

**Hippocratic Recipes; Oral and Written  
Transmission of Pharmacological  
Knowledge in Fifth- and Fourth- Century  
Greece**

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## Abstract

This thesis examines the earliest extended collections of recipes preserved in Greek, the recipes of the so-called Hippocratic Corpus (late fifth or early fourth century BC).

I study the ways and formats in which pharmacological knowledge was transmitted in classical Greece. The compilers of the Hippocratic collections of recipes drew on a variety of sources, written and oral, including small catalogues of recipes comparable to those found on papyri from Hellenistic Egypt. Much pharmacological knowledge may have been transmitted orally from generation to generation before assuming written form in medical treatises. But following the social anthropologist Jack Goody, I distinguish between the medical knowledge the recipes reflect and the written form in which they have been transmitted.

I also assess the socio-economic context in which the recipes were produced and used. Some Hippocratic recipes fall into a tradition of home remedies, but many other recipes include exotic and luxury ingredients affordable only to the rich. These luxury ingredients transformed traditional medicine into '*Haute Médecine*'. The compilers of Hippocratic collections of recipes were biased in their choices of ingredients, and this bias was in line with the orientaling tendencies discernible in ancient Greek culture.

The intended readers of the catalogues of recipes were not pharmacological novices. Knowledge of the ingredients is a prerequisite to the reading of these recipes, quantities are often left to the discretion of the reader, and utensils involved in the preparation of the remedies are rarely mentioned.

Finally, I examine the significance of the name 'Hippocrates' for the transmission of the 'Hippocratic' recipes in later antiquity. As 'Hippocratic', they were glossed and quoted in the works of later medical authors. However, their success was not always linked to the name 'Hippocrates'; late antique Latin translations of the gynaecological recipes were transmitted anonymously.

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## Abbreviations

### General

- ANRW: Temporini, H. and Haase, W. (eds) (1974–) *Aufstieg und Niedergang der römischen Welt: Geschichte und Kultur Roms im Spiegel neueren Forschung*, Berlin.
- DK: Diels, H. and Kranz, W. (1952) *Die Fragmente der Vorsokratiker*, ed. 6, Berlin.
- IG: *Inscriptiones Graecae* (1877–), Berlin.
- K: Kühn, K.G. (1821–1833) *Claudii Galeni Opera Omnia*, Leipzig.
- L: Littré, É. (1839–1861) *Oeuvres complètes d'Hippocrate*, Paris.
- LSJ: Liddell, H.G., Scott, R. and Jones, H.S. (1968), *Greek–English Lexicon*, ed. 9 with a Supplement, Oxford.
- NP: Cancik, H., Landfester, M. and Schneider, H. (eds) (1996–2003) *Der neue Pauly. Enzyklopädie der Antike*, Stuttgart and Weimar.
- OCD<sup>3</sup>: Hornblower, S. and Spawforth, A. (eds) (1996) *The Oxford Classical Dictionary*, ed. 3, Oxford and New York.
- RE: Pauly, A., Wissowa, G., Kroll, W. and Ziegler, K. (eds) (1893–1978) *Real-Encyclopädie der klassischen Altertumswissenschaft*, Stuttgart and Munich.

### Works of the Hippocratic Corpus

<i>Acut.</i>	Regimen in Acute Diseases: <i>De victu acutorum</i>
<i>Acut. Sp.</i>	Regimen in Acute Diseases (appendix): <i>De victu acutorum (spuria)</i>
<i>Aer.</i>	Airs, Waters, and Places: <i>De aere, aquis, locis</i>
<i>Aff.</i>	Affections: <i>De affectionibus</i>
<i>Aph.</i>	Aphorisms: <i>Aphorismi</i>
<i>Artic.</i>	Joints: <i>De articulis</i>
<i>Carn.</i>	Fleashes: <i>De carnibus</i>
<i>Decent.</i>	Decorum: <i>De decenti habitu</i>
<i>Epid.</i>	Epidemics: <i>Epidemiarum</i>
<i>Fist.</i>	Fistulas: <i>De fistulis</i>
<i>Foet. Ex.</i>	Excision of the Foetus: <i>De foetus exsectione</i>
<i>Haem.</i>	Haemorrhoids: <i>De haemorrhoidibus</i>
<i>Int. Aff.</i>	Internal Affections: <i>De internis affectionibus</i>
<i>Loc.</i>	Places in Man: <i>De locis in homine</i>
<i>Morb.</i>	Diseases: <i>De morbis</i>

<i>Mul.</i>	Diseases of Women: <i>De morbis mulierum</i>
<i>Nat. Mul.</i>	Nature of Woman: <i>De natura muliebri</i>
<i>Nat. Puer.</i>	Nature of the Child: <i>De natura pueri</i>
<i>Steril.</i>	Barren Women: <i>De sterilibus</i>
<i>Superf.</i>	Superfoetation: <i>De superfetatione</i>
<i>Ulc.</i>	Ulcers: <i>De ulceribus</i>
<i>Vict.</i>	Regimen: <i>De victu</i>
<i>VM</i>	Ancient Medicine: <i>De vetere medicina</i>

### **Other ancient works**

#### Aristophanes

<i>Ec.</i>	Assembly Women: <i>Ecclesiazusae</i>
<i>Lys.</i>	Lysistrata
<i>Nub.</i>	Clouds: <i>Nubes</i>
<i>Pl.</i>	Plutus
<i>Ra.</i>	Frogs: <i>Ranae</i>
<i>Thesm.</i>	Thesmophoriazusae: <i>Thesmophoriazusae</i>

#### Aristotle

<i>EN</i>	Nichomachean Ethics: <i>Ethica Nichomachea</i>
<i>GA</i>	Generation of Animals: <i>De generatione animalium</i>
<i>HA</i>	History of Animals: <i>Historia animalium</i>
<i>Probl.</i>	Problems: <i>Problemata</i>

#### Caelius Aurelianus

<i>Acut.</i>	Acute Diseases: <i>Acutae passiones</i>
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#### Dioscorides

<i>Mat. Med.</i>	<i>De Materia Medica</i>
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#### Galen

<i>Anti.</i>	Antidotes: <i>De antidotis</i>
<i>Comm. Epid.</i>	Commentary to Hippocrates' Epidemics: <i>In Hippocratis epidemiarum</i>

*commentarii*

<i>Meth. Med.</i>	On the Healing Method: <i>De methodo medendi</i>
<i>Comp. Med.</i>	Composition of Medicines according to Places: <i>De compositione medicamentorum secundum locos</i>
<i>Sec. Loc.</i>	
<i>Comp. Med. per Gen.</i>	Composition of Medicines according to Types: <i>De compositione medicamentorum per genera</i>
<i>Ther. ad Pamphil.</i>	Theriac to Pamphilianus: <i>De theriaca ad Pamphilianum</i>

Homer

<i>Il.</i>	Iliad: <i>Ilias</i>
<i>Od.</i>	Odyssey: <i>Odyssēa</i>

Plato

<i>Phdr.</i>	Phaedrus
<i>R.</i>	Republic: <i>Respublica</i>
<i>Tht.</i>	Theaetetus
<i>Ti.</i>	Timaeus

Pliny

<i>H.N.</i>	Natural History: <i>Historia Naturalis</i>
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Scribonius Largus

<i>Comp.</i>	Compositions: <i>Compositiones</i>
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Theophrastus

<i>Hist. Plant.</i>	Enquiry into Plants: <i>Historia plantarum</i>
<i>Caus. Plant.</i>	Causes of Plants: <i>De causis plantarum</i>
<i>Odor.</i>	On Odours: <i>De odoribus</i>

Xenophon

<i>Mem.</i>	Memorable Facts: <i>Memorabilia</i>
<i>Oec.</i>	Economy: <i>Oeconomicus</i>

## Note on plant identifications

As pointed out by the recently published Gray lectures of John Raven (*Plants and Plant Lore in Ancient Greece*, 2000),<sup>1</sup> identifications of ancient *materia medica* (and particularly of plants) are difficult to establish. There was nothing such as an international code of botanical nomenclature in the ancient world. There could be in Greek more than one word for a plant; or, on the contrary, a single word in Greek could designate many different modern species. According to Raven, it is advisable to take *cum grano salis* the identifications of plants proposed by Thiselton-Dyer for the Liddell-Scott-Jones dictionary. However, many studies complementing the LSJ are now available: Jacques André (1985), *Les noms de plantes dans la Rome antique*; Hellmut Baumann (1993), *Greek Wild Flowers and Plant Lore in Ancient Greece*; Andrew Dalby (2003), *Food in the Ancient World from A to Z*; Johann Dierbach (1824), *Die Arzneimittel des Hippokrates*; Monique Moisan and Gilles Maloney, *Lexique du vocabulaire botanique d'Hippocrate*; as well as the edition of Theophrastus' *History of Plants* by Suzanne Amigues. I have therefore decided to translate Greek plant names listed in the Hippocratic recipes into English.

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<sup>1</sup> These lectures were originally delivered in 1976.

## Introduction: Under the spell of the *pharmakon*

Τὰ τῆς γε λήθης φάρμακ' ὀρθώσας μόνος,  
ἄφωνα φωνήεντα συλλαβὰς τιθεὶς  
ἐξηϋρον ἀνθρώποισι γράμματ' εἰδέναι.  
Euripides, *Palamedes* fr. 3<sup>1</sup>

In Euripides' *Palamedes*, the hero boasts about having invented a *pharmakon*, a drug, against forgetfulness with writing. Euripides uses the word *pharmakon* in its positive meaning, in the sense of a healing drug. But, *pharmakon* also meant 'poison' in ancient Greek. Thus, the positive analogy offered by Euripides between writing and *pharmakon* could easily be turned on its head, as Plato did in a famous passage of the *Phaedrus*, putting the following words into the mouth of Thamous, the Egyptian King: Τοῦτο γὰρ τῶν μαθόντων λήθην μὲν ἐν ψυχαῖς παρέξει μνήμης ἀμελετησία, ἅτε διὰ πίστιν γραφῆς ἔξωθεν ὑπ' ἀλλοτρίων τύπων, οὐκ ἔνδοθεν αὐτοῦς ὑφ' αὐτῶν ἀναμιμησκομένους· οὐκ οὖν μνήμης ἀλλὰ ὑπομνήσεως φάρμακον ἦντες.<sup>2</sup>

For Plato, writing is an almost poisonous *pharmakon*, which causes forgetfulness, by inciting people to neglect their memory. Plato was particularly suspicious of the use of writing in the transmission of technical knowledge, in fields such as music or medicine.<sup>3</sup> These *technai* could only be acquired through actual practice and through the use of memory, not through books. Reading had created a generation of pedants who believed they knew everything, but mastered nothing.

When researching this thesis, I have always kept Plato's words in mind. The recipes included in the Hippocratic Corpus are one of the most extensive sources for the study of ancient pharmacology; but as written artefacts, they are only one aspect

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<sup>1</sup> Euripides, *Palamedes* fr. 3 (Jouan and van Looy 509.1-3). Translation: 'Alone I have created remedies against forgetfulness: by establishing consonants, vowels and syllables, I have invented letters for men to learn.'

<sup>2</sup> Plato, *Phaedrus* 275a. Translation: 'For this <sc. the art of writing> will cause forgetfulness in the minds of those who have learned, because they will neglect their memory. Having put their trust in writing, they will recall to memory things from outside, by means of external marks; not from inside themselves, by themselves. You have invented a *pharmakon* not for memory, but for reminding.'

<sup>3</sup> Plato, *Phaedrus* 268. See Chapter Six, Section Three for a discussion of this text.

of the transmission of pharmacological knowledge in the classical world. Many aspects of this transmission, such as gestures and oral words, are irremediably lost. In this thesis, I have attempted to examine the written Hippocratic recipes, whilst assessing the extent and nature of the lost elements in the transmission of ancient pharmacological knowledge.

It is worth noting that, in opposition to other ancient languages, such as Chinese, there is no equivalent of the word 'recipe' in ancient Greek. In the absence of a Greek definition of what is a recipe, I have used the definition of the socio-anthropologist Jack Goody: 'The recipe is a written formula for mixing ingredients for culinary, medical or magical purposes; it lists the items required for making preparations destined for human consumption.'<sup>4</sup>

The Hippocratic Corpus, a heterogeneous collection of texts in Ionic Greek, contains almost 1500 recipes. The majority of these recipes are concentrated in the gynaecological treatises (*Diseases of Women I and II, Barren Women and Superfoetation*), but recipes are also found in the nosological treatises (*Diseases II and III; Internal Affections*) and in the surgical treatises (*Fistulas; Haemorrhoids; and Ulcers*). The Hippocratic treatises including recipes were produced in the second half of the fifth century BC, or the first half of the fourth century, but they probably include slightly earlier material.

Until the early 1980's, the collections of recipes included in the Hippocratic treatises suffered from scholarly neglect. Studies were devoted to the Hippocratic *materia medica* and to the theoretical systems guiding the administration of drugs in Hippocratic medicine; but the formal characteristics of the recipes, and their role in the transmission of pharmacological knowledge did not attract scholarly attention.<sup>5</sup> There is one significant exception to this rule: the important study of Dietlinde Goltz (*Studien zur altorientalischen und griechischen Heilkunde. Therapie – Arzneibereitung – Rezeptstruktur*, 1974), which compares the formal characteristics of Mesopotamian and Greek recipes. However, this book did not spark off interest in

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<sup>4</sup> Goody (1977): 137.

<sup>5</sup> Studies on Hippocratic *materia medica*: see Dierbach (1924); Moisan and Maloney (1990); studies on theoretical pharmacology: see Artelt (1968); Harig (1980); Scarborough (1983); Schulze (2003): 21-28; Stannard (1961).

the Hippocratic recipes, and was relatively badly received by classicists, who criticised Goltz for comparing material across cultures.<sup>6</sup>

Admittedly, it is not only the Hippocratic recipes that long suffered from neglect, but also the treatises in which they are embedded. The gynaecological and nosological treatises were considered to be writings of the so-called Cnidian School of medicine, a School that was regarded as more primitive – less rational, less scientific – and therefore less worthy of attention than the so-called Coan School of medicine, the School of Hippocrates, the Father of medicine. Scholars believed the Coan School had innovated in the field of dietetics, whilst the Cnidian School clung to pharmacological remnants of a pre-rational past, to recipes that made use of magical ingredients such as excrements or deer penises.

In the 1970's, the 'Cnidian' treatises finally took central stage, with the important studies of Jacques Jouanna (*Hippocrate. Pour une archéologie de l'école de Cnide*, 1974) and Hermann Grensemann (*Knidische Medizin*, 1975). These scholars discerned chronological 'layers' of composition within the treatises, each characterised by a different vocabulary and style, and presenting slight variations in medical theories. However, both scholars almost ignored the pharmacological material included in the Cnidian treatises; their method was not adequate for apprehending the Hippocratic recipes, which could not easily be divided into layers.

In the 1980's and in the 1990's cultural historians suggested an altogether different approach to this pharmacological material. Instead of studying the recipes uniquely as the textual product of the Cnidian School, scholars such as Aline Rousselle, Ann Hanson, Helen King, John Riddle, Lesley Dean-Jones, Iain Lonie, and Nancy Demand considered this material as an important source for the social history of classical Greece. They argued that, beyond our texts, one could catch a glimpse of an oral tradition of remedies handed down from generation to generation; the recipes could offer insight (even if biased) into the social practice of healing in the ancient world.

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<sup>6</sup> See the reviews by Harig (1975); Potter (1976).

In this thesis, I wish to bring the ‘philological’ and the ‘cultural’ approaches to the Hippocratic recipes closer together, by building upon the studies on orality and literacy produced by anthropologists, historians and classicists, presented in Chapter One. I study the ways and format in which pharmacological knowledge was transmitted in the classical world, and I assess the socio-cultural context in which these recipes were produced and used.

In Chapter Two, I show that there are two pitfalls in the study of the Hippocratic recipes. On the one hand, one can examine the transmission of the written recipes from a philological point of view (with the help of *stemma*), while forgetting that, beyond the text of the recipes, there is some actual pharmacological knowledge that could lead to the preparation of drugs. In other words, one can forget that writing was only one aspect of the transmission of pharmacological knowledge in the ancient world. On the other hand, one can believe that the recipes are the exact reflection of the oral transmission of pharmacological knowledge. I argue that the recipes are not the unbiased reflection – the simple writing down – of an oral tradition. Following the work of the social anthropologist Jack Goody, I draw a distinction between the medical knowledge the recipes reflect and the written form in which they have been transmitted. As with the pharmacological knowledge it imperfectly reflects, this written format is a cultural product that deserves to be studied in its own rights. Describing the formal linguistic characteristics of the written recipes represents one step towards a better understanding of this material.

In Chapter Three, I examine whether the compilers of the Hippocratic treatises had written sources at their disposal. I suggest that these compilers had access to small, most probably anonymous, catalogues of recipes comparable to those found on papyri from Hellenistic Egypt. I reflect on the reasons that could have led healers to use writing for recording pharmacological material. I take issue with the dominant scholarly view, which argues that healers started to write in response to changes in the social organisation of medical training.

Most of the Hippocratic recipes are found in the gynaecological treatises. This phenomenon has often been explained from a gender point of view: the Hippocratic gynaecological recipes are considered as the product of a female



tradition of home remedies, transmitted from mother to daughter before being written down. In Chapter Four, I argue that it is not helpful to distinguish between 'female' and 'male' pharmacological traditions. In addition, I suggest that the medicine practiced in the household was only one of the possible sources for the Hippocratic collections of gynaecological recipes; other sources included the lore of the 'root-cutters' and religious healing and purification. Finally, the notion of 'home remedy' needs qualification. Many of the Hippocratic recipes include rare, expensive and exotic ingredients which, because of their price, were unlikely to figure in the remedies of many Greek households; they were affordable only to the rich. I suggest that the exotic and luxurious ingredients present in the Hippocratic collections of recipes transformed traditional medicine into '*Haute Médecine*', an expression modelled on Goody's notion of *Haute Cuisine*. Although the nosological treatises preserve fewer pharmacological recipes than the gynaecological works, they partake of the same *Haute Médecine*. The time- and therefore money-consuming regimens prescribed in these treatises were only affordable to an elite concerned with preserving their good health through all possible means.

In Chapter Five, I list and map the exotic and luxury products exploited in the Hippocratic recipes and dietetic prescriptions. While many exotic ingredients came from the East and the ~~South~~ of the Mediterranean, very few came from the North and the West. Similarly, luxury Greek ingredients used in the recipes came mostly from the East and South of the Greek world. The compilers of the written collections of Hippocratic recipes seem to have been influenced by the symbolism attached to the East (positive) and the West (negative) when selecting their recipes. This chapter also discusses the difficult question of the links between Egyptian, Mesopotamian and Greek pharmacology. Instead of talking in terms of influences, which presupposes the superiority of one culture over another, I suggest talking in terms of interactions, in terms of fluidity of knowledge: opportunities for exchange of pharmacological material, and circulation of medical personnel in the Mediterranean world were not lacking in the first millennium BC.

