grazed dry pastures,⁴¹ with the former being present almost continuously in the diagram. On the other hand, grazing of wet meadows is indicated by Ranunculus acris type, Asteraceae, Cichoriaceae and especially Plantago pollen. In this sense, the last part of the diagram (the period of Ottoman rule) shows the most intense signs of grazing. It is not unlikely for the same land to have been used interchangeably during the season as arable field/pasture, as indicated by the versatile presence of secondary indicators like Chenopodiaceae, Plantago, Ranunculus acris type, Asteraceae, Cichoriaceae and Matricaria type.

6.3. Woodlands / Climate

The impression given by the palynological data is that of a human-shaped landscape where natural woodlands are largely affected by various human activities. From prehistoric times until the early Byzantine era pine woodlands seem restricted and sparse, at least in the Sithonia peninsula. The pine forests of Halkidiki have been exploited in Antiquity as a source for building and shipping material, whereas oak woodlands were a major source of charcoal. Climatic conditions favoured the expansion of Mediterranean pine woodlands with a diverse understorey of evergreen taxa like *Quercus cocifera*, *Pistacia lentiscus*, *Erica* spp. and *Arbutus* spp. However, signs of such an expansion are only observed in the post Byzantine and especially the Ottoman era. The diversity of taxa seen in the upper-younger part of the diagram justifies the term "logos"

⁴¹ Behre, "The Interpretation of Anthropogenic Indicators", pp. 225-45.

used to describe thick woodlands encountered in the Sithonia peninsula in the eighteenth and nineteenth century.⁴²

Some woodland elements like *Fagus*, *Abies* are clearly regional and are represented in the diagram as background pollen,⁴³ while others like *Pinus*, evergreen and deciduous *Quercus* spp. are both of extra-local and regional origin. Thus, climatic changes influencing their spatial expansion in time may be inferred, despite the strong human influence on vegetation. For example, the Mycenaean period was a relatively wet one,⁴⁴ and it seems that the Tristinika marsh may have experienced repeated instances of flooding. The expansion of *Typha latifolia* (Tris-7), a species known for its aggressive invasion when saline marshes are flooded with freshwater,⁴⁵ indicates wet conditions. *Typha* expansion correlates well to peaks in charcoals (Fig.2), indicating that nutrient runoff caused by local fires⁴⁶ may also facilitate its expansion. In the same period, *Fagus* is represented with some of its largest values, which pinpoint to suitable wet conditions. The similarity in the trend of the curves of *Fagus* and *Typha* is visible in the largest part of the diagram, marking interchangeably dry and wet conditions. The early periods of the diagram (Mycenaean to early Roman) point to well developed *Fagus* forests, as indicated by the noticeable presence of *Tilia* and the much stronger occurrence of *Carpinus betulus*.

The strong dry spell that began at the end of the Roman era and culminated around the seventh century⁴⁷ is marked by the retreat of local vegetation (*Phragmites* and *Typha*). At the end of this period, when raids and possible spreads of plague literally diminished human activity (e.g., olive and cereal cultivation, animal husbandry), woodland elements like pine and oak expanded due to the favourable dry climatic conditions. This course of expansion was interrupted twice for oak woodlands, in the tenth and eleventh century and again in the fifteenth and sixteenth century, when mining activity increased in north-east Halkidiki.⁴⁸ In the second period it was also accompanied by a reduction in pine cover. The “temporary” suspension of human activity allowed thermophilous *Quercus* species to prevail over their counterpart *Ostrya carpinifolia*/*Carpinus orientalis*, while later periods indicate a suitable management of oak stands that preserved this vegetation status.

⁴² See the chapter by Elias Kolovos and Phokion Kotzageorgis in this volume.

⁴³ Sugita, *op.cit.*, pp. 881-97.

⁴⁴ Kouli, *op.cit.*, pp. 267-78.

⁴⁵ Steven I. Apfelbaum, “Cattail (*Typhaspp.*) Management”, *Natural Areas Journal*, 5.3 (1985), 9–17.

⁴⁶ *Ibid.*

⁴⁷ Werner Ehrmann, Gerhard Schmiedl, Yvonne Hamann, Tanja Kuhnt, Christoph Hemleben & Wolfgang Siebel, “Clay Minerals in Late Glacial and Holocene Sediments of the Northern and Southern Aegean Sea”, *Palaeogeography, Palaeoclimatology, Palaeoecology*, 249 (2007), 36–57.

⁴⁸ See the chapter by Elias Kolovos and Phokion Kotzageorgis in this volume.