In Chapter Six, I examine how the Hippocratic catalogues of recipes were read, studied and used. Recipes were recorded on scrolls of papyrus, a format which

makes the action of browsing impossible. The only way of approaching the written collections of recipes was through linear reading, a time-consuming activity. The reader of the recipes needed some prerequisite knowledge in the art of pharmacology in order to understand the recipes. The recipes of the Hippocratic treatises, it seems, were conceived as *aide-mémoires* for readers already trained in the art of pharmacology. However, the reader could delegate some pharmacological tasks to an assistant or to the patient. The presence of feminine participles in the gynaecological recipes implies that women, most probably women patients, were involved in the preparation of drugs.

In the final chapter of this thesis, I examine the significance of the name 'Hippocrates' for the transmission of the 'Hippocratic' recipes in later antiquity. The recipes benefited from being transmitted under Hippocrates' name in a series of ways: they were glossed, commented upon and quoted in the works of medical authors such as Pliny the Elder, Galen and the Byzantine encyclopaedists. However, the success of the 'Hippocratic' recipes in later antiquity was not always, seemingly, linked to the name 'Hippocrates'. A late antique Latin translation of the gynaecological recipes is found in some manuscripts without any mention of the Coan physician at all. It has reverted to the state of the earliest recipes here studied, anonymous prescriptions that might seem to encapsulate the wisdom of a bygone antiquity.

# 1 Sources and method

Recipes are found mostly in three groups of ‘Hippocratic’ treatises: the gynaecological treatises (*Diseases of Women I and II; Nature of Women; Superfoetation*); the nosological treatises (*Diseases II and III; Internal Affections*); and a group of *short* surgical treatises (*Fistulas; Ulcers; Haemorrhoids*). In this chapter, after a brief introduction to the Hippocratic Corpus and the question it raises, I present the treatises examined in the present thesis, and the modern studies on these writings. Most studies pertaining to these treatises are philological works concerned with two questions: the question of the parallel redactions of material in several treatises of the Hippocratic Corpus, and the problem of whether these treatises can be attributed to the so-called medical School of Cnidus. These studies are concerned with texts, and pay little attention to the social context in which ancient medicine was practiced and medical knowledge transmitted. However, the gynaecological treatises have recently started to attract the attention of social historians of medicine and gender historians. These historians have stressed that medical knowledge was transmitted both in writing and orally in the ancient world. The present thesis aims at exploring the interaction between the written and oral word in the transmission of pharmacological knowledge in fifth- and fourth-century Greece, and builds upon studies of orality and literacy, which are presented in the final part of this chapter.

## 1.1 Sources

### 1.1.1 General introduction to the Hippocratic Corpus

The ‘Hippocratic Corpus’ is a collection of approximately sixty texts in Ionic dialect, written by a variety of authors, on a variety of medical topics, and in a variety of styles, grouped under the name of Hippocrates, the famous physician of Cos. The bulk of these treatises was composed in the second half of the fifth century BC and in the first half of the fourth century, although some treatises are considerably later.<sup>1</sup> The question of identifying the genuine treatises of Hippocrates has been discussed by generations of scholars, starting in the

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<sup>1</sup> For instance *Decorum* (L9.222-245) may date from the first or second century AD.

Hellenistic period, without any consensus ever being reached. Today, the sceptical view, expressed most prominently by Ludwig Edelstein and Geoffrey Lloyd, that Hippocrates probably authored none of the Hippocratic treatises, is widely accepted.<sup>2</sup> Although I share this scepticism, I frequently use the words ‘Hippocratic’ and ‘Hippocratic Corpus’ in the present work: the name of Hippocrates conferred authority on the recipes examined and played an important role in their transmission.

The date when the Hippocratic Corpus was first assembled is much disputed. Several scholars believe the Corpus originated in the fifth or fourth century BC. Max Wellmann argued that Diocles of Carystus created the earliest edition of the Corpus in the fourth century BC.<sup>3</sup> Although Diocles may have been familiar with some Hippocratic writings, Wellmann’s thesis is completely speculative, and based on no firm evidence.<sup>4</sup> Other scholars (Hans Diller, Robert Joly, Jaap Mansfeld, William H.S. Jones) suggested the Corpus originated as a library, possibly the library of Hippocrates himself.<sup>5</sup> This theory has the distinct advantage of accounting for the heterogeneity of the treatises included in the Corpus, as expressed by Mansfeld:

The suggestion that the earliest part of our *Corpus Hippocraticum* was (written and) collected by none other than Hippocrates himself, who was merely imitated by his successors in this respect, is, of course, speculative. But it accounts, at one blow, for two otherwise irreconcilable facts, viz., the variety of the contents of the *Corpus* on the one hand and the unanimity of their official attribution on the other.<sup>6</sup>

A late source (Tzetzes, twelfth century) presents Hippocrates as a librarian (βιβλιοφύλαξ), albeit a very bad one:

Ἐν Κῶ βιβλιοφύλαξ δὲ δειχθεὶς ὁ Ἱπποκράτης,  
τὰ παλαιὰ τῶν ἰατρῶν ἐνέπρησε βιβλία

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<sup>2</sup> Edelstein (1939); Lloyd (1975).

<sup>3</sup> Wellmann (1901): 64.

<sup>4</sup> See van der Eijk (2001): xxxiii.

<sup>5</sup> Diller (1959); Joly (1983): 43-44; Jones (1923, vol. 1): xxix; Mansfeld (1983): 61-64.

<sup>6</sup> Mansfeld (1983): 63.

καὶ τὸ βιβλιοφυλάκιον. Διὸ φυγὼν ἐκεῖθεν  
ἐν Ἡδωνοῖς διέτριβεν, Ἑλλάδι, Θετταλία<sup>7</sup>

Tzetzes is most probably reflecting practices of his time upon the past; other versions of this story mention an archive or the inscriptions found in the temple of Asclepius instead of a library.<sup>8</sup>

It is more likely that the Corpus was first assembled in Hellenistic Alexandria.<sup>9</sup> The Library seemingly kept medical texts, including texts attributed to Hippocrates; Galen for instance reports the following story (which he has taken from Zeuxis, a first-century author) about the constitution of the Library:

Λέλεκται μὲν οὖν ἃ μέλλω λέγειν ὑπὸ Ζεύξιδος ἐν τῷ πρώτῳ τῶν εἰς τὸ προκείμενον βιβλίον ὑπομνημάτων... Ἔνιοι μὲν γὰρ φασιν αὐτόν, λαβόντα τὸ τρίτον τῶν Ἐπιδημιῶν ἐκ τῆς ἐν Ἀλεξανδρείᾳ μεγάλης βιβλιοθήκης ὡς ἀναγνωσόμενον, ἀποδοῦναι παρεγγράψαντα ἐν αὐτῷ καὶ μέλανι καὶ γράμμασι παραπλησίσι τοὺς χαρακτήρας τούτους. Ἔνιοι δὲ παρ<εγγεγραμμένον τὸ βιβλίον> αὐτόν ἐκ Παμφυλίας κεκομικέναι, φιλότιμον δὲ περὶ βιβλία τὸν <τό>τε βασιλέα τῆς Αἰγύπτου Πτολεμαῖον οὕτω γενέσθαι φασίν, ὡς καὶ τῶν καταπλεόντων ἀπάντων τὰ βιβλία κελεύσαι πρὸς αὐτόν κομίζεσθαι καὶ ταῦτ' εἰς καινοὺς χάρτας γράψαντα διδόναι μὲν τὰ γραφέντα τοῖς δεσπόταις, ὧν καταπλευσάντων ἐκομίσθησαν αἱ βίβλοι πρὸς αὐτόν, εἰς δὲ τὰς βιβλιοθήκας ἀποτίθεσθαι τὰ κομισθέντα, καὶ εἶναι τὴν ἐπιγραφὴν αὐτοῖς τῶν ἐκ πλοίων. Ἐν δὴ τι τοιοῦτόν φασιν εὑρεθῆναι καὶ τὸ τρίτον τῶν Ἐπιδημιῶν ἐπιγεγραμμένον τῶν ἐκ πλοίων κατὰ διορθωτὴν Μνήμονα Σιδήτην.<sup>10</sup>

<sup>7</sup> Tzetzes, *Chiliades* 7.155.955-958. Translation: 'On Cos, as librarian, Hippocrates burnt the ancient books of the physicians and the library. Because of this he fled from that place and spent time in the land of the Edonians <sc. Macedonians>, in Greece and in Thessaly.'

<sup>8</sup> Archive: *Vita Hippocratis secundum Soranum* 4 (Ilberg 175.16-18): Μετέστη τῆς πατρίδος, ὡς μὲν κακοήθως Ἀνδρέας φησὶν ἐν τῷ Περὶ τῆς ἰατρικῆς γενεαλογίας, διὰ τὸ ἐμπρῆσαι τὸ ἐν Κῷ γραμματοφυλακεῖον. (Ilberg's text has ἐν Κνίδῳ for ἐν Κῷ.) Translation: 'He <sc. Hippocrates> left his fatherland, as Andreas says spitefully in *The Medical Genealogy*, because of his burning the archive on Cos.' Inscriptions found in the temple of Asclepius: Pliny, *H.N.* 29.1.4; Strabo 14.657 (these texts are discussed in more details in Chapter Four).

<sup>9</sup> See Fraser (1972): 364-369; Nutton (2004): 61; Roselli (2000): 175-178; (2001): 63-64; Smith (1979): 199-202; von Staden (1989): 453-456; Vallance (2000).

<sup>10</sup> Galen, *Comm.Epid.* III, 2.4 (Wenkebach 78.29-79.16; K17a.605.13-606.15). Translation: 'What I am going to say was said by Zeuxis in the first of the comments to this book... Some say

It is in Alexandria that ‘Hippocratic’ treatises were first commented and glossed. Herophilus (c. 330–260 BC) was one of the first scholars to deal with Hippocratic lexicography.<sup>11</sup> One of Herophilus’ followers, Bacchius of Tanagra (third century BC), whose lexicon is now lost, glossed at least eighteen works transmitted under the name of Hippocrates.<sup>12</sup> This philological activity, however, does not seem to have led to the constitution of a ‘canon’ of Hippocratic texts for ancient scholars like Erotian (first century AD) and Galen (AD 129–199/216) held different views as to which constituted the writings of Hippocrates.<sup>13</sup> The number of treatises in the Corpus only became fixed in 1526, when the Aldine Press printed the *editio princeps* of the Hippocratic Corpus.<sup>14</sup> Each medieval manuscript contains its own selection of Hippocratic texts; as noted by Jones, ‘each independent MS seems to represent a different “collection” of Hippocratic works’<sup>15</sup> Some of the medieval manuscripts grouped treatises dealing with homogeneous subjects; for instance, MS Laurentianus 74.7 (referred to as B, tenth century) contains four surgical texts (*Surgery; Fractures; Articulations; Wounds in the Head*). The Papyrus Antinoopolis 184 (sixth century AD) might indicate that specialised collections of this type were already in circulation in late antiquity, and maybe even before: it preserves fragments of three different gynaecological texts (*Superfoetation; Diseases of Women I and II*). On the other hand, some medieval collections included almost all our Hippocratic treatises: the table of contents to MS Vaticanus Graecus 276 (referred to as V, twelfth

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he <sc. Mnenon> took the third book of the *Epidemics* from the great library at Alexandria so that he could read it, and he gave it back having added in it these symbols with black letters of equal size. Some <say>, on the other hand, that he took the book, already annotated, from Pamphilia. And they say that Ptolemy, who was then king of Egypt, became so eager to get books that he ordered that the books of everyone arriving by sea be brought to him. After he had them copied on new rolls, he gave the copies to the owners, whose books had been brought to him when they had arrived by sea, and he reserved for the library the books that had been imported, with the inscription “From the ships”. And they say that the third book of the *Epidemics* was found to be one of this type, with the inscription “From the ships by the editor Mnenon of Sidon”.’

<sup>11</sup> See von Staden (1989): 427-439.

<sup>12</sup> See von Staden (1992a): especially 563.

<sup>13</sup> For Erotian’s list of Hippocratic writings, see Roselli (2000): 182; for the Hippocratic writings known to Galen, see Anastassiou and Irmer (1997); (1998).

<sup>14</sup> On the Aldine edition, see Nutton (2004): 60; Potter (1998). See Jones (1923, vol. 2): lvii-lxvi for a list of treatises contained in the most important manuscripts.

<sup>15</sup> Jones (1923, vol. 1): lxiii.

century) lists 62 treatises (but MS V only contains 35 treatises);<sup>16</sup> MS Venetus Marcianus Graecus 276 (referred to as M, end of tenth century or beginning of the eleventh century) includes 50 treatises; and the *Suda* affirms that Hippocrates had written at least 60 treatises.<sup>17</sup>

In the nineteenth century, Émile Littré produced his monumental edition of the Hippocratic Corpus, which still is an invaluable work: Littré's edition remains the only available for a series of treatises, including large portions of the gynaecological treatises. Littré's edition has weaknesses. For instance, the French scholar has exaggerated the Ionic character of the texts. More importantly, Littré's edition is based exclusively on Parisian manuscripts; for instance he did not know MS Vindobonensis Medicus Graecus 4 (referred to as Theta, tenth century), the earliest manuscript for some gynaecological and nosological treatises. All the *recentiores* consulted by Littré are derived from MS M, with the exception of MS Parisinus Graecus 2146 (referred to as C), which is derived from MS V.

### 1.1.2 *The gynaecological treatises*

Ten treatises of the Corpus are concerned with gynaecological and embryological matters: *Diseases of Women I and II*; *Barren Women*; *Nature of Women*; *Generation*; *Nature of the Child*; *Young Girls*; *Seven Months' Child/Eight Months' Child*; *Superfoetation*; and *Excision of the Foetus*. In addition to these treatises, sections of *Aphorisms V* and *Places in Man* deal with gynaecological issues.

All the gynaecological treatises are found in manuscripts M and V; in addition, *Diseases of Women I and II*, and *Barren Women* are found in

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<sup>16</sup> On MS V, see Angeletti (1991); Irigoien (1999).

<sup>17</sup> *Suda* s.v. Ἴπποκράτης 564 (Adler 662.33-663.4): Πρώτη μὲν οὖν βίβλος ἡ τὸν ὄρκον περιέχουσα, δευτέρα δὲ ἡ τὰς προγνώσεις ἐμφαίνουσα, τρίτη ἡ τῶν ἀφορισμῶν ἀνθρωπίνην ὑπερβαίνουσα σύνεσιν· τετάρτην τάξιν ἔχεται ἡ πολυθρύλλητος καὶ πολυθαύμαστος Ἐξηκοντάβιβλος, ἡ πᾶσαν ἰατρικὴν ἐπιστήμην τε καὶ σοφίαν ἐμπεριέχουσα. Translation: 'The first book is the one that includes the *Oath*; the second is the one that presents the *Prognostics*; the third, of *Aphorisms*, goes beyond human comprehension. Let be placed in fourth place the notorious and much admired Collection of sixty books, which encompasses the whole of medical knowledge and wisdom.'

manuscript Theta.<sup>18</sup> Finally, Papyrus Antinoopolis 3.184 preserves fragments of *Superfoetation* and *Diseases of Women I* and II.

Six of the Hippocratic gynaecological treatises contain recipes: *Diseases of Women I* and II, *Barren Women*, *Nature of Women*, *Superfoetation* and *Excision of the Foetus*.<sup>19</sup> These writings are generally believed to date from the end of the fifth century or the beginning of the fourth century BC, but their relative chronology is disputed (see below).

Littré considered the three treatises *Diseases of Women I*, *Diseases of Women II* and *Barren Women* as constituting one large work on women's illnesses, and numbered the chapters continuously. However, these treatises were regarded as distinct entities in antiquity; the Galenic glossary of Hippocratic terms, for instance, differentiates between the three treatises.

*Diseases of Women I* is devoted to women's reproductive life. It starts with theoretical remarks on the difference between men and women, and goes on to describe gynaecological problems and diseases in a chronological order: from menstruation (chapters 1-9), to conception (chapters 10-24), pregnancy (chapters 25-34), and birth and post-partum issues (chapters 35-73).<sup>20</sup> Each chapter describes a different gynaecological problem, and is organised as follows: identification of the disease, symptomatology, therapy (this section may include recipes; the twelve first chapters of the treatise do not contain any recipes); sometimes a chapter may also contain prognostic comments such as 'the disease is dangerous'. (A similar chapter organisation is found in all the gynaecological treatises examined.) The chapters describing individual diseases or ailments are followed by catalogues of recipes (chapters 74-91), classified according to the same chronological principle, from menstruation to birth. The last ~~eighteen~~ chapters of the treatise (chapters 92-109) are catalogues of recipes that are not related to female ailments; these catalogues were qualified as spurious (νόθα) in some medieval manuscripts, and are omitted in other manuscripts. *Diseases of Women I* contains comments written in the first person, including cross-references to *Nature of the Child* and to *Young Girls*. In addition, cross-references to *Diseases of Women I* are found in *Diseases IV* (and cross-

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<sup>18</sup> See Jones (1923, vol. 2): lviii-lx. *Superfoetation* is copied twice in manuscript V.

<sup>19</sup> See descriptions in Hanson (1971).

<sup>20</sup> Editions: Littré 8.1-233; Layer C: Grensemann (1982); Layer B: Countouris (1985).



references to *Diseases IV* are found in *Nature of the Child*.<sup>21</sup> The natural conclusion to draw from these cross-references is that the same author composed *Nature of the Child*, *Diseases IV*, *Young Girls*, and *Diseases of Women*. However, it does not seem these treatises were considered as a unit in antiquity; as noted by Hanson, ‘the personality of this medical writer... was apparently not strong enough to keep these treatises from being mixed in with the rest of the medical writing attributed to Hippocrates.’<sup>22</sup>

*Diseases of Women II* contains descriptions of female diseases, roughly divided into three parts: fluxes (chapters 110 and 112-122), the movements of the womb (chapters 123-153), and other uterine diseases (chapters 154-184). Catalogues of recipes against these ailments are found at chapters 192-212. Chapters 185-191 are collections of cosmetic recipes. The second chapter of the treatise (chapter 111) is devoted to the importance of taking into account the nature (*physis*) of women. This chapter has parallels at *Nature of Women 1* and *Barren Women 230*.

*Barren Women* starts with an exposition of the causes of women’s sterility (chapter 213). The following chapters are devoted to signs indicating that a woman is pregnant or capable of bearing children, and signs making it possible to determine the sex of the unborn baby (chapters 214-216). The treatise goes on to describe treatments (some of them very long) to promote conception (chapters 217-231). The end of the treatise is a miscellaneous collection of recipes and descriptions of problems linked to conception, pregnancy, involuntary abortion, and prolapse of the uterus (chapters 232-248). Contrary to *Diseases of Women I* and II, *Barren Women* does not end with collections of recipes, but with a short description of the excision of the dead foetus (chapter 249).

*Nature of Women* starts with a general introduction on the causes of female diseases (chapter 1), and is composed, as first noted by Helga Trapp, of two sub-treatises (referred to as A and B), each starting with a chapter on dropsy and ending with catalogues of recipes (chapters 2-35 and 35-109).<sup>23</sup> Both sub-

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<sup>21</sup> See Hanson (1971): 26 for a list of these cross-references.

<sup>22</sup> Hanson (1970): 214.

<sup>23</sup> Trapp (1967): especially 31. Editions of the treatise: Littré 7.312-431; Trapp (1967); Andò (2000) is a reprint of Trapp with Italian translation. Trapp’s edition is used in this thesis. Florence Bourbon (Paris) is preparing an edition of this treatise for the Collection des Universités de France.

treatises lack discernible organisation, and most of their material has parallels in *Diseases of Women I* or *II* (see below for more details).<sup>24</sup>

Only the first chapter of *Superfoetation* is devoted to the phenomenon of superfoetation; the remaining chapters deal with the reproductive life of women, in the opposite order to that of *Diseases of Women I*: from difficult births (chapter 1-15), to problems in pregnancy, conception, and menstruation (chapters 16-132).<sup>25</sup> The treatise ends with catalogues of recipes (chapters 33-43).

Only the first chapter of *Excision of the Foetus* deals with the extraction of dead foetuses. The other chapters (chapters 2-5) are concerned with difficult birth and post-partum problems.

### 1.1.3 *The nosological treatises*

The Hippocratic Corpus includes five nosological treatises (i.e. specifically devoted to the description of diseases): *Diseases I*, *Diseases II*, *Diseases III*, *Affections*, and *Internal Affections*. The numerous parallel redactions of material in these treatises indicate that these treatises exploited the same source(s). These writings generally date from the second-half of the fifth century BC/first quarter of the fourth century BC, but their relative chronology is disputed. All five works are found in manuscripts Theta and M.

Three of the nosological treatises include recipes: *Diseases II*, *Diseases III*, and *Internal Affections*. In addition, references are made in *Affections* to a recipe book: the *Pharmakitis*.

*Diseases II* is composed of two sub-treatises: chapters 1-11 (II1) and chapters 12-75 (II2).<sup>26</sup> II1 describes fourteen diseases, classified *a capite ad calcem*. Each chapter is organised according to the following model: identification of the disease, symptomatology, and aetiology. These fourteen diseases are described again in chapters 12-31, but here the model of exposition of the diseases is slightly different: identification of the disease, symptomatology, therapeutics (sometimes including recipes), and prognostic.

*Diseases III* is composed of three parts: a two-line tag, attaching it to a preceding work on fevers; a nosological work (chapters 1-16) in which the

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<sup>24</sup> See Trapp (1967): 28-30 for a list of these parallels.

<sup>25</sup> Editions: Littré 8.476-509; Lienau (1973). Lienau's edition is used in this thesis.

<sup>26</sup> Editions: Littré 7.1-115; Jouanna (1983); Potter (1983). Jouanna's edition is used in this thesis.

diseases are classified roughly *a capite ad calcem*, and a collection of recipes for cooling remedies (chapter 17).<sup>27</sup> Each nosological chapter is organised in the following way: name of the disease, symptomatology, prognosis, and therapeutics (sometimes including pharmacological recipes). All the diseases described have parallel redactions in *Diseases II* and *Internal Affections*.

*Internal Affections* describes fifty-four diseases, classified *a capite ad calcem*. Each chapter is organised as follows: name of the disease, aetiology, symptomatology, therapeutics (sometimes including recipes), and prognosis.<sup>28</sup>

References to a lost recipe book entitled *Pharmakitis* are found in *Affections*.<sup>29</sup> *Affections* starts with a preface explaining that all diseases are caused by bile and phlegm. The treatise is divided into two parts: a nosological part (chapters 1-38) and a dietetic part (chapters 39-61).

#### 1.1.4 *Fistulas, Haemorrhoids and Ulcers*

Recipes are also found in three short surgical treatises: *Fistulas*, *Haemorrhoids*, and *Ulcers*. *Fistulas* includes a short description of the causes of fistulas, followed by descriptions of their treatment;<sup>30</sup> *Haemorrhoids* follows the same structure.<sup>31</sup> These treatises were certainly composed by the same author; they could form one work or could be two fragments of a larger work. They are generally dated to the fourth century BC.

*Ulcers* is divided in three parts: a general description of ulcers (chapters 1-10); recipes for the treatments of ulcers in general (chapters 11-17); and recipes for particular ulcers (chapters 18-27).<sup>32</sup> This treatise dates from the end of the fifth or beginning of the fourth century BC.

*Ulcers* is found in MS M, whilst *Fistulas* and *Haemorrhoids* are found only in the *recentiores* derived from MS M.

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<sup>27</sup> Editions: Littré 7.116-161; Potter (1980); Potter (1988): 3-63. Potter's edition (1980) is used in this thesis.

<sup>28</sup> Editions: Littré 7.166-303; Potter (1988): 67-255. Potter's edition is used in this thesis.

<sup>29</sup> Editions: Littré 6.208-271; Potter (1988): 6-91. Potter's edition is used in this thesis.

<sup>30</sup> Editions: Littré 6.446-461; Petrequin (1877): 356-384 and 394-403; Joly (1978): 138-145; Potter (1995). Joly's edition is used in this thesis.

<sup>31</sup> Editions: Littré 6.434-445; Petrequin (1877): 342-355 and 382-393; Joly (1978): 146-150; Potter (1995): 380-389. Joly's edition is used in this thesis.

<sup>32</sup> Editions: Littré 6.400-433; Petrequin (1877): 266-327; Potter (1995): 342-375; Duminil (1998): 52-71. Duminil's edition is used in this thesis.

### 1.1.5 Other treatises including recipes

Occasional recipes are also found in books V and VII of the *Epidemics* (two treatises dated from the second half of the fourth century BC),<sup>33</sup> in the Appendix to the dietetic treatise *Regimen in Acute Diseases* (end of the fifth century BC?),<sup>34</sup> and in the *Aphorisms*.<sup>35</sup>

## 1.2 Parallel redactions and Cos and Cnidus

Important studies of the gynaecological and nosological treatises, such as the studies of Jacques Jouanna and Hermann Grensemann, have concentrated on two related problems: the problem of the parallel redactions and the question of the link between these treatises and the so-called School of Cnidus.

In his *Healing Method*, Galen mentions three ‘choirs’ (χοροί) of ancient physicians: in Cos, Cnidus and Italy.<sup>36</sup> These choirs have often been interpreted as competing ‘Schools’, each producing their own writings. The treatise entitled *Cnidian Sentences*, mentioned by Galen and criticised by the author of *Regimen in Acute Diseases*, was considered to be the most important writing of the Cnidian School and was seen as an important source for the gynaecological and nosological writings of the Hippocratic Corpus.<sup>37</sup>

In his *Commentary on the Epidemics*, Galen reports that some authorities ascribed the *Cnidian Sentences* to Euryphon: Εἴρηται γε μὴν ἡ πέμφιξ κὰν ταῖς Κνιδίαις γνώμας, ἃς εἰς Εὐρυφῶντα τὸν ἰατρὸν ἀναφέρουσι.<sup>38</sup>

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<sup>33</sup> See Deichgräber (1971): 139 on the greater number of therapeutic descriptions in *Epidemics* V and VII than in any of the other *Epidemics*. Editions: Littré 5.204-258 and 5.364-468; Smith (1994): 152-214 and 292-414; Jouanna (2000). Jouanna’s edition is used in this thesis.

<sup>34</sup> Editions: Littré 2.396-528; Kühlewein (1894): 146-179; Joly (1972): 68-98; Potter (1988):262-326. Joly’s edition is used in this thesis.

<sup>35</sup> Editions: Littré 4.458-608; Jones (1931): 98-220. Jones’ edition is used in this thesis.

<sup>36</sup> Galen, *Meth.Med.* 1.1 (K10.6.4-8): Καὶ τρεῖς οὗτοι χοροὶ θαυμαστοὶ πρὸς ἀλλήλους ἀμειψόμενων ἐγένοντο ἰατρῶν. Πλείστους μὲν οὖν καὶ ἀρίστους χορευτὰς ὁ Κῶος εὐτυχήσας εἶχεν, ἐγγὺς δ’ ἔτι τούτῳ καὶ ὁ ἀπὸ τῆς Κνίδου, λόγου δ’ ἦν ἄξιος οὐ μικροῦ καὶ ὁ ἀπὸ τῆς Ἰταλίας. Translation: ‘And these three admirable choirs of physicians competed against each other. Cos succeeded in having the best members, but the <choir> of Cnidus was worth no small praise, and so was the <choir> of Italy.’

<sup>37</sup> See Chapter Two, Section Two for more details on the criticism of the *Cnidian Sentences* by the author of *Regimen in Acute Diseases*. See Grensemann (1975) for a collection of testimonies on the so-called School of Cnidus.

<sup>38</sup> Galen, *Comm.Epid. VI*, 1.29 (Wenkebach and Pfaff 54.1-3; K17a.886.4-6). Translation: ‘Nevertheless, mention is also made of *pemphix* (pustule) in the *Cnidian Sentences* which they ascribe to the physician Euryphon.’

A little later in this *Commentary*, Galen attributes to Euryphon a passage closely similar to chapter 68 of *Diseases II*:<sup>39</sup>

Galen, <i>Commentary on Hippocrates' Epidemics VI</i> , 1.29	<i>Diseases 2.68</i>
<p>Τοὺς &lt;δὲ&gt; τοιούτους πυρετοὺς Εὐρυφῶν ὀνομάζει πελιᾶς γράφων ὧδε· 'Πελιδνὸς πυρετὸς ἴσχει καὶ βρυγγμὸς ἄλλοτε καὶ ἄλλοτε καὶ τὴν κεφαλὴν ἀλγείει καὶ τὰ σπλάγχα ὀδύνη ἴσχει καὶ ἐμέει χολήν, καὶ ὅταν ὀδύνη ἔχη, ἐνορᾶν οὐ δύναται ὅτι βαρύνεται, καὶ ἡ γαστήρ ξηρὴ γίνεται καὶ ὁ χρῶς πελιὸς ἅπας καὶ τὰ χεῖλα οἷάπερ μόρα τρώξαντι καὶ τῶν ὀφθαλμῶν τὰ λευκὰ πελιὰ καὶ ἐξορᾶ ὥσπερ ἀπαγχόμενος, ὅτε δὲ ἦσσον τοῦτο πάσχει, καὶ μεταβάλλει πολλάκις.</p>	<p>Πελιή· πυρετὸς ἴσχει ξηρὸς καὶ φριξ ἄλλοτε καὶ ἄλλοτε καὶ τὴν κεφαλὴν ἀλγείει καὶ τὰ σπλάγχα ὀδύνη ἔχει καὶ ἐμέει χολήν καὶ ὅταν ἡ ὀδύνη ἔχη οὐ δύναται ἀνορᾶν, ἀλλὰ βαρύνεται· καὶ ἡ γαστήρ σκληρὴ γίνεται καὶ ἡ χροιὴ πελιδνὴ καὶ τὰ χεῖλα καὶ τῶν ὀφθαλμῶν τὰ λευκὰ πελιδνὰ καὶ ἐξορᾶ ὡς ἀγχόμενος· ἐνίοτε καὶ τὴν χροιὴν μεταβάλλει καὶ ἐκ πελιδνοῦ ὑπόχλωρος γίνεται.</p>

Bringing these sources together, modern scholars have not hesitated to 1) attribute the *Cnidian Sentences* to Euryphon, 2) see Euryphon's paragraph on the livid disease quoted by Galen as an extract from the *Cnidian Sentences*; and 3) consider this work as the (unique) source for the nosological treatises preserved in the Hippocratic Corpus.<sup>40</sup> However, as pointed out by Robert Joly, this reasoning is flawed: Galen's formulation (ἀναφέρουσι) indicates that the

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Galen, <i>Comm.Epid. VI</i> , 1.29 (Wenkebach and Pfaff 55.10-16; K17a.888.1-9)	<i>Morb. 2.68</i> (Jouanna 207.1-7; L7.104.1-7)
<p>Euryphon calls these fevers 'livid', writing the following: 'Livid fever holds &lt;the patient&gt;, and sometimes a shivering fit; his head hurts; pain holds the viscera; he vomits bile; and when he is in pain, he cannot see because he is heavy; the belly becomes dry; the colour is quite livid; the lips are like those of someone who has eaten mulberries; and the whites of the eyes are livid and look as if he had been hanged. Sometimes he suffers less from this and &lt;the disease?&gt; changes often.</p>	<p>Livid disease. Dry fever holds &lt;the patient&gt;, and sometimes a shivering fit; his head hurts; the viscera are painful; he vomits bile; and when he is in pain, he cannot look upwards, but &lt;his eyes&gt;are weighed down. The belly is hard; the colour is livid; the lips and the whites of the eyes are livid and look as if he had been hanged. Sometimes his colour changes and from livid it becomes greenish.</p>

<sup>40</sup> See for instance Grensemann (1975): 65-66; Jouanna (1974): 17; Jouanna (1983): 45-48; Littré (vol. 1, 1839): 363; Lonie (1968): 2 (Lonie later changed his opinion).

attribution of the *Cnidian Sentences* to Euryphon was disputed. In addition, Galen does not say which one of Euryphon's treatises he is quoting for the livid disease. There undoubtedly is a link between Euryphon and *Diseases II*, but not necessarily between the *Cnidian Sentences* and *Diseases II*. Even if one could attribute the passage on the livid disease to the *Cnidian Sentences*, this paragraph is not sufficient for reconstructing the entire structure of the treatise, which is lost.<sup>41</sup> The *Cnidian Sentences* may have been an important source for our nosological treatises; but this hypothesis is speculative, it cannot be grounded on firm evidence.

Most studies of the Hippocratic gynaecological treatises have concentrated on the question of the links between, on the one hand, *Nature of Women* and, on the other hand, *Diseases of Women I* and *II*.

Some scholars (Littre, Trapp) consider *Nature of Women* as an extract from *Diseases of Women*. For instance, Trapp argued that the two constitutive parts of *Nature of Women* had been extracted from the same sources, i.e. a shorter version of *Diseases of Women II* and an early version of *Diseases of Women*.<sup>42</sup> Trapp argued that the text of *Diseases of Women I* was reworked after the composition of *Nature of Women*; the 'Bearbeiter' of *Diseases of Women I* was responsible for the theoretical orientation of the treatise as we know it today. Trapp considered the chapters of *Nature of Women* that do not have any parallel in *Diseases of Women* as later interpolations.<sup>43</sup>

Other scholars (Franz Zacharias Ermerins, Johannes Jurk, Johannes Ilberg, and Jacques Jouanna) argue that *Nature of Women* and *Diseases of Women* have a source in common: a Cnidian gynaecological work or a gynaecological section of the *Cnidian Sentences*.<sup>44</sup> For instance, Ilberg argued the gynaecological treatise originated as a series of lectures (which he calls *akroaseis*) taught at the School of Cnidus. These lectures resulted in a Cnidian treatise, which Ilberg imagined to be shorter and better organised than any of our extant treatises. Our *Diseases of Women I* and *II* are more complete and less

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<sup>41</sup> Joly (1978): 533-534. See also Smith (1979): 165.

<sup>42</sup> Trapp (1967): especially 39.

<sup>43</sup> Trapp (1967): 35-36. These chapters are *Nat. Mul.* 16, 50, 59, 71, 77, 82, 86, 88, 99, 101.

<sup>44</sup> See Ermerins (1862): LXXXIX-XCIII; Grensemann (1975): 56 ff; Ilberg (1925): 21; Jouanna (1974): 152-160; Jurk (1900): 29-42.

systematic than this Cnidian treatise; our *Nature of Women* is a shorter handbook, extracted from this lost source.<sup>45</sup>

The attribution of the gynaecological treatises to Cnidus was based on the similarity between, on the one hand, therapies and recipes attributed by Soranus (first half of the second century AD) to Euryphon of Cnidus, and on the other, recipes found in the Hippocratic gynaecological treatises. Scholars concluded that the *Cnidian Sentences* (which they believe to be Euryphon's work) included a gynaecological section that had been the source for our extant gynaecological treatises. As in the case of the nosological treatises, this reasoning is flawed.<sup>46</sup>

Grensemann argued that only one portion of the gynaecological treatises could be ascribed to the School of Cnidus. On account of differences in style, vocabulary and medical theories, Grensemann (1975) divided the gynaecological treatises into four layers (*Schichten*), corresponding to different 'authors': author A, author B, author C, and author D. Only the works of author A (active around 450 BC) – to whom Grensemann ascribes most of *Nature of Women* and parts of *Diseases of Women* I and II – are attributable to Cnidus. Author B is less distinct; author C dominates in *Diseases of Women* I and is the author of *Generation, Nature of the Child* and *Diseases* IV; author D dominates in *Barren Women*. In 1987, Grensemann refined further his theory, arguing that layer A could be subdivided into layer A1 (*Nature of Women* 35-109 and parallel chapters in *Diseases of Women*) and A2 (*Nature of Women* 2-34 and parallel chapters in *Diseases of Women*), A1 being older than A2 and probably the most ancient medical writing in Greek. Grensemann did not pronounce himself on the origin of A1, but maintained that A2 was produced in Cnidus and contained material by Euryphon and perhaps Herodikos.

By 1987, the idea that some of our Hippocratic treatises could be attributed to the School of Cnidus had been seriously questioned.<sup>47</sup> Doubts were also expressed about the very existence of a Cnidian School of medicine. Although the presence of physicians at Cnidus in the fifth and fourth centuries is unquestionable, this does not necessarily imply that there was an organised School of medicine – an institution – at Cnidus in the classical period.

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<sup>45</sup> Ilberg (1925): 22-24.

<sup>46</sup> See Chapter Two, Section Two for more details.

<sup>47</sup> See Di Benedetto (1980); (1986); Lonie (1978a); (1978b) Smith (1973); (1979); Thivel (1981).

Grensemann acknowledged these developments in Hippocratic scholarship, arguing that he was more concerned with identifying the works of individual physicians (such as Euryphon and Herodikos of Cnidus) within the Hippocratic Corpus than with establishing the existence of a Cnidian School. Grensemann's method, however, was criticised by his reviewers: although they agreed that the gynaecological treatises had coalesced over time and that different viewpoints or layers were discernible, they rejected the idea of attributing these different layers to authors whose work is completely lost. In addition, the reviewers criticised Grensemann for dealing with 'hypothetical treatises', not with the treatises as they were transmitted to us. For instance, Wesley D. Smith wrote that, 'unlike archaeological and geological strata, these imagined strata cannot be verified by their orderly existence anywhere, but nonetheless, actual texts are being dissolved and reconstituted where they fail to match up to the imaginary ones.'<sup>48</sup>

### ***1.3 Social history of medicine: Medicine as practice***

The studies presented in the previous paragraphs were centred on written texts; they did not attempt to relate these texts to the practice of medicine in the ancient world. Over the last twenty to twenty-five years, numerous studies have stressed the fact that medicine in the ancient world was not merely a bookish exercise, but that it was an important social practice.

Ancient gynaecology, in particular, attracted the interest of social historians. Rebecca Flemming, Ann Hanson, Danielle Gourevitch, Helen King, Aline Rousselle, to name only a few, have shown how the ancient gynaecological texts can contribute to our understanding of the place of woman in society.<sup>49</sup>

Social historians of medicine have also stressed that writing was not the only means through which medical knowledge was transmitted in the ancient world; this knowledge was also transmitted orally. In recent years, it has been increasingly common to argue that there was an oral tradition behind the Hippocratic texts.<sup>50</sup> However, very little study has been devoted to the nature of this oral tradition, and to the ways in which it was memorized and transmitted.

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<sup>48</sup> Smith (1988): 650. See also Hanson (1989): 84; Jones (1989); Kollesch (1989); Nutton (1988).