Mines, Olives and Monasteries

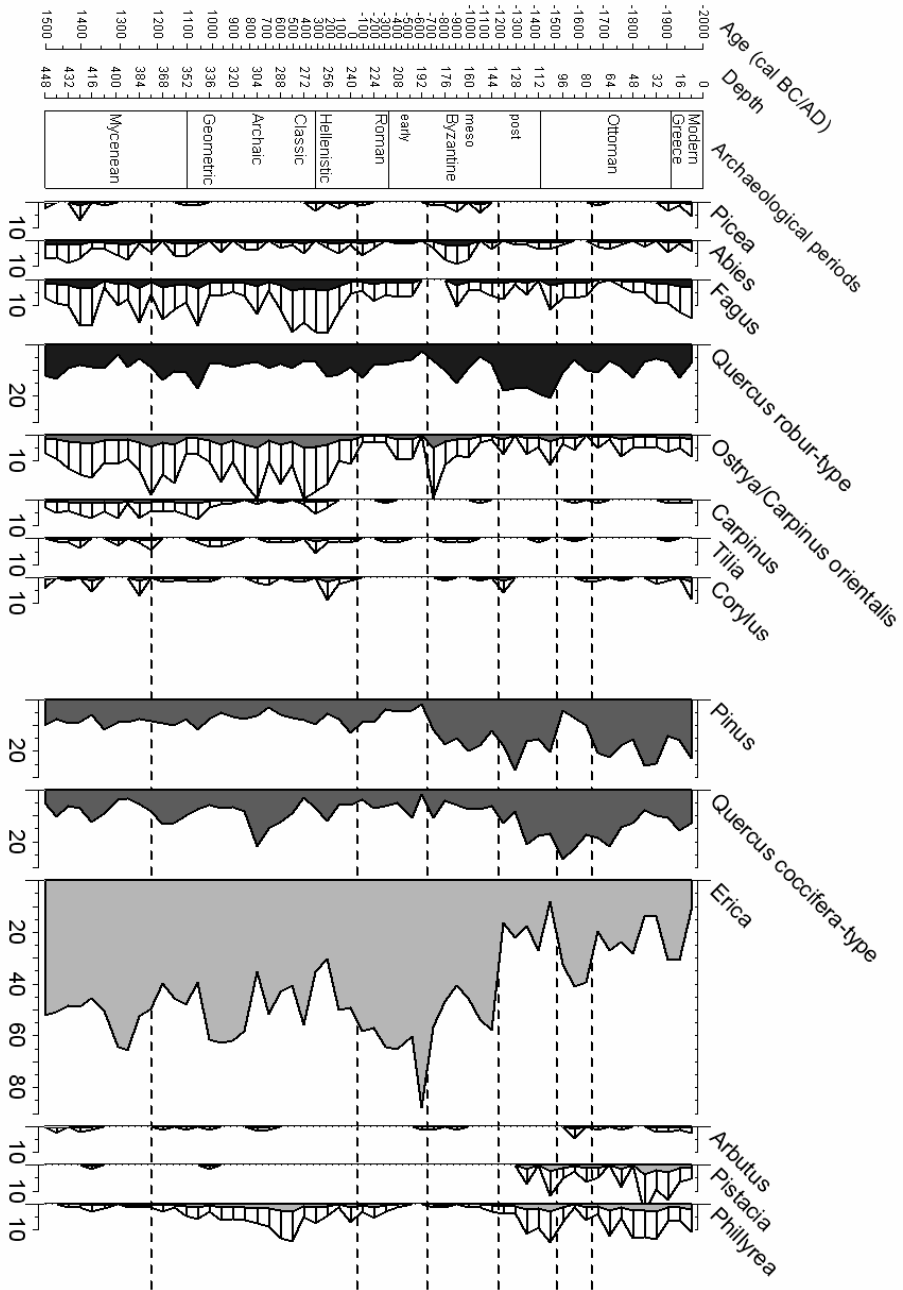


Fig.2. Percentage pollen diagram from the Tristinika marsh (exaggeration factor = 5).