<sup>49</sup> See Chapter Four, Section Two for more details on the studies of these scholars. Important studies on ancient gynaecology produced before the 1980's include Diepgen (1937); (1963); Fasbender (1897).

<sup>50</sup> These studies are reviewed in Chapter Two.



Moreover, some scholars seem to assume that the written recipes we possess are simply the transcription of the oral tradition; they have ignored the possible impact that writing may have had on this body of knowledge. Instead, we should try to understand the interaction between oral and written word in the transmission of medical knowledge. These questions will be central to this thesis, whose method is influenced by studies on orality and literacy.

#### ***1.4 Orality and Literacy***

The study of orality and literacy is a thriving interdisciplinary field where education theorists, linguists, psychologists, anthropologists, historians and classicists meet to reach a better understanding of our uses of language. Thousands of works on the topic have been published over the last four decades.<sup>51</sup> This interest was triggered by the appearance of new media of communication such as the television and the personal computer. However, scholarly interest in orality and literacy started well before these inventions hit the market, spurred on by the discovery by Milman Parry and Albert Lord of the oral aspect of the Homeric epics.<sup>52</sup>

In a series of articles, Parry developed the idea that the Homeric *Iliad* and *Odyssey* had been composed orally by a tradition of illiterate epic singers, Homer being only one singer of this tradition.<sup>53</sup> Parry's early work concentrated on the use of stock-epithets in the Homeric epics, which were chosen not for narrative reasons but because they fitted the metre. Parry defined the combination noun and ornamental epithet as a formula, i.e. 'a group of words which is regularly employed under the same metrical conditions to express a given essential idea'.<sup>54</sup> The Homeric system of formulae was *complex* and *economical* to such an extent that Parry concluded that a single man could not have created it. Instead, it must have been the work of a *tradition* of poets over several generations. Since this tradition probably went back to times before the Greek adoption of the alphabet, Parry later shifted to a conception of Homer as an *oral* 'poet'.

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<sup>51</sup> Many of these works have been valuably reviewed by Jahandarie (1999).

<sup>52</sup> For a general overview of the Parry/Lord thesis, see Foley (1985): introduction; Jahandarie (1999) chapter 1; Parry A. (1971): introduction; Thomas (1992): chapter 3.

<sup>53</sup> The works of Parry have been collected by Parry A. (1971).

<sup>54</sup> Lord (1960): 160.

The next step for Parry was to undertake some research among the epic singers of Yugoslavia to provide an analogy for the Homeric poems. Parry's death and the Second World War interrupted this comparative work. However, Parry's assistant, Lord, took it over and published his results in *The Singer of Tales* (1960). One of the book's main theses is that oral and written styles are mutually exclusive. For Lord, when an epic is written down (by a scribe or by the poet himself) this does not make it a written composition; nor does it make it something between an oral and a written poem. An oral poem always remains oral in style.

The Parry/Lord thesis was one of the most important discoveries of the twentieth century in classical scholarship. It totally renewed the field of Homeric criticism and was applied to epics in at least one hundred different languages.<sup>55</sup> Along the way, the thesis was modified in two main directions. First, the strict dichotomy between oral and written texts was abandoned. Second, the centrality of the formula has been criticised; not all formulaic literature is oral, and not all oral literature is formulaic.

However, the impact of the Parry/Lord thesis reached far beyond literary criticism. Three important works appeared shortly after the publication of *The Singer of Tales*, all acknowledging their debt to the discoveries of Parry and Lord: *The Preface to Plato* by the classicist Eric A. Havelock (1963), 'The consequences of literacy' by the social anthropologist Jack Goody and the scholar of English literature Ian Watt (1963),<sup>56</sup> and *The Gutenberg Galaxy* by the literary critic Marshall McLuhan (1963).<sup>57</sup> These studies, in turn, became classics and gave rise to more studies, leading us to the immense bibliography available today. In the following paragraphs, I briefly present some of the important studies on orality and literacy before outlining my own method for the study of the Hippocratic recipes.

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<sup>55</sup> See the bibliography provided by Foley (1985).

<sup>56</sup> The article was originally published in *Comparative Studies in Society and History*; it was reprinted in Goody (1968).

<sup>57</sup> Another classic in the field, *The Presence of the Word*, was published slightly later (1967) by the Renaissance scholar Walter Ong.

One of the most prominent students of literacy in classics was Havelock, for the influence he had not so much on his fellow-classicists, but on theorists of orality and literacy, and particularly on the anthropologist Goody.<sup>58</sup>

Havelock argued that the function of oral literature was to preserve collective knowledge; the Homeric epics served as ‘a tribal encyclopaedia’, which, in order to be memorized, had to be turned into the form of a poetic narrative. This state of affairs changed with the advent of the alphabet (that Havelock places around 700 BC),<sup>59</sup> ‘a piece of explosive technology, revolutionary in its effects on human culture, in a way not precisely shared by any other invention’.<sup>60</sup> With this invention, the memory was freed, and therefore the needs for poeticization and narrativization disappeared. There was now room for the development of new literary genres, the advent of prose texts, and the development of a language necessary for abstract descriptions. The development of this new language in turn led to advances in history, philosophy, and science. The transition to full literacy was slow, however, and the ‘oral state of mind’ characteristic of the Homeric tradition survived up to the times of Plato. This slow transition was due, Havelock argues, to the fact that the alphabet was the invention of craftsmen, whereas poems were elite-products. In Havelock’s opinion, Plato represents the shift from the oral to the literate state of mind; Havelock sees the philosopher’s criticism of the poets in *The Republic* as a criticism of their oral mentality.

Havelock’s thesis revolves around the Greek alphabet. For him, the alphabet was not merely adapted from what he calls ‘the Phoenician syllabary’; it was a real invention. The previous scripts were too complex, and therefore could only be the monopoly of an elite. The invention of the vowels by the Greeks, on the other hand, made the alphabet easy to assimilate, and therefore accessible to anyone. This invention also transformed the alphabet into ‘much more effective and powerful an instrument for the preservation of fluent communication than

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<sup>58</sup> The main works of Havelock are *Preface to Plato* (1963); *Prologue to Greek Literacy* (1971); and *Origins of Western Literacy* (1976). The two last works are reprinted, together with other essays in *The Literate Revolution in Greece and its Cultural Consequences* (1982). The ideas of Havelock are here presented with no time specifications for Havelock only slightly modified his views over the years. For a general overview of Havelock’s work, see Jahandarie (1999): chapter 2; for a critical (but often distorted) view of Havelock’s work, see Halverson (1992a).

<sup>59</sup> This date is slightly later than the one usually accepted for the adoption of the alphabet, around 750 BC.

<sup>60</sup> Havelock (1982): 6.

any syllabary had been'.<sup>61</sup> In other words, Havelock subscribes to the idea that, to be successful, a system of writing has to represent speech.<sup>62</sup>

Overall, Havelock's work was not very well received by his fellow classicists.<sup>63</sup> On the other hand, Havelock's claim that the advent of alphabetic writing encourages abstract thought has had a large influence on the work of Goody.<sup>64</sup>

Goody is probably the most-read, most-quoted, but also most criticized and misunderstood exponent of the literacy thesis. At the origin of his interest in literacy stood a criticism of cultural dichotomies between 'primitive' and 'civilized' societies proposed by anthropologists such as Henri Lévy-Bruhl or, more recently, by Claude Lévi-Strauss. Goody pointed out that:

Many of the valid aspects of these somewhat vague dichotomies can be related to changes in mode of communication, especially the introduction of various forms of writing. The advantage of this approach lies in the fact that it does not simply describe the differences but relates them to a third set of facts, and thus provides some kind of explanation, some kind of mechanism, for the changes that are assumed to occur.<sup>65</sup>

In the 'Consequences of literacy' (1963), written in collaboration with Watt, Goody characterized the transmission of knowledge in oral societies as ruled by the principle of homeostasis. Since in oral societies knowledge is held in human memory and is transmitted in a face-to-face situation, members of this type of societies tend to remember what is relevant to them. Therefore, the process of transmission 'is accompanied by a homeostatic process of forgetting

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<sup>61</sup> Havelock (1963): 137.

<sup>62</sup> The idea that writing simply represents language is expressed by the linguists Ferdinand de Saussure and Noam Chomsky. See below for examples of how writing can transform language.

<sup>63</sup> See for instance the review of *Preface to Plato* by Solmsen (1966), and the review of *Origins of Western Literacy* by Harvey (1978).

<sup>64</sup> Goody's main works on the topic are 'The consequences of literacy' (1963), written in collaboration with Watt; *Literacy in Traditional Societies* (editor) (1968); *The Domestication of the Savage Mind* (1977); *The Logic of Writing and the Organisation of Society* (1986); *The Interface between the Written and the Oral* (1987); and *The Power of the Written Tradition* (2000). For an overview of Goody's work, see Jahandarie (1999): chapter 3. For a critical view, see Street (1984): section 1, chapter 2; Halverson (1992b).

<sup>65</sup> Goody (1977): 16.

or transforming those parts of the tradition that cease to be either necessary or relevant'.<sup>66</sup>

Goody and Watt contrasted this situation with the situation in Greece because, in their opinion, Greece was 'the first example of a change to widespread literacy, but also the essential one for any attempt to isolate the cultural consequences of alphabetic literacy'.<sup>67</sup> In a society that uses writing, such as Greece, accumulation of knowledge becomes possible. This allows the birth of historical inquiries. Moreover, when knowledge is put down in writing, contradictions and inconsistencies, so frequent in oral discourse, become more apparent. The recognition of these inconsistencies encourages scepticism.<sup>68</sup> 'The next step is to see how to build up and to test alternative explanations; and out of this there arose the kind of logical, specialized and cumulative intellectual tradition of sixth-century Ionia.'<sup>69</sup> In other words, Goody and Watt see writing as central in the development of Greek philosophy and science.

Goody and Watt's article was influenced by Havelock's (at the time) unpublished *Preface to Plato*.<sup>70</sup> This is probably why it put so much emphasis on the impact of the alphabet, and therefore on the Greek example. Goody, who has always been responsive to criticism and eager to adapt and refine his theory, later backed away from this emphasis on the alphabet, and paid more attention to systems of writing developed in other ancient societies such as Mesopotamia, Egypt, China and India.<sup>71</sup> There too, writing could have had liberating effects.

While studying the manifestations of writing in Mesopotamia and Egypt, Goody noted that, in the early phases of written cultures, 'written materials are often presented in a form which is very different from that of ordinary speech, indeed of almost any speech. And the most characteristic form is something that rarely occurs in oral discourse at all, namely the list.'<sup>72</sup> The list 'relies on discontinuity', on disconnection rather than on the continuity, the flux of normal speech. To put items in a list encourages classification and hierarchisation, and

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<sup>66</sup> Goody and Watt (1963): 344.

<sup>67</sup> Goody and Watt (1963): 319-320.

<sup>68</sup> Goody and Watt acknowledge that there can be scepticism in oral societies. However, it does not survive.

<sup>69</sup> Goody and Watt (1963): 344. Goody and Watt also claimed that another consequence of literacy was the birth of democracy.

<sup>70</sup> Goody (1968): introduction.

<sup>71</sup> This attention to other ancient societies is visible in Goody (1977); (1986); (1987); (2000).

<sup>72</sup> Goody (1977): 80. See Chapter Two, Section Three for more details.

therefore fosters the activity of 'savants'. Goody acknowledges that classification, decontextualisation, and hierarchisation can occur in oral society, but the written list makes these phenomena more explicit.<sup>73</sup>

Goody also sees formulae and recipes as occurring mostly in written form. For Goody, the use of the word formula in an oral context by Parry has diverted us from the traditional scientific sense of the word. Formulae such as equations or recipes are highly abstract and decontextualized forms that are clearly the product of 'graphic reductionism'.<sup>74</sup>

Goody's work on lists, which is generally considered as extremely valuable, was exploited by anthropologists and Assyriologists but also by historians of science and medicine.<sup>75</sup> Indeed, our most ancient medical texts, whether Mesopotamian, Egyptian or Hippocratic, assume the form of catalogues that we can define as an elaborated type of lists. Other aspects of Goody's work have been received less positively; many scholars have manifested scepticism towards the implications that Goody ascribed to literacy. In particular, they have doubted the fact that literacy always has the same consequences, whatever the society in which it is introduced. Geoffrey Lloyd, for instance, has always been critical of the idea that literacy played an important role in the rise of science.<sup>76</sup> For instance, Egyptian, Mesopotamian, Chinese, Indian, and Greek civilizations all developed mathematics; however, the notion of mathematical proof is only found in Greece.<sup>77</sup> The difference cannot be attributed to literacy, since all these mathematical systems are dependent on 'equivalent' logographic notations. The reason must therefore be sought elsewhere, in the wider sociological, political and cultural context of Greece. According to Lloyd, in classical Greece, the absence of institutionalised systems of patronage meant that intellectuals had to rely on teaching to make a living. To gain pupils, these intellectuals had to compete against each other, and therefore needed to develop instruments of persuasion. The development of the mathematical proof is linked to this

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<sup>73</sup> Goody (1977): chapter 5.

<sup>74</sup> On formulae, see Goody (1977): chapter 6; on recipes, see Goody (1977): chapter 7.

<sup>75</sup> For the history of medicine, see Lonie (1983); the work of Lonie is presented in details in Chapter Two.

<sup>76</sup> See *Magic, Reason and Experience* (1979); *The Revolutions of Wisdom* (1987); *Demystifying Mentalities* (1990); 'Literacy in Greek and Chinese science' (2003). Goody (1987): chapter 2 is an answer to Lloyd (1979); Olson (1994): chapter 3 expounds the debate between Lloyd and Goody.

<sup>77</sup> The example of mathematics is developed in Lloyd (2003a).

phenomenon of competition, not to literacy alone; the implications of literacy cannot be detached from their socio-cultural contexts.<sup>78</sup>

In his *Literacy in Theory and Practice* (1984), Brian Street divided the students of literacy into two groups: the exponents of the ‘autonomous model of literacy’, and the exponents of the ‘ideological model of literacy’. The members of the first group, (among whom he classifies Goody and McLuhan), consider literacy as a ‘neutral technology’ that has predictable implications on society; Street accuses the members of this group of ‘technological determinism’.<sup>79</sup> Against this ‘autonomous model’, Street promotes the ‘ideological model of literacy’, which he defines as follow: ‘those who subscribe to the ideological model of literacy recognise the ideological and therefore culturally embedded nature of such practices. It concentrates on the overlap and interaction of oral and literate modes rather than stressing a “great divide”’.<sup>80</sup>

Today, it has become mainstream to see literacy as a function of the society in which it was introduced; Street’s opposition between the ‘autonomous’ and ‘ideological’ models of literacy has lost all validity. It would be more correct to contrast, as suggested by Rosalind Thomas, those scholars who, like David Olson (*The World on Paper*, 1994) and Goody, have not given up the idea of studying the implications that literacy can have in a *given* society, and those who prefer concentrating on studying the manifestations of literacy, and its functions.

An attention to the functions of literacy is found in the two most important overviews of literacy and orality in the classical world: William V. Harris’ *Ancient Literacy* (1989) and Thomas’ *Literacy and Orality in Ancient Greece* (1992).<sup>81</sup>

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<sup>78</sup> A similar view is held by Dean-Jones (2003) and Miller (1990).

<sup>79</sup> In the case of Goody, Street’s accusation is somewhat unfair since Goody has always warned his readers against mono-causal explanations in anthropology, sociology, or history.

<sup>80</sup> Among the promoters of the ‘ideological model’, Street includes: Finnegan (anthropologist), Scribner and Cole (psychologists), Graff (socio-historian, working on the 19<sup>th</sup> century), and Clanchy (medievalist).

<sup>81</sup> For reasons of space, I will only present these two studies. Since the second half of the nineties, there has been a multiplication of important collections of essays on ancient literacy and orality: *Literacy and Power in the Ancient World* (1994, eds., Bowmann and Woolf); *Voice into Text. Orality and Literacy in Ancient Greece* (1996, ed. Worthington); *Signs of Orality. The Orality. The Oral Tradition and its Influence in the Greek and Roman World* (1999, ed. McKay); *Speaking Volumes: Orality and Literacy in the Greek and Roman World* (2001, ed. Watson); *Epea and Grammata. Oral and Written Communication in Ancient Greece* (ed. Worthington and Foley, 2002); *Written Texts and the Rise of Literate Culture in Ancient Greece* (2003, ed. Yunis); *Oral Performance and its Context* (ed. Mackie, 2004).

Harris' book is centred on two main questions: the levels of Greek and Roman literacy and the functions of literacy in the ancient world. Regarding the first question, Harris argued that many of the prerequisite conditions for widespread literacy, such as a developed system of schooling, were absent in the ancient world. Therefore, he concluded that a maximum of 5 to 10% of the population in the ancient world could read and write. Concerning the functions of literacy, Harris called for more attention to the symbolic uses of writing and to the materials used for writing and their signification.

This attention to non-rational uses of writing and to the material aspect of writing is also found in Thomas' *Literacy and Orality in Ancient Greece*.<sup>82</sup> However, contrary to Harris, Thomas argued that we should altogether abandon the idea of estimating literacy rates for ancient Greece and that we should instead concentrate on the uses of literacy. She makes two important criticisms about studies of orality and literacy in the classical field.

First, Thomas observes that scholars have tended to see Greece as either an oral or a literate society according to their main interests or even tastes. Classicists who are not familiar with the anthropological literature also tend to see orality as simply the opposite of literacy. 'Oral culture is often used interchangeably with folklore, folklore is seen as "oral tradition", and with little critical examination, but much idealism, orality and "oral societies" take on the romantic and exaggerated attributes of folk culture.'<sup>83</sup> Influenced by the work of the anthropologist Ruth Finnegan, Thomas warns us that literacy and orality are not mutually exclusive, and that it is important to examine their interaction.<sup>84</sup>

Second, Thomas warns against seeing literacy as a 'monolithic skill'. Reading and writing, the two skills constitutive of literacy, are distinct processes.<sup>85</sup> To be able to read does not necessarily imply an ability to write. Moreover, to be able to read a kind of text, such as the Bible or another sacred text, does not imply an ability to read any kind of text.

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<sup>82</sup> Other important studies on the topic of orality/literacy by Thomas are: *Oral Tradition and Written Record in Classical Athens* (1989); 'Performance and written publication in Herodotus and the Sophistic tradition' (1993); 'Prose performance texts. *Epideixis* and written publication in the late fifth and early fourth centuries' (2003).

<sup>83</sup> Thomas (1992): 7.

<sup>84</sup> See Finnegan (1988).

<sup>85</sup> Thomas (1992): 8.