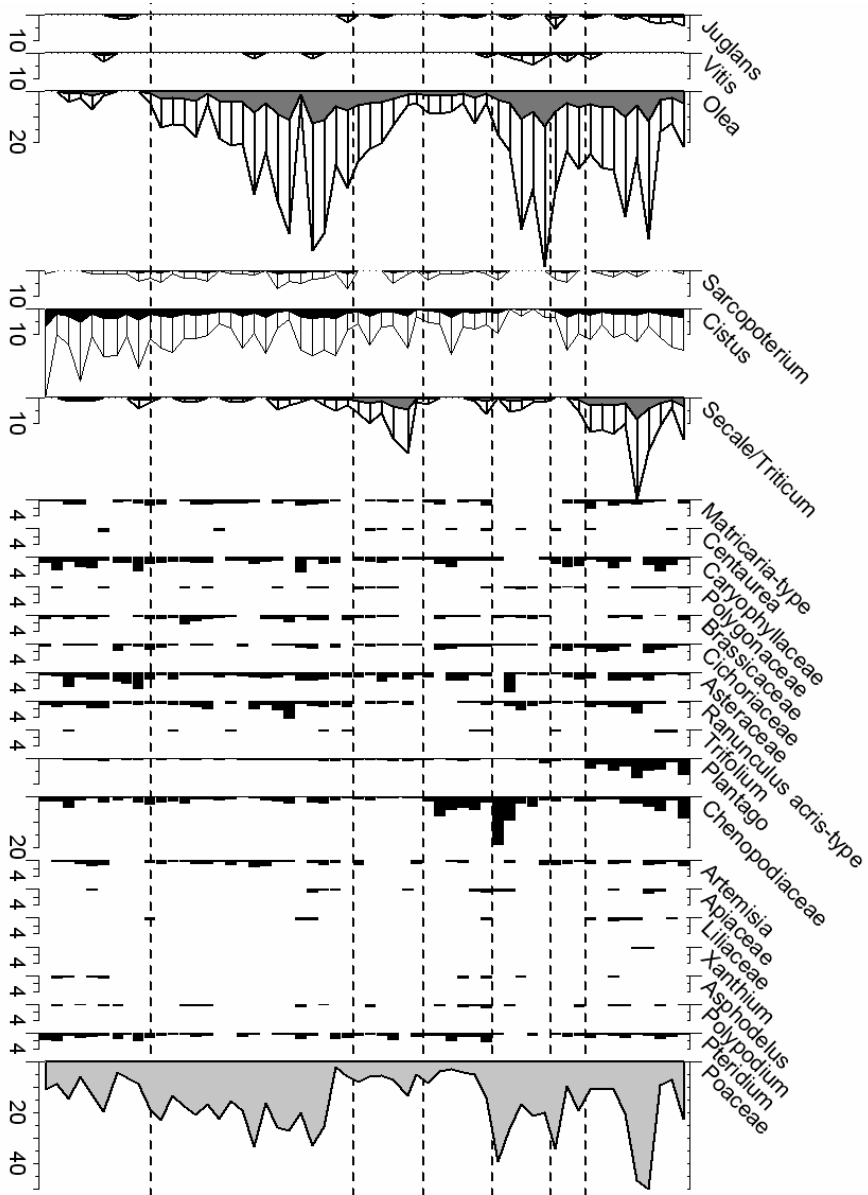


Fig.2. continued

Mines, Olives and Monasteries

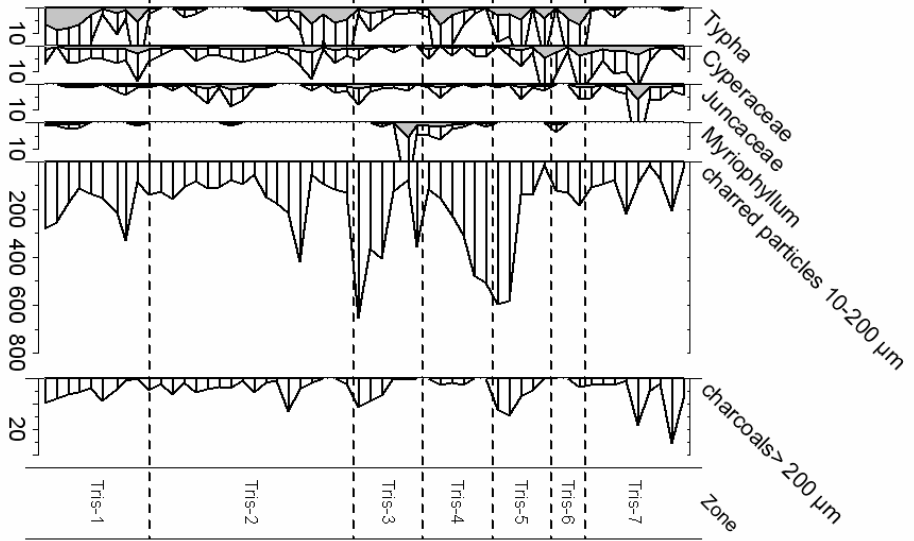


Fig.2. continued

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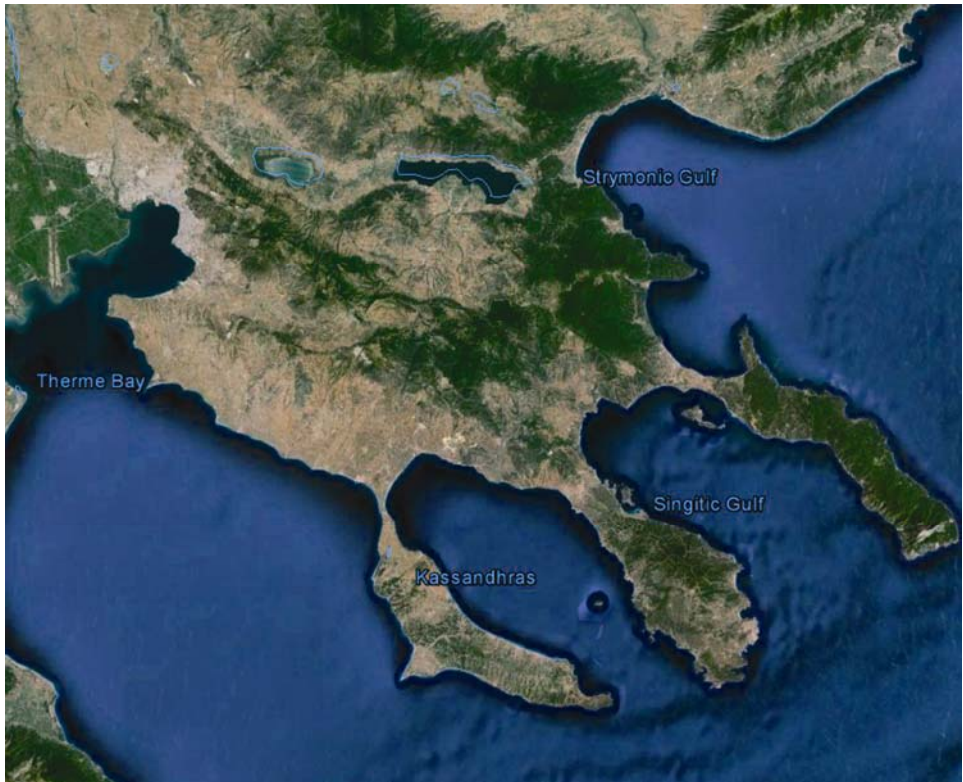