The present thesis takes into account the points made by Thomas: I make the difference between writing and reading, and I do not see orality as the exact opposite of literacy; instead, I study a pharmacological *tradition* in both its oral and written manifestations. In the introduction to *Signs of Orality*, John M. Foley makes the following remark: ‘Contrary to what the history of studies in this area [sc. Homeric Studies] would lead us to expect, the crucial term in the phrase “oral tradition” is not the former but the latter one.’<sup>86</sup> This sentence could easily be applied to the study of ancient medicinal recipes: ultimately, the fact that there was a tradition of pharmacological knowledge is much more important than whether this tradition took a written or oral form. In addition, it is important to realise that oral tradition in the field of medicine was not synonymous with folk tradition; and written tradition was not synonymous with learned tradition: learned physicians heavily relied on the oral word, for instance in teaching. Unfortunately, our only way to access this oral tradition is through written texts. In my opinion, writing is never the exact reflection of spoken language; it transforms the oral word in subtle, yet important, ways. Writing in itself does not transform medicine into a rational ‘science’ – it does not transform folklore into science – but it does encourage classification and standardisation. In this thesis, I address the changes that writing brought to the oral pharmacological tradition. I do not attempt to reconstruct this oral tradition, but I acknowledge its existence, and try to point to the existence of ‘missing links’ in our written tradition. Historians study texts, they have invaluable philological tools (like the *stemma*) to study the written word; but it is sometimes necessary to admit that these tools cannot answer all the questions posed by material as complex and challenging as ancient medical recipes; anthropology must play a role in the study of this material.

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<sup>86</sup> Foley (1999): 13.

## 2 Oral transmission of medical knowledge and written recipes

‘The recipe is a **written formula** for mixing ingredients for culinary, medical or magical purposes; it **lists** the items required for making preparations destined for human consumption.’

Jack Goody<sup>1</sup>

### 2.1 Introduction

In the previous chapter, I introduced the Hippocratic treatises containing recipes: *Diseases of Women I and II*, *Barren Women*, *Superfoetation*, *Excision of the Foetus*, *Diseases II and III*, *Internal Affections*, *Ulcers*, and *Fistulas/Haemorrhoids*. These treatises all have a similar structure: they are formed of small entities – descriptions of diseases and recipes – organised in catalogue format. According to Christiane Reitz’s definition in the *New Pauly*, a catalogue is ‘a listing of similar terms in an homogeneous context, which in its form is clearly delineated.’<sup>2</sup>

Within these treatises, recipes can be found in two contexts: embedded in a chapter on a particular disease or ailment; or listed in a catalogue of recipes. Such catalogues of recipes are found at the end of *Diseases of Women I and II*, *Nature of Women*, *Superfoetation*, *Ulcers* and *Diseases III*.<sup>3</sup> These catalogues are of different size (varying from one recipe to more than one hundred) and are organised in different ways: by type of medication (pessary, fumigation, etc.),<sup>4</sup> by *efficiency* (purgative, emmenagogue, etc.)<sup>5</sup> or by ailment to be treated.<sup>6</sup> In the gynaecological

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<sup>1</sup> Goody (1977): 137 (my emphasis).

<sup>2</sup> On catalogue structure in the Hippocratic Corpus, see Smith (1983).

<sup>3</sup> *Ulc.* 11-22 (Duminil 58-69; L6.410-428); *Morb.* 3.17 (Potter 96-100; L7.156-160); *Nat. Mul.* 32-34 (Trapp 87-102; L7.346-376); 55-109 (Trapp 112-129; L7.396-430); *Mul.* 1.74-91 (L8.454-220); 1.92-109 (L8.220-232); 2.172 (L8.352-354); 2.185-191 (L8.366-370); 2.192-212 (L8.374-406); *Superf.* 33-43 (Lienau 1973; L8.500-508).

<sup>4</sup> *Nat. Mul.* 34 (Trapp 99-102; L7.370-376), for instance, is a collection of recipes for fumigations.

<sup>5</sup> *Mul.* 1.75 (L8.162-170), for instance, is a collection of recipes aiding conception.

treatises, as noted by Dietlinde Goltz, the transition between chapters describing diseases and catalogues of recipes is not always made in an abrupt way. In *Nature of Women*, for instance, chapter 55 introduces a series of short descriptions of diseases: the symptomatology is limited to a conditional clause followed by one or two recipes; dietetic recommendations are usually missing. Chapters of this type succeed each other until chapter 93 (a list of recipes to promote the production of milk), the first of a series of catalogues of recipes.<sup>7</sup>

Until recently, the Hippocratic treatises in catalogue-format including recipes were studied as the product of the so-called Cnidian School. The two main historians of this School, Jacques Jouanna and Hermann Grensemann, considered these treatises as *compendia* assembled from sources now lost. By locating parallel redactions of material on *stemmata*, it was hoped to reconstitute these lost original treatises. In this chapter, I introduce the works of these scholars and argue that compendia/stemmatic models, models that are exclusively based on the philological analysis of texts, are inadequate for understanding the history of ancient pharmacology, an art that was transmitted both in writing and orally. I follow Ann Ellis Hanson in suggesting that the Hippocratic catalogues of recipes have drawn upon both written and oral sources. Although I acknowledge the importance of oral sources in the composition of the Hippocratic collections of recipes, I do not accept the assertion made by several scholars that these treatises are the unbiased reflection – the simple writing down – of an oral tradition. Basing myself on the work of the anthropologist Jack Goody, I draw a distinction between the medical knowledge the recipes reflect and the written form in which they have been transmitted to us.

According to Philip van der Eijk, there is much to be gained from the study of the formal characteristic of ancient scientific texts:

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<sup>6</sup> *Morb.* 3.17 (Potter 96-100; L7.156-160), for instance, is a collection of cooling recipes against the disease called *kausos* (a disease accompanied by fever).

<sup>7</sup> *Nat.Mul.* 93 (Trapp 119-120; L7.410-412). See Goltz (1974): 165-166. The transition between chapters on diseases and catalogues of recipes is quite clear in *Diseases of Women I*; less so in *Diseases of Women II*.

The particular formal characteristics of a scientific text may be said to be elements of a ‘grammar of scientific discourse’, a system of rules and conditions pertaining to the possibilities that are available to the users of scientific language in order to present knowledge in a certain way, with a certain purpose, and for a certain audience.<sup>8</sup>

The second part of this chapter is devoted to the description of the formal characteristics of the Hippocratic recipes and catalogues of recipes. I study the linguistic features of the written recipes, using recent linguistic studies on recipes as text-types. I also examine the catalogues of recipes from a linguistic point of view, using Michael Hoey’s notion of discourse colony.

## ***2.2 The compendias/stemmatic model and its criticism***

Until the publication in the early nineties of two important articles by Ann Ellis Hanson (‘Continuity and change: three case studies in Hippocratic gynecological therapy and theory’ [1991] and ‘The logic of the gynecological prescriptions’ [1992])<sup>9</sup> the Hippocratic recipes, as well as the treatises in which they were embedded, were considered and studied as a product of the School of Cnidus.

The historian of the Cnidian School, Jacques Jouanna, argued that ‘the polypharmacy, traditionally considered as a criterion of the Cnidian School, cannot reflect the state of Cnidian therapeutics during the earliest period [of the school]’.<sup>10</sup> This conclusion was based on the introductory paragraph of *Regimen in Acute Diseases*, in which the authors of the *Cnidian Sentences* are criticised for using only a small number of remedies against a large array of diseases and for having written nothing of value on regimen:

Καὶ οὐ μόνον διὰ τοῦτο οὐκ ἐπαινέω, ἀλλ’ ὅτι καὶ ὀλίγοισι τὸν ἀριθμὸν τοῖσιν ἄκεσιν ἐχρεόντο· τὰ γὰρ πλεῖστα αὐτοῖσιν εἴρηται, πλὴν τῶν ὀξεῶν νούσων,

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<sup>8</sup> Van der Eijk (1997): 82.

<sup>9</sup> Hanson devoted two further articles to the recipes of the Hippocratic gynaecological treatises: Hanson (1998); (1999).

<sup>10</sup> Jouanna (1974): 460. I use the word ‘polypharmacy’ in a slightly different way below.

φάρμακα ἐλατήρια διδόναι καὶ ὄρον καὶ γάλα τὴν ὥρην πιπίσκειν. Εἰ μὲν οὖν ταῦτα ἀγαθὰ ἦν καὶ ἀρμόζοντα τοῖσι νοσήμασιν, ἐφ' οἷσι παρήνεον διδόναι, πολὺ ἂν ἀξιώτερα ἦν ἐπαίνου, ὅτι ὀλίγα ἐόντα, αὐτάρκεα ἐστίν· νῦν δὲ οὐχ οὕτως ἔχει. Οἱ μὲντοι ὕστερον ἐπιδιασκευάσαντες ἱητρικώτερον δὴ τι ἐπήλθον περὶ τῶν προσοιστέων ἐκάστοισιν. Ἄτὰρ οὐδὲ περὶ διαίτης οἱ ἀρχαῖοι σύνεγραψαν οὐδὲν ἄξιον λόγου· καὶ τοι μέγα τοῦτο παρήκαν.<sup>11</sup>

Jouanna considered that the School of Cnidus developed an interest in pharmacology during the second half of the fifth century BC: after the publication of the first edition of the *Cnidian Sentences*, which he dates to the mid-fifth century BC,<sup>12</sup> and before the publication of *Regimen in Acute Diseases*, which he dates to the end of the fifth century.<sup>13</sup> For Jouanna, the lists of recipes appended to *Diseases III* and to the gynaecological treatises must be a late production of the School; if they were not, the criticism of the author of *Regimen in Acute Diseases* would be difficult to account for. In addition, Jouanna considers significant the fact that *Affections* (a late treatise according to this French scholar) is the only treatise to mention an independent recipe book: the *Pharmakitis*.<sup>14</sup> Jouanna therefore argues that therapeutics can be used, together with aetiology, as a criterion for measuring the degree of innovation or conservatism of two parallel redactions. However, Jouanna recommends caution in the use of this criterion since it is in the field of

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<sup>11</sup> *Acut.* 2-3 (Joly 36.13-37.4; L2.226.1-11). Translation: 'And not only on this account do I disagree <with them sc. the authors of the *Cnidian Sentences*>, but also because they made use of a very small number of remedies (*toisin akasin*). Indeed most of their prescriptions, except in the case of acute diseases, are said to consist in administering purges (*elateria pharmaka*) and in giving to drink, at the proper time, whey and milk. If these <remedies> were good and suited to the diseases for which they recommended giving them, they would be much more worthy of approval, because although being a small number these <remedies> are sufficient. But it is not the case. However, the later revisers <of the *Cnidian Sentences*> acted more as physicians with regard to the application of remedies for each <disease>. Moreover, the ancients wrote nothing on regimen that is worth mentioning, although this is an important omission.'

<sup>12</sup> For this date, see Jouanna (1969): xii.

<sup>13</sup> For this date, see Jouanna (1999): 410.

<sup>14</sup> Jouanna (1974): 460. Jouanna (1999): 374 dates *Affections* to 380 BC. Lonie (1968): 10, on the contrary, suggests that the *Pharmakitis* could be anterior to the writing of the nosological treatises including recipes.

pharmacology that the authors of the treatises ‘derived from the *Cnidian Sentences*’ showed the most independence one from another.<sup>15</sup>

There are several problems with Jouanna’s theory. First, he does not explain why there was such an evolution towards the use of more remedies within the Cnidian School. Second, he does not insist enough on the fact that authors can choose not to write on a subject. If therapeutics or aetiology is not covered in an ancient medical treatise, it does not necessarily mean that these fields were not developed at that time.<sup>16</sup> Finally, Jouanna seems to imply that the only medical writing produced before the treatises of the Hippocratic Corpus is the *Cnidian Sentences*, that all the nosological treatises of the Hippocratic Collection derive from this work and follow its structure faithfully.<sup>17</sup>

The history of the Cnidian School also benefited from the important studies of Hermann Grensemann. Whereas Jouanna’s studies are centered on the nosological treatises, Grensemann’s work concentrates on the gynaecological treatises. In 1975, Grensemann argued that the early layer of the gynaecological treatises (what he calls layer A) could contain material from the early fifth century BC, basing himself on the weights mentioned in the recipes. Recipes in *Diseases II* and *Superfoetation* only mention Aeginetan weights; whereas in *Diseases of Women I* and *II*, *Barren Women* and *Nature of Women*, both Aeginetan and Attic weights are used.<sup>18</sup> Grensemann interpreted this phenomenon in the light of the political events in early fifth-century Cnidus. Until 480 BC, Cnidus used weights and coins from Aegina. However, after the Greek victory over Persia, Cnidus became part of the Delian Confederation, dominated by Athens. From that time, both Aeginetan and Attic coins and weights were used on Cnidus.<sup>19</sup> Some parts of the Cnidian treatises

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<sup>15</sup> Jouanna (1974): 481. Jouanna considers *Diseases II*, 1-11 (which he calls B) to be posterior to *Diseases II*, 12 sqq. (which he calls A) because aetiology is more developed in B than in A. On the other hand, B does not contain any information on therapeutics, whereas A has a developed therapeutics. For Jouanna this ‘disaffection’ with therapeutics in B is the consequence of the new interests in aetiology at that time. Jouanna (1974): 143. See also Jouanna (1983): 49-50, where Jouanna does not mention the therapeutic criterion and concentrates on the aetiological criterion.

<sup>16</sup> For this criticism, see Joly (1978): 532; Lonie (1968): 10.

<sup>17</sup> For this criticism, see also Thivel (1981): 107.

<sup>18</sup> This was already observed by Fredrich (1899): 11.

<sup>19</sup> Grensemann (1975): 50. See also Hanson (1997): 305, note 53; (1998): 77; Thivel (1981): 94.

of the Hippocratic Corpus – or their model – could have assumed written form before 480 BC at Cnidus.

In his later work (1982), Grensemann argued that only one part of his layer A could securely be attributed to Cnidus (A2). He further suggested that his layer A2 could contain material by Herodikos and Euryphon of Cnidus. As pointed out in Chapter One, Euryphon is considered to be an important figure in the history of Cnidian medicine. Modern scholars have argued that he was the author of the *Cnidian Sentences*. In addition, they have suggested that he was the author of a gynaecological treatise (or a genealogical section of the *Cnidian Sentences*) that served as a source for our Hippocratic gynaecological treatises. This conclusion was based on the comparison between, on the one hand, passages of the Hippocratic gynaecological treatises, and on the other hand, two testimonies of Soranus (end of first century AD/first half of second century AD). In a chapter on the retention of the afterbirth, Soranus presents a series of expelling remedies and treatments employed by Euryphon of Cnidus.

Περὶ ἐγκατεχομένων δευτέρων... Εὐρυφῶν δὲ ὁ Κνίδιος οὐραγωγοῖς χρῆται ποτίσμασιν τοῖς ἀπὸ δικτάμνου καὶ ἐλελισφάκου, καὶ πεσσοῖς τοῖς αἵμαγωγοῖς διὰ στρουθίου καὶ Ἰλλυρικῆς ἴρεως καὶ κανθαρίδων καὶ μέλιτος, καὶ κατασεισμῶ τῶ διὰ τῆς κλίμακος προσδεδεμένης τῆς καμνούσης.<sup>20</sup>

Elsewhere, Soranus describes the ladder technique for cases of prolapsed womb in more detail:

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<sup>20</sup> Soranus, *Gyn.* 4.4.14 (Ilberg 144.23-26). Translation: 'About the retention of the afterbirth... Euryphon the Cnidian, on the other hand, employs diuretic potions made from dittany and salvia, and emmenagogue pessaries made of soapwort and Illyrian iris and cantharides and honey, and <he employs> shaking by means of a ladder to which the sick woman is attached.'

Μεμφόμεθα πρῶτον <μὲν> Εὐρυφῶντα δι' ἡμέρας καὶ νυκτὸς ὅλης <τὴν>  
 κάμνουσαν ἐξαρτήσαντα τῶν ποδῶν ἀπὸ κλιμακίου κάπειτα κατακλίναντα  
 μὲν ὑπτίαν, θρέψαντα δὲ πτισάνη ψυχρᾷ.<sup>21</sup>

The therapies attributed to Euryphon bear striking similarities to therapies described in the Hippocratic gynaecological treatises.<sup>22</sup> In *Diseases of Women I*, we find the following expelling and/or emmenagogue remedies: a drink made of dittany;<sup>23</sup> a pessary made of soapwort (*strouthion*);<sup>24</sup> a pessary made of tortoise liver, woman's milk and iris oil,<sup>25</sup> and a pessary made of cantharid and honey.<sup>26</sup> The ladder technique is described three times in the Hippocratic gynaecological treatises:<sup>27</sup>

<sup>21</sup> Soranus, *Gyn*, 4.15.36 (Ilberg 149.10-13). Translation: 'We blame first Euryphon who, for the entire day and night, suspends the sick woman by her feet to a ladder, and then lays her on her back and feeds her with cold barley-gruel.'

<sup>22</sup> Grensemann (1975): 71; Ilberg (1927): 144; Temkin (1956): 197, note 60.

<sup>23</sup> *Mul.* 78 (L8.180.11 and 15-17): Ποτὰ δυνάμενα χορίον τι κρατηθὲν ἐν τῇ μήτρῃ ἐξαγαγεῖν... Ἡ δίκαιμον Κρητικὸν ὅσον ὄβολον ἐν ὕδατι τρίβειν καὶ διδόναι. Translation: 'Drinks able to cast out the afterbirth fixed to the womb... or Cretan dittany, in the amount of an *obolos*; crush in water and give.' This recipe has a parallel at *Nat.Mul.* 32 (Trapp 88.16-17; L7.348.16-17).

<sup>24</sup> *Mul.* 78 (L8.174.7-9): Καθαρτήριον ἐπιμηνίων καὶ λοχείων μάλιστα, καὶ ὕδωρ ἄγει καὶ τὰ ἄλλα στρουθίου ρίζαν λεῖον κεκομμένην, ὅσον τοῖσι τρισὶ δακτύλοισιν, ἐν μέλιτι δεύσας, προθεῖναι. Translation: 'Purgative of the menses and above all of the afterbirth; brings down water and all the rest: chop finely the root of soapwort, a pinch; soak in honey and apply.' This recipe has a parallel at *Nat.Mul.* 32 (Trapp 91.2-4; L7.354.2-4).

<sup>25</sup> *Mul.* 78 (L8.172.14-16): Λεχοῖ τὰ λοχεῖα καθαίρει ἄμεινον· χελώνης θαλασσίης ἦπαρ χλωρὸν ἐτι ζώου ἐν γάλακτι γυναικείῳ τρίβειν, καὶ ἴρινον μύρον, καὶ οἶνον ἀναδεῦσαι καὶ προστιθέναι. Translation: 'Purges better the afterbirth of a woman in childbirth: fresh liver of a sea tortoise still alive; crush in woman's milk. Pour iris perfume and wine; apply.' Hanson (1971): 194 did not find any Hippocratic parallel for the pessaries of soapwort and Illyrian iris mentioned by Soranus.

<sup>26</sup> *Mul.* 74 (L8.158.16-19): Προσθετὰ δριμέα ἄγοντα αἷμα· κανθαρίδας πέντε, πλὴν τῶν ποδῶν καὶ πτερῶν καὶ κεφαλῆς, καὶ σμύρναν καὶ λιβανωτὸν ἅμα ξυμμίσειν καὶ μέλι, ἔπειτα βάψας ἐς ἄλειφα ῥόδιον ἢ Αἰγύπτιον προθέσθω τὴν ἡμέρην. Translation: 'Sharp pessaries bringing blood: five cantharides, without legs, wings and head, myrrh, frankincense; mix together with honey, then soak in rose or Egyptian perfume. Let her apply it for the day.' The use of *salvia* (*elelisphakon*) indicated by Soranus (as a diuretic) is not recorded anywhere in the Hippocratic gynaecological treatises.

<sup>27</sup> Translation:

<i>Nat.Mul.</i> 5 (Trapp 73.11-15; L7.318.11-15)	<i>Mul.</i> 2.144 (L8.318.5-9)	<i>Steril.</i> 248 (L8.462.3-6)
Having attached her to a ladder, with the head down, shake her and push <her womb> inside with your hand. Then attach her legs together crosswise and leave her in this way for a day and a night. And give her a little cold juice of barley-gruel, otherwise nothing.	Then attach her feet to a ladder, with the head down, and push <her womb> inside. Then unfasten her and attach her legs together crosswise, and let her be in that way for the night and the day. And give her a little cold juice of barley-gruel, otherwise nothing.	Then having attached her feet to a ladder, shake her with the head down and push <her womb> inside with your hand. Then attach her legs together crosswise, and let her be so for a day and a night. And give her a little juice of barley-gruel, otherwise nothing.



<i>Nature of Women 5</i>	<i>Diseases of Women 2.144</i>	<i>Barren Women 248</i>
<p>Πρὸς κλίμακα δήσας κρούειν, κάτω τὴν κεφαλὴν ποιήσας, καὶ τῇ χειρὶ ἔσωθεῖν, ἔπειτα συνδῆσαι αὐτῆς τὰ σκέλεα ἐπαλλάξ καὶ ἔαν ἡμέρην καὶ νύκτα οὕτως, καὶ διδόναι ὀλίγον χυλὸν πτισάνης ψυχρὸν, ἄλλο δὲ μηδέν.</p>	<p>Ἔπειτα πρὸς κλίμακα δῆσαι τοὺς πόδας, τὴν δὲ κεφαλὴν κάτω ἔχειν, καὶ τῇ χειρὶ ἔσω ἀποθέειν· ἔπειτα λύειν, καὶ ξυνδῆσαι αὐτῆς τὰ σκέλεα ἐναλλάξ, καὶ ἔην νύκτα καὶ ἡμέρην οὕτω, καὶ διδόναι ὀλίγον χυλὸν πτισάνης ψυχρὸν, ἄλλο δὲ μηδέν.</p>	<p>Ἔπειτα πρὸς κλίμακα δήσας τοὺς πόδας, κρούειν κατὰ τὴν κεφαλὴν, καὶ τῇ χειρὶ ἔσωθέειν· ἔπειτα ξυνδήσας τὰ σκέλεα ἐπαλλάξ, ἔην ἡμέρην καὶ νύκτα ἀτρέμα· διδόναι δὲ ὀλίγον χυλὸν πτισάνης ψυχρὸν, ἄλλο δὲ μηδέν.</p>

Although there are important similarities between the testimony of Soranus on Euryphon and the Hippocratic gynaecological treatises, it should also be noted that the recipes attributed to Euryphon are scattered through *Diseases of Women I* and cannot be located in any particular place.<sup>28</sup> Moreover, the ladder procedure attributed to Euryphon by Soranus seems to have been relatively widespread in classical Greece. The author of the Hippocratic treatise *Joints* describes it as an ancient technique employed by many physicians for a variety of cases of dislocation.<sup>29</sup> Although it appears that Euryphon was involved with gynaecology, and that he may have written treatises that contained similar material to our gynaecological treatises, it does not necessarily follow that parts of these treatises should be attributed to Euryphon.<sup>30</sup>

In addition, there is a chronological problem. In order to allow Euryphon to have influenced one of the earliest layers of the Hippocratic collection, Grensemann

<sup>28</sup> See Hanson (1971): 194.

<sup>29</sup> *Artic.* 42 (L4.182.14-17 and 22; Withington 282.3-6 and 13). Τοῦτο μὲν γὰρ, αἱ ἐν τῇ κλίμακι κατασεΐσεις οὐδενα πω ἐξίθυναν, ὧν γε ἐγὼ οἶδα· χρέονται δὲ οἱ ἰητροὶ μάλιστα αὐτῇ οὔτοι οἱ ἐπιθυμέοντες ἐκχαυνοῦν τὸν πολὺν ὄχλον... Τὸ μὲν γὰρ ἐπινόμημα ἀρχαῖον. Translation: 'For shaking by means of a ladder has never made anyone straight, as far as I know; but the doctors who use it are mostly those who are eager to astound the crowd... This invention is ancient.'

<sup>30</sup> See Hanson (1971): 194.

considers this author to have been active in the first half of the fifth century BC.<sup>31</sup> However, this date is supported only by one source: *The Life of Hippocrates According to Soranus*, which presents Euryphon as an older contemporary of Hippocrates.<sup>32</sup> This early date is contradicted by the fact that Plato Comicus, a contemporary of Aristophanes, made fun of Euryphon.<sup>33</sup> Euryphon was probably alive when Plato Comicus joked about him; if he had not been, the joke would not have made the audience laugh. Consequently, it seems that Euryphon was active at the end of the fifth century BC or at the beginning of the fourth century, and not earlier.<sup>34</sup>

It is tempting to ascribe the anonymous material transmitted in the Hippocratic treatises to a named authority. However, Soranus only attributed to Euryphon a handful of therapeutic prescriptions. This is very little in comparison with the hundreds of therapeutic and pharmacological prescriptions recorded in the Hippocratic gynaecological treatises. This important collection of material deserves to be studied in its own rights, even if it cannot be ascribed to any known medical authority. However, beyond the attribution of some of the therapies of the gynaecological treatises to Euryphon (however problematic this attribution may be),

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<sup>31</sup> Grensemann (1975): 198-202.

<sup>32</sup> *Vita Hippocratis secundum Soranum* 5 (Ilberg 176.4-7): Τὴν δὲ σύμπασαν Ἑλλάδα θεραπεύων ἐθαυμάσθη, ὥστε καὶ ὑπὸ Περδίκκα τοῦ Μακεδόνων βασιλέως φθισικοῦ νομισθέντος παρακληθέντα δημοσίᾳ πρὸς αὐτὸν ἔλθειν μετ' Εὐρυφώντος, ὃς καθ' ἡλικίαν πρεσβύτερος ἦν αὐτοῦ, καὶ σημειώσασθαι ψυχῆς εἶναι τὸ πάθος. Translation: 'He <sc. Hippocrates> was so admired for having treated all of Greece that he was summoned by Perdicas, the King of the Macedonians, who was thought to suffer from *phthisis*, to come to him at public expense with Euryphon, who was slightly older in age than he was. By certain signs, Hippocrates interpreted that the disease was a disease of the soul.' On this story, see Jouanna (1999): 31; Pinault (1992): Chapter Three 'Hippocrates and Perdicas'.

<sup>33</sup> Plato Comicus fr. 200 (Kassel and Austin):

Μετὰ ταῦτα δὲ  
 †Εὐαγόρου ὁ παῖς ἐκ πλευρίτιδος Κινησίας†  
 σκελετός, ἀπυγος, καλάμινα σκέλη φορῶν,  
 φθόγης προφήτης, ἐσχάρας κεκαυμένος  
 πλείστας ὑπ' Εὐρυφώντος ἐν τῷ σώματι.

Translation: 'After this, †Kinesias, the son of Evagoras†, withered, without buttocks, with legs like reeds, prophet of *phthisis*, his body covered with scabs, having been burnt by Euryphon.'

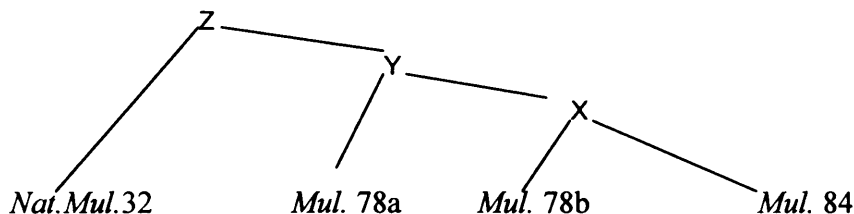
<sup>34</sup> See Thivel (1981): 107.

Grensemann has said very little about the gynaecological collections of recipes, attributing them in passing to his layers A1 and A2 and calling for more analysis.<sup>35</sup>

Sybill Ihm (1999) intended to fill in this gap. She analysed four different versions of a recipe for a cantharid-drink to expel the afterbirth in order to understand better the use of the sources in the gynaecological catalogues of recipes.<sup>36</sup>

The differences between these four versions are of varied types. There are variations in the spelling and dialect, variations in the grammar (mood of the verbs, etc.), and variations in the formulation (use of synonyms, slight variation in the order of the words). In addition, there are even variations in the content of the recipe (differences of quantities for instance).

Ihm's careful examination led her to establish a *stemma* in which three lost sources (sources Z, Y and X) were supplied to explain the differences between the four versions of the recipe! She does not pronounce herself on the nature of Z (nor Y or X), nor does she suggest whether this recipe was first found in a gynaecological treatise including recipes or in an independent recipe-book.



Now Ihm chose a very particular recipe, quite long, in four different versions, with a wealth of details concerning the preparation and the application of the remedy. We may wonder whether her approach could be expanded to the hundreds of parallel recipes found in the gynaecological treatises, and whether the results of this analysis would point in the same direction.

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<sup>35</sup> See Grensemann (1982): 4, note 3; (1987): 12 and 36. Hanson (1989): 84 and Kollesch (1989): 163 criticise Grensemann for not taking into account the recipes of the gynaecological treatises.

<sup>36</sup> The four versions of the cantharid-drink are found at *Nat. Mul.* 32 (Trapp 87.13-88.1; L7.346.13-348.1); *Mul.* 1.78 (L8.178.1-10); *Mul.* 1.78 (L8.183.13-20); *Mul.* 1.84 (L8.208.15-210.1). The recipes are reproduced and translated in Appendix 1.

If we want to build *stemmata* like Ihm's, we need to determine how different versions of a recipe relate to each other; how many lost links we have to supply between versions; when a version is an improvement in comparison with another, etc. However, this is impossible in most cases, since we have only two versions of the recipes – at least three versions are required to construct a *stemma*.

There is no such thing as a *verbatim* repetition of a recipe in the Hippocratic gynaecological catalogues, or in the Hippocratic treatises as a whole. There are always variations between two versions of a recipe, and it is often difficult to determine which ones are significant and which ones are not.<sup>37</sup> Above all, it is difficult to perceive which variations were significant for the ancients. An indirect way to approach this question is to look for elements of stability between parallel redactions of recipes.

In most cases of parallel redactions of recipes, the ingredients are listed in the same order from one version to another:<sup>38</sup>

<i>Diseases of Women</i> 1.90	<i>Diseases of Women</i> 2.209
Κλύσμα ἦν ἡλκωμένοι ἕωσιν αἱ μήτραι καὶ ἦν στραγγουρή ἐπιλάβη· πράσα, ἀκτῆς καρπὸν, σέσελι, ἄνησον, λιβανωτὸν, σμύρναν, καὶ οἶνον ἴσον τῷ χυλῷ τούτων, μίξας ταῦτα καὶ ἀναζέσας, ψύχειν, καὶ μετρίως κλύζειν.	Ἄτερος κλυσμὸς, ἦν περιωδυνίη καὶ στραγγουρή ἔχη· πράσου χυλὸν, ἀκτῆς καρπὸν, σέσελι, ἄνησον, λιβανωτὸν, σμύρναν, οἶνον, χύλωσον καὶ μῖξον καὶ κλύσαι.

There are several differences between these two versions of the recipe, but the ingredients are listed in the same order.

<sup>37</sup> On the problem of *verbatim* quotation (or lack of it) in the ancient world, see Small (1997): chapter 13 and the review of this book by Thomas (2000a): 489. See also Finnegan (1988): 82.

<sup>38</sup> Translation:

<i>Mul.</i> 1.90 (L8.216.11-14)	<i>Mul.</i> 2.209 (L8.404.7-9)
Injection if the womb becomes ulcerated and if strangury occurs: leeks, elderberry, hartwort, aniseed, frankincense, myrrh, and wine in the same amount as the juice of these <ingredients>; mix these and bring to the boil, let it cool down. Inject moderately.	Other injection if there is excessive pain and strangury: juice of leek, elderberry, hartwort, aniseed, frankincense, myrrh, wine; extract the juice and mix. Inject.

This stability in the order of the ingredients is also perceivable when there are more than two parallel redactions:<sup>39</sup>

<i>Nature of Women 32</i>	<i>Diseases of Women 1.84</i>	<i>Diseases of Women 2.205</i>
Ἔτερον· σύκου τὸ πῖον ξύσας, συμμίξας πόσιας ἔλατηρίου δύο καὶ νίτρον ὅσον τὸ ἔλατήριον, μέλιτι δεύσας, προστίθει.	Ἡ σύκου τὸ πιότατον ζὺν ἔλατηρίου πόσει καὶ νίτρον ἐρυθροῦ τὸ ἴσον καὶ μέλιτος ἴσον, ὡσαύτως.	Σύκου τὸ πῖαρ, ἔλατηρίου δύο πόσιας, νίτρον ἐρυθρὸν, ὅσον τὸ ἔλατηριον, μέλι ὀλίγον, ἐν ῥάκει ἢ ἐν εἰρίῳ, βάλανον ποιέειν.

Cases of parallel redactions in which the ingredients are not listed in the same order are very rare:<sup>40</sup>

<i>Nature of Women 32</i>	<i>Diseases of Women 2.205</i>
Ἔτερον· χολήν ταύρου, καὶ νίτρον ἐρυθρὸν, νέτωπον, κυκλάμινον, τρίψας τουτέων ὅσον κηκίδα, τοῦ κυκλάμινου δὲ πλεῖστον, μέλιτι συμμίξας, προσθεῖναι.	Ἔτερον· νέτωπον, χολήν ταύρου, νίτρον, κυκλάμινον, κικίδα, τρίβειν ζὺν μέλιτι.

Parallel redactions listing ingredients in different orders are the exception rather than the rule. This stability means that, for the ancients, the order in which the ingredients were listed was significant.<sup>41</sup> Maybe ingredients were listed in the order

<sup>39</sup> Translation:

<i>Nat. Mul.</i> 32 (Trapp 95.7-9; L7.362.7-9)	<i>Mul.</i> 1.84 (L8.206.14-16)	<i>Mul.</i> 2.205 (L8.396.7-9)
Another: scrape the fat of a fig, add two draughts of squirting cucumber, soda in the same amount as the squirting cucumber, pour honey; apply.	Or the fattest part of a fig, together with a draught of squirting cucumber, the same amount of red soda, and the same amount of honey; in the same way.	The fat of a fig, two draughts of squirting cucumber, red soda, same amount as the squirting cucumber, a little honey, in a cloth or in wool; make a pessary.

<sup>40</sup> Translation:

<i>Nat. Mul.</i> 32 (Trapp 95.16-18; L7.362.16-18)	<i>Mul.</i> 2.205 (L8.396.9-10)
Another: bull bile, red soda, oil of bitter almonds and cyclamen; crush an oak gall of these, but more of cyclamen. Add honey; apply.	Another: oil of bitter almonds, bull bile, soda, cyclamen, oak gall; crush with honey.

<sup>41</sup> The stability was also observed by Hanson (1996a): XVIII; (1997): 303.

in which they had to be prepared. In any case, ingredients were the essential part of the recipe, its most important content, its back-bone.

On the other hand, the element of the recipes that is the less stable is their grammar. From one redaction to another, infinitives are often substituted for participles, indicatives for infinitives, etc. In addition, different manuscripts often have different verbal forms for the same recipe. It is almost as if grammar of recipes ‘did not matter’ to the ancient and medieval copyists of the recipes.

A philological study such as Ihm’s tends to exaggerate the importance of variations in the formulation of the recipes. However, in most cases, these variations were probably not considered significant by the ancients. Philological studies are based on differences between versions of a *text* in order to build *stemmata*. However, behind the *text* of a recipe, there is a remedy, or at least the possibility of a remedy; a phenomenon that philological studies tend to ignore. In this thesis, I attempt to always keep the balance between these two elements, between text and remedy.<sup>42</sup>

Up to this point, ingredients were chosen as a means to locate parallel redactions of recipes.<sup>43</sup> However, this somehow oversimplifies the problem. There are in the Hippocratic Corpus instances of recipes very similar to each other without having exactly the same ingredients. For instance, there exists, in a chapter on the displacement of the womb, a recipe for an emmenagogue drink with three ingredients in common with the cantharid drink presented earlier (cantharides, eggs of cuttlefish and wine):<sup>44</sup>

<sup>42</sup> Thivel (1981): 105 makes a difference between three levels in the chapters of the Hippocratic treatises: level of the doctrine, level of the redaction and level of the systematization of the text. See also Andò (2000): 17.

<sup>43</sup> This criterion was also used by Mäkinen (2004): 157.

<sup>44</sup> Translation:

<i>Nat.Mul.</i> 8 (Trapp 76.1-4; L7.324.1-4)	<i>Nat.Mul.</i> 32 (Trapp 87.14-19; L7.347.13-18)
Let her drink <u>four cantharides</u> , having removed the legs, the wings and the head, five black grains of peony, <u>eggs of cuttlefish</u> , a little <u>linseed</u> in <u>wine</u> .	<u>Five cantharides</u> , remove the wings, legs and head. Then crush prickly samphire , together with its root, in the amount of one <i>konche</i> ; and crush the inside of fresh <i>antheon</i> , in the amount of one <i>konche</i> , equal quantity of <u>celery seed</u> , add 15 <u>eggs of cuttlefish</u> ; give to drink in sweet mixed wine.

A = <i>Nature of Women</i> 8	B = <i>Nature of Women</i> 32
<p>Πινέτω <u>κανθαρίδας</u> <u>τέσσαρας</u> ἀποκολούσασα τοὺς πόδας καὶ τὰ πτερὰ καὶ τὴν κεφαλὴν, καὶ γλυकुσίδης κόκκους πέντε τοὺς μέλανας, καὶ <u>σηπίης</u> <u>ὠιά</u>, σπέρμα + <u>λίνου</u>+ ὀλίγον ἐν <u>οἴνω</u>.</p>	<p><u>Κανθαρίδας πέντε</u> ἀποτίλας τὰ πτερὰ καὶ τοὺς πόδας καὶ τὴν κεφαλὴν, ἔπειτα τριβόλους παραθαλασσίους σὺν τῇ ῥίζῃ κόψας ὅσον κόγχην καὶ τοῦ ἀνθέμου τοῦ χλωροῦ τὸ εἶσω ξηρὸν τρίψας ὅσον κόγχην, <u>σελίνου</u> σπέρμα ἴσον καὶ <u>σηπίης</u> <u>ὠὰ</u> πεντεκαίδεκα, ἐν <u>οἴνω</u> γλυκεῖ κεκρημένῳ δίδου πιεῖν.</p>

The differences between A and B cannot be explained in a philological way; no *stemma* could account for all these differences. On the other hand, in actual practice, these recipes must have been considered very similar: both were emmenagogue drinks, including two animal ingredients (cantharides and eggs of cuttlefish) together with vegetable ingredients. A and B are not parallel redactions of recipes, but they could be called ‘variations on the same theme’.