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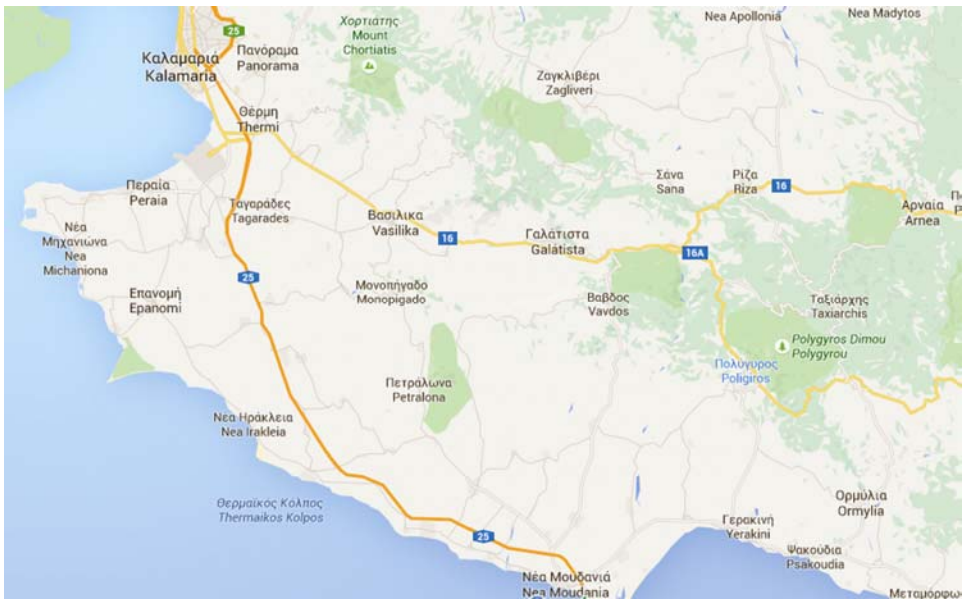
MAPS



Halkidiki



Eastern Halkidiki



South-Western Halkidiki (Kalamaria)



Sithonia, the “second” prong



Kassandra, the “first” prong