### 2.3 *Orality and the Hippocratic catalogues of recipes*

Grensemann, Jouanna and Ihm approach ancient medical texts as philologists: they study texts and their transmission and have little interest in the practice of medicine in ancient Greece.<sup>45</sup> As Hanson pointed out, they consider the medical Schools of Cos and Cnidus as ‘textual communities on the model of philosophical sects of the Hellenistic and later periods, possessing libraries passed on from the head of the sect to the successor’.<sup>46</sup> Within these communities, authors of medical treatises in catalogue-format are imagined to be compendiasts, assembling their works by excerpting sources now lost. However, Hanson notes that this model might be a retrojection onto the Hippocratics of ‘later compositional practices’ common in

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A has a parallel redaction at *Mul.* 2.135 (L8.306.17-20): Κανθαρίδας τέσσαρας, ἀπτέρους καὶ ἄποδας καὶ ἄτερ κεφαλῆς, καὶ γλυकुσίδης κόκκους πέντε τοὺς μέλανας καὶ σηπίης ὠὰ, καὶ σελίνου σπέρμα ὀλίγον ἐν οἴνω διδόναι πίνειν. Translation: ‘Four cantharides, without the wings, legs and head, five black grains of peony, eggs of cuttlefish, a little linseed; give to drink in wine.’

<sup>45</sup> This lack of interest in the social history of medicine is less noticeable in Jouanna (1999).

<sup>46</sup> Hanson (1997): 305.

Alexandria, Rome and Byzantium, and not the reflection of the actual transmission of medical knowledge in classical Greece. In particular, this model does not take into account the fact that pharmacological knowledge must have been transmitted orally in the ancient world; this model does not examine the link between oral and written transmission of knowledge.

As the author of the Hippocratic treatise *Ancient Medicine* makes it clear, oral and written transmission of medical knowledge cohabited in classical Greece: Ὅκοσοι μὲν ἐπεχείρησαν περὶ ἰητρικῆς λέγειν ἢ γράφειν...<sup>47</sup> It is therefore possible to argue, as Hanson did, that the Hippocratic treatises in catalogue-format drew upon both oral and written sources:

A more flexible compositional model for the catalogs' present form allows them to have drawn upon **traditional** repositories of medical information, **including oral ones**, and to **fossilize only** gradually into the shape and Greek text they now exhibit.<sup>48</sup>

Some scholars have suggested that oral transmission might be one of the possible explanations for the high number of parallel redactions in the Hippocratic Corpus; when two parallel texts (texts A and B) are found in the Corpus, several different scenarios are possible, as expressed by Volker Langholf:

Text A may be dependent on text B, or B on A, or both may be dependent on a common extant or inferable written source; and more possibilities are conceivable: there may be intermediate written sources and secondary textual changes; **sources may also be 'oral' or rather performative**, i.e. memorized and transmitted within the professional complex consisting of doing plus talking.<sup>49</sup>

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<sup>47</sup> *Uy*. 1 (Jouanna 118.1; L1.570.1). Translation: 'All those who have attempted <to discuss> the art of medicine orally or by writing.'

<sup>48</sup> Hanson (1997): 310 (My emphasis).

<sup>49</sup> Langholf (2004): 252 (My emphasis).



Similarly, Valeria Andò believes the repetitions within *Nature of Women* might be the result of an oral transmission of knowledge.<sup>50</sup> In addition, Andò considers the conditional formulae that introduce descriptions of diseases and recipes in the Hippocratic nosological and gynaecological treatises as ‘a sign (*spia*) of an archaic tradition which has its roots in oral communication’.<sup>51</sup> These formulae reveal a ‘lack of abstraction and conceptualisation’ also present in the laws of Solon, which are ‘written codification’ of oral knowledge.<sup>52</sup>

The conditional formulae introducing the recipes are indeed similar to formulae introducing Solon’s laws. In relation to these laws, Solon tells us that:

Θεσµοὺς δ’ ὁµοίως τῶι κακῶι τε κἀγαθῶι  
εὐθειᾶν εἰς ἕκαστον ἀρµόσας δίκην  
ἔγραψα.<sup>53</sup>

However, Solon does not say whether he transcribed these oral laws word-for-word, or whether he changed their formulation in the process of writing. The same goes for recipes: it is impossible to tell whether recipes were formulated in the same way orally as they are in writing. Conditional formulae do not introduce later recipes: they undoubtedly are a sign of the archaic character of Hippocratic recipes, but are they the reflection of the oral tradition? Andò makes a – very common – conflation between ‘signs of archaicity’ and ‘signs of orality’.

Searching for ‘signs of orality’ is a strong trend in classical studies, first inaugurated by the studies of Milman Parry and Albert Lord on Homeric formulae, which were seen as signs of orality.<sup>54</sup> However, Homeric scholars have recently expressed reservations against the search for signs of orality in our ancient sources. Barry Powell, for instance, reminds us that what we have from Homer is a *text*,

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<sup>50</sup> Andò (2000): 28.

<sup>51</sup> Andò (2000): 25.

<sup>52</sup> Andò (2000): 26.

<sup>53</sup> Solon fr. 36 (West), lines 18-20. Translation: ‘I wrote down laws alike for good and bad, awarding straight justice to each.’ See Thomas (1992): 71.

<sup>54</sup> See Chapter One, Section Three for more detail.

which is not the exact equivalent to the oral epic songs that preceded the writing down of the *Iliad* and the *Odyssey*. He notes:

Greek and Latin speech do not survive, then, but *texts* survive, a Latin word that means ‘something woven.’ Many misunderstand Homer in failing to remember that Homer is a text and that texts are in code; speech, by contrast, is not in code (although it may *be* code). Texts are potentially eternal; speech is ephemeral. Texts are material and liable to corruption, distortion, and error; speech is immaterial and disappears immediately. Homer died long ago, but his texts will live forever.<sup>55</sup>

Similarly, one should not forget that our Hippocratic recipes are texts. It might be dangerous to assume that the process of writing was without consequences on the formulation of medical knowledge.

We can only approach ancient medical recipes through texts; we cannot access the experience of their oral transmission. However, anthropological research into societies relying mainly on the oral word can offer some insight into the transmission of therapeutic knowledge in the ancient word.

Goody in his *Domestication of the Savage Mind* (1977) has questioned the very existence of ‘recipes’ in oral traditions. For the anthropologist, formulae such as equations or recipes are highly abstract and decontextualized forms that are clearly the product of ‘graphic reductionism’.<sup>56</sup> For sure, oral societies also follow relatively standard procedures when cooking, preparing remedies, and practicing magic. However, when talking about peasant cooking, Goody argues that knowledge of cooking transmitted orally, in a face-to-face context, tends to differ from written recipes in three respects:

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<sup>55</sup> Powell (2004): 3. See also Powell (2002). For a sophisticated example of a search for ‘signs of orality’, see McKay (1992).

<sup>56</sup> On formulae, see Goody (1977): chapter 6; on recipes, see Goody (1977): chapter 7.

Firstly, it relies less on precise quantities, which tend to be specified exactly in the written recipe. Secondly, it tends to be less tied to specific ingredients; one can substitute. Thirdly, there is more flexibility with regard to procedure.<sup>57</sup>

Therefore, in an oral context, instead of using the word 'recipe', it would be more correct to talk about '*recettes de base*' (base recipes), which do not include prescriptive indications regarding quantities, ingredients and procedure. The *recette de base* is a starting point on which a cook can improvise, using the ingredients at his/her disposal.<sup>58</sup> Goody's conclusions about cooking could well be extended to medicine and magic in oral traditions. One could imagine magic and medicinal *recettes de base* on which one could improvise, although the degree of improvisation might have been lesser than in the case of cooking, especially when poisonous drugs were involved.<sup>59</sup>

The notion of 'variation on the same theme' I have introduced earlier is particularly relevant to a discussion of orality. In some cases, these variations can be compared to the modifications brought, in oral traditions, to Goody's *recettes de base*; they probably would not be considered as distinct recipes in oral traditions. In oral traditions, small modifications to a *recette de base* would probably go unnoticed; but they become much more apparent once written down, once they become 'recipes'. On the other hand, the grammatical variations between parallel redactions of a recipe are better explained as the result of modifications brought to a written text.

A careful study of the written Hippocratic recipes may lead us to the conclusion that an oral tradition preceded their 'writing down', an oral tradition of *recettes de bases* on which one could elaborate; or in other words, a medical knowledge that could be adapted to the needs of the patients and to environmental

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<sup>57</sup> Goody (1977): 141.

<sup>58</sup> Goody argues that the number of such *recettes de base* in oral societies is limited by two factors: the number of ingredients readily available, and the capacity of oral memory. As pointed out below, one should not make assumptions about the capacity of oral memory.

<sup>59</sup> There are only few references to poisonous drugs in the Hippocratic Corpus.

conditions. On the other hand, it might be wrong to assume that the recipes in the Hippocratic treatises are the exact reflection of this oral tradition; these recipes were not composed orally in the form in which we know them. For a start, certain aspects of the oral transmission of medical knowledge, such as gestures, are never ‘translated’ into text form. In addition, the Hippocratic recipes are short formulae; they leave out a lot of information (about the quantities or the utensils to be used for instance) that would have been mentioned and/or discussed in the context of a face-to-face transmission.<sup>60</sup> Moreover, when medical knowledge is ‘written down’ in the form of recipes, it goes through a mould and becomes more formalised and schematic than when presented orally.

In addition, Goltz argued that the format in which ancient recipes were collected – the catalogue format – made it unlikely that they were ever composed/transmitted orally.<sup>61</sup> She suggested that it would have been impossible to memorize long catalogues of recipes (or long catalogues of diseases) which, in contrast to the Homeric epics, offer no narrative as an aid for recollection.<sup>62</sup>

Although one should not make assumptions about the capacity of memory, anthropologists such as Goody and Jan Vansina have observed that lists are a rare phenomenon in oral societies.<sup>63</sup> Lists in oral societies tend to be short, and if they are not, ‘backfeeding’ from a written tradition may be suspected. For Goody, ‘list keeping is a habit of literate people’:

They [sc. lists] do not represent speech directly. Or rather they stand opposed to the continuity, the flux, the connectedness of the usual speech forms, that is, conversation, oratory, etc., and substitute an arrangement in which concepts, verbal items, are separated not only from the wider context in

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<sup>60</sup> See Chapter Six, Section Three for more details on the elements of information that are not mentioned in the recipes.

<sup>61</sup> Goltz does not make the difference between oral composition and oral transmission.

<sup>62</sup> Goltz (1974) 304-305. See also Lonie (1977a): note 73

<sup>63</sup> See Lonie (1977a): note 73 for a warning not to underestimate the capacity of oral memory. For an anthropological approach to lists, see Goody (1997): Chapter Five; Vansina (1985): 179.

which speech always, or almost always takes place, but separated too from one another.<sup>64</sup>

Paradoxically, lists, which are so removed from ‘usual speech’, seem to be among the first literary forms. The earliest written documents in Sumerian, Akkadian and Egyptian are lists; and Greek literature has preserved early examples of verse and prose lists. The list is a convenient way to systematize a large body of knowledge; the act of writing naturally leads to the constitution of catalogues.

The conclusions we have reached on the written character of the Hippocratic catalogues of recipes may appear compromised by the presence of many references to speaking in the nosological and gynaecological treatises of the Hippocratic Corpus. The verbs λέγω, φημί, and εἶρω are used regularly in *Diseases of Women I*; and they appear also in *Diseases of Women II*, *Barren Women*, *Nature of Women*, *Diseases II* and *III*.<sup>65</sup> The compiler of *Nature of Women* claims in the last line of his introductory paragraph that he writes for teaching purposes (ἄρξομαι δὲ διδάσκων ἀπὸ τοῦ ὑγροῦ κατὰ φύσιν).<sup>66</sup> Consequently, a series of scholars, starting with Johannes Ilberg in the 1920’s, suggested that these treatises, or parts of these treatises, might have originated as oral medical lectures.<sup>67</sup> However, even if we accept this suggestion, the recipes included in the Hippocratic treatises, may not have been part of the original lectures.<sup>68</sup> References to speaking usually appear in chapters that contain no descriptions of therapies.<sup>69</sup> In addition, when references are

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<sup>64</sup> Goody (1977): 81.

<sup>65</sup> On the use of these verbs in the Hippocratic Corpus, see Kollesch (1992): 339.

<sup>66</sup> *Nat.Mul.* 1 (Trapp 70.13-14; L7.312.12-13). Translation: ‘I will start by teaching the healthy moisture.’

<sup>67</sup> See for instance Ilberg (1925): 23; Jouanna (1984): 32; Lonie (1981): 51. On the difficulty of determining which treatises were delivered orally, and which were composed directly in writing, see Jouanna (1984): 29-32.

<sup>68</sup> Hanson notes that words such as λέγω in a written text do not necessarily indicate that these texts have originated as oral delivery. See Hanson (1971): 273. Especial caution should be expressed against using the introductory chapter of *Nature of Women* as a proof that this text was originally delivered orally: this chapter might have been added to the treatise at a later date. See Hanson (1971): 46-47; Langholf (2004): 231.

<sup>69</sup> References to speaking in chapters that do not include therapies: *Morb.* 2.3: εἶρηται (Jouanna 134.9; L7.10.11); *Morb.* 2.4: εἶρηται (Jouanna 135.17; L7.12.7); *Morb.* 3.1: εἶρηται μοι (Potter 70.1;

made to medications, the verb γράφω and its compounds are used.<sup>70</sup> Recipes were probably added whilst authors were revising their lectures for ‘publication’.<sup>71</sup>

In the case of the gynaecological treatises, references in the past tense (‘as I have written...’) refer to therapies described in chapters on individual diseases. For instance, in a chapter on the inflammation of the womb at *Diseases of Women* 2.154, it is recommended to follow the same diet as written in the case of the displacement of the womb to the side: καὶ τὴν λινόζωστιν ἐσθιέτω, καὶ τὸ γάλα μεταπινέτω, ὡς ἐπὶ τοῦ πλευροῦ γέγραπται.<sup>72</sup> Such recommendations are indeed found at *Diseases of Women* 2.131, a chapter on the displacement of the womb to the side.<sup>73</sup> On the other hand, references in the future tense (‘as I will write...’) refer to the catalogues of recipes located at the end of the treatises. For instance, at *Diseases of Women* 2.110 (a chapter on the white flux) the compiler recommends treating a flux with a remedy which he will expose later: πρῶτ' μὲν διδόναι πρὸς τοὺς ῥόους φάρμακον πίνειν, ὃν ἂν ἐγὼ γράψω.<sup>74</sup> A collection of remedies against fluxes is found at *Diseases of Women* 2.192.<sup>75</sup>

In the nosological treatise *Affections*, references to the now-lost *Pharmakitis* are always in the past tense. For instance, in a chapter on pains occurring during the

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L7.118.1); *Nat.Mul.* 1: λέγω (Trapp 70.1; L7.312.1); *Mul.* 1.1: φημί (L8.10.1; 12.6); εἴρηται (L8.10.7; 12.6); *Mul.* 1.2: εἴρηται (L8.18.18; 20.1); *Mul.* 1.25: ἐρέω (L8.64.12); φημί (L8.64.13); *Mul.* 1.62: εἴρηται (L8.126.5); *Mul.* 1.72: εἴρηται (L8.152.1); *Steril.* 213: εἴρηται (L8.408.2; 412.8); φημί (L8.408.4); τῶν εἰρημένων (L8.408.10; 412.2,12,19; 414.4); εἰρήσεται (L8.408.19). See Kollesch (1992): 341; Langholf (2004): 71; Lonie (1981): 51. References to speaking in chapters that include therapies (these references to speaking are not related to the remedies themselves): *Mul.* 1.44: εἴρηται (L8.102.5); *Mul.* 2.133: εἴρηται (L8.292.17); κατὰ τὸν ἔμπροσθεν λόγον (L8.302.2-3). *Mul.* 1.133 also uses vocabulary referring to writing: τῶν προγεγραμμένων (L8.298.10); τὰ προγεγραμμένα (L8.303.2). *Mul.* 2.158 (L8.336.2 and 7-11) is the only recipe that includes an expression relating to speaking: Προσθέτοισι μαλθακοῖσι... Ἡ ἐκλέψας κόκκους πεντεκαίδεκα, ἔστω δὲ καὶ Ἰνδικοῦ ποσόν, ἦν δοκέη δεῖν, ἐν γάλακτι δὲ γυναικὸς κουροτρόφου τρίβειν, καὶ παραμίσειν ἐλάφου μυελὸν καὶ τᾶλλα ὀκόσα εἴρηται, καὶ μέλιτι ὀλιγω μίσειν· τὸ δὲ εἴριον μαλθακὸν καθαρὸν ἔστω, καὶ προστίθεσθαι τὴν ἡμέρην. Translation: ‘With emollient pessaries... Or fifteen shelled grains <of Cnidus>, let there also be, if it seems necessary, a portion of Indian <remedy; i.e. pepper>; crush in the milk of a woman who has borne a boy. Add deer marrow and all the other <ingredients> as it was said; mix with a little honey. Let the wool be soft and clean; apply for the day.’

<sup>70</sup> On the use of γράφω in the Hippocratic Corpus, see Usener (1990).

<sup>71</sup> See Thomas (2003) on ‘publications’ of oral lectures.

<sup>72</sup> *Mul.* 2.154 (L8.330.9-10). Translation: ‘And let her eat mercury and drink milk afterwards, as written <in the chapter on the displacement> to the womb.’

<sup>73</sup> L8.278-280.

<sup>74</sup> *Mul.* 2.110 (L8.236.5-6). Translation: ‘Give to drink, in the morning, a remedy against fluxes, as I will write.’

<sup>75</sup> L8.370-374.

summer, reference is made to the *Pharmakitis* in the following manner: διδόναι δὲ τοῖσι τὰ τοιαῦτα ἀλγήματα ἀλγέουσι· καὶ τῶν φαρμάκων ἃ γέγραπται τῆς ὀδύνης παύοντα ἐν τῇ Φαρμακίτιδι.<sup>76</sup>

Hippocratic compilers refer to their descriptions of therapies and to their catalogues of recipes as written artefacts to be consulted by their readers; these compilers do not utter recipes, they write them down. Pharmacological knowledge was certainly transmitted orally in the ancient world, but not in the form of recipes; instead it was transmitted through apprenticeship, through training which involved the actual preparation of the drugs. Recipes are a written genre; they cannot be easily delivered orally as part of medical lectures.

The written format of the recipes is a cultural product that deserves to be studied from a linguistic point of view.

## ***2.4 Linguistic approaches to recipes and catalogues of recipes***

Having outlined the problems posed by interpreting the Hippocratic recipes as the unbiased reflection of an oral tradition, I will now present recipes and catalogues of recipes as written artefacts. I start at the level of the recipes and introduce recent studies on recipes as text-types. I then turn to catalogues of recipes, basing myself on recent work on discourse colonies.

### ***2.4.1 Recipes as text-types***

In general, the formal characteristics of ancient technical texts have been neglected by both historians and grammarians, as pointed out by Philip van der Eijk:

Ancient technical writings have been studied almost exclusively with a view to their scientific or philosophical content, their form was considered to be irrelevant to their interpretation and unimportant from a literary or linguistic

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<sup>76</sup> *Aff.* 15 (Potter 28.3-5; L6.224.6-8). Translation: 'Give to those suffering this kind of pains also, among the remedies prescribed in the *Pharmakitis*, those which stop the pain.' See Chapter Three, Section Four for more details on the *Pharmakitis*.

point of view, since they were thought to lack any significant degree of linguistic or stylistic organization.<sup>77</sup>

However, recipes are – to a certain extent – an exception to this rule, having benefited from the thorough study of Goltz on Akkadian and Hippocratic *Rezepte* (*Studien zur altorientalischen und griechischen Heilkunde. Therapie – Arzneibereitung – Rezeptstruktur*, 1974). Insights into the formal characteristics of recipes are also offered by the studies of Ruth Carroll (1999), Manfred Görlach (1992), Jerry Stannard (1982), and Irma Taavitsainen (2001).

Goltz deplored the fact that recipes had not been the object of literary or historical studies despite the existence of the word *Rezeptliteratur* (recipe literature) in the German vocabulary.<sup>78</sup> Her book goes a long way towards the linguistic description of Mesopotamian and Hippocratic *Rezepte*, and to a lesser extent to their historical interpretation. The German word ‘*Rezept*’ is not the exact equivalent of the English ‘recipe’ and may extend to the notion of ‘prescription’. Goltz identifies four possible constitutive elements of each Greek *Rezept*: the ‘indication’ (*Indikation*), the ‘therapy’ (*Therapie/Rezeptur*), the ‘application’ (*Anwendung*), and the ‘prognostic’ (*Prognose*).<sup>79</sup> My study is limited to recipes in the English sense of the word, and does not include considerations on prognostic.

Stannard (1982) describes medieval recipes as containing six classes of *Fachinformation*: 1) the purpose of the recipe; 2) requisite ingredients and equipment; 3) rules of procedure, 4) application and administration, 5) rationale and 6) incidental data. Most of these classes are found in the Hippocratic recipes which are usually constituted of 1) a heading including information on the purpose and/or on the type of medication the recipe is describing; 2) a list of requisite ingredients and sometimes mentions of the utensils involved in the preparation of the recipe; 3) rules of procedure; 4) indications for the application/administration; and 5) (rarely)

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<sup>77</sup> Van der Eijk (1997): 81.

<sup>78</sup> Goltz (1974): 303.

<sup>79</sup> Goltz (1974): 102.



incidental data.<sup>80</sup> The rationale for the efficacy of the medication is never expressed in the Hippocratic recipes.

Stannard considered medieval medicinal, culinary and *secreta* recipes as ‘species’ of *Fachliteratur*, ‘insofar as they have as their common aim the transmission of practically useful information.’<sup>81</sup> The word ‘species’ chosen by Stannard is slightly awkward, and might reflect an uneasiness *vis-à-vis* the use of theory-laden words such as ‘genre’.

The label ‘text-type’ – a recent addition to the instrumentarium of linguistics – has been applied to recipes by Görlach, Carroll and Taavitsainen. The notion of ‘text-type’ was constructed as an alternative to the notion of literary genres. Indeed, literary genres constitute only a small proportion of written texts, but have received more attention than texts such as telegrams, addresses of welcome, recipes or limericks, to mention only a few examples.<sup>82</sup> These neglected texts can be grouped under the label of text-type, which Görlach defines as follows:

A text-type is a specific linguistic pattern in which formal/structural characteristics have been conventionalized in a specific culture for certain well-defined and standardized uses of languages so that a speaker/hearer or writer/reader can judge: a) the correct use of linguistic features obligatory or expected in a specific text type; b) the adequate use of the formula with regard to topic, situation, addresses, medium, register, etc.; c) the identification of intentionally or inadvertently mixed types, or their misuse; d) the designation of text types.<sup>83</sup>

In Görlach’s definition, the most important features of the text-type are linguistic features (a). All the other features – social features (b), technical features (c), and

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<sup>80</sup> Incidental data will not be considered here. Barras (2004): 96 enumerates three constants in the recipes of the Hippocratic Corpus: the purpose of the recipe; the ingredients; and the rules of procedures. He does not mention the information pertaining to the application/administration of the drug.

<sup>81</sup> Stannard (1982): 59.

<sup>82</sup> Görlach (1992): 737.

<sup>83</sup> Görlach (1992): 738-739.

features relating to text-type (d) – are secondary.<sup>84</sup> Other scholars have gone even further in considering that text-types are defined by linguistic features only.<sup>85</sup>

Although the notion of text-type was constructed in opposition to literary genres, Görlach notes that ‘a particular type of text can be included in the “genre” column... if there is an established convention’.<sup>86</sup> Taavitsainen, for instance, has argued that recipes constituted a genre, if a functional definition of genres is adopted.<sup>87</sup> The function of medical recipes is indeed clear and has remained stable over time: transmitting information for the preparation of remedies. In the following paragraphs, I describe the information contained in the Hippocratic recipes, focusing on their text-type (linguistic) characteristics.

#### a) Heading: Purposes of the recipes and types of medications

Hippocratic recipes are introduced by a heading or rubric indicating the purpose of the remedy and/or the form in which the remedy has to be administered (pessary, drink, etc.).

The purpose of the recipe is generally expressed in a conditional clause of the type ‘if this disease/problem arises’: Ἦν δὲ γυνὴ μὴ δύνηται τίκτειν πρόσθεν τίκτουσα, νίτρον καὶ ῥητίνην καὶ σμύρναν καὶ κύμινον Αἰθιοπικὸν καὶ μύρον τρίβειν ἐν τωὺτῳ, καὶ προστίθεσθαι.<sup>88</sup> The recipe follows, without any break, a conditional sentence briefly describing the ailment to be treated.

If the recipe is embedded in a nosological paragraph, this recipe is introduced by a phrase of the type ‘when it is like this’: Ἐτέρη κονάγχη· ...[description of the disease] Ὅταν οὕτως ἔχη, τρίψας μίνθην χλωρὴν καὶ σέλινον καὶ ὀρίγανον καὶ

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<sup>84</sup> See also Carroll (1999) 28. Görlach and Carroll retain eight linguistic features for the study of culinary and medical recipes in English: 1) form of the heading; 2) degree of ellipsis in sentences; 3) forms of verbs used; 4) use of possessive pronouns; 5) deletion of objects; 6) temporal sequence and adverbs; 7) complexity of sentences; and 8) loanwords or genteel diction.

<sup>85</sup> See Carroll (1999): 28.

<sup>86</sup> Görlach (1992): 739.

<sup>87</sup> Taavitsainen’s work is based on Tzvetan Todorov’s interpretation of genres.

<sup>88</sup> *Mul.* 1.75 (L8.164.17-19). The heading is indicated in bold in this example and those following. Translation: ‘**If a woman who has borne a child previously cannot bear a child:** soda, resin, myrrh, Ethiopian cumin, and perfume. Crush all together and apply.’ On these conditional clauses, see DiBenedetto (1986): chapter 4; Goltz (1974): 107 and 157.

λίτρον καὶ τῆς ρόου τῆς ἐρυθρῆς, μέλιτι διείς, παχὺ ποιέων, ἐσχρίειν τὴν γλῶσσαν ἔσωθεν ἢ ἂν οἰδῆ.<sup>89</sup>

The phrase introducing a recipe within a chapter on a particular disease may include a pronoun referring to the person to be treated. In the gynaecological treatises, this pronoun is generally a dative: Ἦν ρόος ἐν τῆσι μήτρησιν ἐγγένηται, αἷμα ῥέει πολλόν... [description of the disease] **Ταύτη, ὁκόταν ὧδε ἔχη**, ὄλυνθον ξηρὴν κόψας καὶ διασήσας ἐς ὀθόνιον ἐνδῆσαι καὶ προσθέσθαι.<sup>90</sup>

On the other hand, in *Internal Affections*, this pronoun is generally an accusative: Ἦν δ' ἐρυσίπελας ἐν τῷ πλευρόνι...[description of the disease] **Τούτον, ὅταν οὕτως ἔχη**, ὧδε μελετᾶν· μίξας γάλα καὶ μέλι καὶ ὄξος καὶ ὕδωρ, ταῦτα ἐγχέας εἰς χυτρίδα...<sup>91</sup>

Conditional rubrics of this type do not appear in later recipes; they are signs of the archaicity of the Hippocratic recipes. However, I have argued earlier that these rubrics cannot be read as a 'sign of orality' of the Hippocratic recipes.

In other cases, Hippocratic recipes are introduced by a phrase describing the efficacy of the remedy in a more direct way: through an indicative clause or a noun phrase.

Indicative clause: **Λοχεῖα καθαίρει**· ἐρύσιμον τριῖβε ἡσύχως, καὶ ἀναφυσᾶν θέλε τὸ κέλυφος...<sup>92</sup>

Noun phrase: **Πειρητήριον**· μάλυζαν σκοροῦδου ἀποζέσας προσθεῖναι.<sup>93</sup>

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<sup>89</sup> *Morb.* 2.28 (Jouanna 163.14-164.3; L7.46.1 and 3-6). Translation: 'Another sore throat... **When it is like that**, crush green mint, parsley, oregano, soda, red sumach, soak with honey; make <the preparation> thick. Anoint the tongue inside where it is swollen.'

<sup>90</sup> *Mul.* 2.112 (L8.240.5 and 13-14). Translation: 'If a flux occurs in the womb, blood flows abundantly... **For her, when it is like that**, chop a dry winter fig, sieve, tie into a cloth and apply.'

<sup>91</sup> *Int.Aff.* 6 (Potter 88.19-20 and 90.18-20; L7.180.3 and 19-21). Translation: 'If there is an *erysipelas* in the lung... **For him, when it is like that**, administer a treatment in this way: mix milk, honey, vinegar, and water; pour these in a pot...' On the use of this formula see Goltz (1974): 111; Jouanna (1974): 288, note 1.

<sup>92</sup> *Mul.* 1.78 (L8.174.13-14). Translation: '**Purges the lochia**: crush gently hedge-mustard, and remove the shell by blowing...'

<sup>93</sup> *Mul.* 1.78 (L8.178.14-15). Translation: ' <sup>κεῖνος ἐστὲς τῆς</sup> boil a clove of garlic; apply.' A medication can be: ἄδηκτον, χοληγόν, ψυκτικόν, κοῦφον, στρυφνόν, καθαρτήριον, καθαρτικόν, μαλθακτήριον, ὑστερικόν, κωτερικόν, οὐρητικόν, στυπτικόν, φάρμακον κάτω, φάρμακον ἄνω.

Noun phrases are sometimes accompanied by a prepositional phrase describing the action of the medication: 'Ἔτερα μαλθακά, ὑφ' ὧν καθαίρεται ὕδωρ καὶ αἷμα, καὶ ἐπιμήνια ἄξει, εἰ μὴ πουλυχρόνια ἦ, καὶ τὸ στόμα μαλθάσσει· [a list of pessaries follows].'<sup>94</sup>

When a catalogue includes several recipes for the same purpose, only the first recipe has a rubric; the following recipes are introduced by the conjunction ἢ (or), by the adjectives ἄλλον or ἕτερον (another) or by expressions such as τὸν αὐτὸν τρόπον (in the same way).<sup>95</sup>

The rubrics introducing the Hippocratic recipes sometimes indicate the form in which the remedy has to be administered, as in the following example: **Προσθετά**· σκορπίου θαλασσίου τὴν χολὴν ἐν εἰρίῳ τιθεῖς καὶ ξηρήνας ἐν σκιῇ προστίθει.<sup>96</sup> The Hippocratic treatises include recipes for external medications (ointment, cataplasm, plaster), oral medications (drink, electuary, pill, toothpaste), vaginal and rectal medications (enema, infusion, pessary, suppository), and for fumigations, fomentations and inhalations.<sup>97</sup>

## b) Requisite ingredients and utensils

The ingredients listed in the Hippocratic recipes are mainly vegetal, although mineral and animal ingredients are sometimes used.<sup>98</sup> Many of the ingredients are qualified with an adjective: adjective of colour, of odour, of taste, of age, of size or

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<sup>94</sup> Ἐκβόλιον, ὠκυτόκιον, ἀτοκίον, κυτήριον, πειητήριον, κατασπαστικόν, ὀφθαλμικόν. See Goltz (1974): 156; 160; 169-170.

<sup>95</sup> *Nat. Mul.* 32 (Trapp 96.8-9; L7.364.8-9). Translation: 'Other softening <remedies> by which water and blood is purged, which draw the menses, if they have not occurred for a long time, and which soften the mouth.'

<sup>96</sup> On ways to separate recipes within a catalogue, see also Chapter Six.

<sup>97</sup> *Mul.* 1.78 (L8.178.17-18). Translation: 'Pessaries: place the bile of maritime scorpion in wool, dry in the shade; apply.' The different types of medications for which we have recipes in the Hippocratic Corpus are listed and well described by Goltz (1974): 197-237. See Appendix Two for a classification of the recipes according to types. Numbers should be taken only as indications.

<sup>98</sup> The difference between fomentation and fumigation is not always clear in the texts. See Gourevitch (1999): 208.

<sup>99</sup> For studies of particular ingredients in the Hippocratic Corpus, see Byl (1999): honey; Girard (1988); (1990): hellebore; Jouanna (1996): wine; López Salvá (1992): milk; Moisan (1990b): narcotic plants; Villard (1993): earth; Villard (1997); (1999): wine in gynaecological treatises.

of provenance.<sup>99</sup> Pieces of equipment necessary for the preparation or administration of the remedies are rarely mentioned in the Hippocratic recipes.<sup>100</sup>

The Hippocratic recipes are generally short, containing on average four to five ingredients, to which a vehicle is added. Hippocratic recipes with more than six ingredients are extremely rare. Polypharmacy, i.e. the multiplication of the number of ingredients in compound drugs, only became a general trend in Greek medicine in the first century BC.<sup>101</sup>

If all the ingredients have to be accommodated in the same way, they are usually listed at the beginning of the recipe, linked by the conjunction καὶ (and) or in asyndeton:

Linked by a conjunction: Ἡ ἀβροτόνου δραχμὴν καὶ κεδρίδας καὶ ἄνησον ἐντρίψας ἐν γλυκέος οἴνου κυάθῳ, παραχέας ὕδατος παλαιοῦ κύαθον, δὸς πειν·

In asyndeton: Ἡ δικτάμνου ὀβολόν, σμύρνης ὀβολόν, ἀνήσου δύο ὀβολούς, νίτρου ὀβολόν· ταῦτα τρίψας λεία, γλυκέος οἴνου ἐπιχέας κύαθον καὶ ὕδατος θερμοῦ κυάθους δύο, δὸς πειν.<sup>102</sup>

If the ingredients have to be accommodated in different ways, the recipe assumes the form of short clauses, each describing the way in which ingredients have to be prepared, in chronological order: Μετὰ δὲ πινέτω ὀρίγανον καὶ γλήχωνα

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<sup>99</sup> On adjectives of odour, see Byl (1989); on adjectives of provenance, see Chapter Five.

<sup>100</sup> See Chapter Six, Section Three for more details.

<sup>101</sup> Although Mantias (c. 165–90 BC), physician of the school of Herophilus, was referred to in antiquity as the first great writer on compound drugs (see von Staden (1989): 515-518) such remedies do not seem to have had much success before the first century BC, and Aelius Gallus' expedition to Arabia (26–25 BC).

<sup>102</sup> Both recipes *Mul.* 1.77 (L8.170.11-17). Translation: 'Or one *drachma* of wormwood, juniper-berries, aneth; crush in a *kyathos* of sweet wine, pour a *kyathos* of old water. Give to drink. Or an *obolos* of dittany, an *obolos* of myrrh, two *oboloi* of aneth, an *obolos* of soda; crush these well, pour a *kyathos* of sweet wine and two *kyathoi* of warm water. Give to drink.' On the grammatical links between ingredients in recipes, see Goltz (1974): 175.

καὶ ἄλφειτον ἐν ὕδατι, ἐπιπάσσουσα δάφνης φύλλα κεκομμένα καὶ τετριμμένα λεῖα, κόμμι παραμίξας, καὶ διεῖς ὕδατι, πίνειν διδόναι.<sup>103</sup>

Choices of ingredients are often offered in Hippocratic recipes, indicating a sensibility to the problem of availability, as in this example where a choice between goat's or donkey's milk is offered: Σίδια δριμέα ἐκχλώσας καὶ κυκλάμινον – ὅσον ὀξύβαφον τῶν σμικρῶν ἑκατέρου ἔστω –, ἔπειτα ὀπὸν σιλφίου τρίψας ὅσον κύαμον, διεῖναι καὶ συμμίξαι γάλακτος ὅσον ὀξύβαφον αἴγειον ἢ ὄνειον, τοῦτο χλιερὸν ἐγγεῖν.<sup>104</sup>

A variety of systems are used to express the quantities required for the preparation of the drugs. The main measure of capacity used is the κοτύλη, its subdivisions and multiples (κόγχη: half of a κυάθος; κυάθος: sixth part of the κοτύλη; ὀξυβάφον: fourth part of the κυάθος; χοῦς or χοεύς: twelve κοτύλαι). Other measures of capacity used are the χοῖνιξ (a dry measure, used especially for grains); the ἐμβάφιον (a measure equivalent to the ὀξυβάφον); the κύλιξ (wine cup used as a measure); the σκάφισ (a drinking vessel used as a measure); and the χηραμίς (a scallop-shell used as a measure).<sup>105</sup> The main measure of weight used is the δραχμά and its subdivisions (ὀβολός: one sixth of the δραχμά); but the λεκίσκον (small measure of weight); the στατήρ; and the σταθμός are also employed.<sup>106</sup> The measure of length used is the δάκτυλος (finger). Some of these weights and measures are accompanied by the geographical epithets Ἀττικός (Attic) or Αἰγιναιῖος (Aeginetan); but most of the time, the geographical epithet is not given.

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<sup>103</sup> *Steril.* 242 (L8.456.12-14). Translation: 'After this, let her drink oregano, pennyroyal, and barley-meal in water, sprinkle with leaves of laurel chopped and well crushed, mix with gum, and soak with water; give to drink.'

<sup>104</sup> *Morb.* 2.47b (Jouanna 180.7-10; L7.68.1-4). Translation: 'Squeeze out the juice of sharp pomegranate peels and cyclamen, let there be a small *oxybaphon* of each. Then crush the juice of silphium, in the amount of a bean. Soak, add an *oxybaphon* of goat's or donkey's milk; inject this lukewarm.'

<sup>105</sup> Χοῖνιξ: see for instance *Nat.Mul.* 34 (Trapp 102.2; L7.376.2); ἐμβάφιον: see for instance *Mul.* 1.75 (L8.162.1); κύλιξ: see for instance *Nat.Mul.* 63 (Trapp 114.9; L7.400.9); σκάφισ: see for instance *Morb.* 2.64 (Jouanna 203.14; L7.98.19); χηραμίς: see for instance *Morb.* 3.16 (Potter 92.17; L7.150.5).

<sup>106</sup> Λεκίσκον: see for instance *Mul.* 1.109 (L8.232.17); στατήρ: see for instance *Nat.Mul.* 32 (Trapp 88.1; L7.348.1); σταθμός: see for instance *Nat.Mul.* 34 (Trapp 100.9; L7.372.9).

The required volume of an ingredient could also be expressed in terms of pinches, or palms;<sup>107</sup> in terms of beans, vetches, galls, and olives;<sup>108</sup> or in terms of proportions.<sup>109</sup>

Sometimes, the part of the plant to use is specified (root, leaves, etc.). In any case, there is no attempt at standardization, and often no quantities are specified.<sup>110</sup>

### c) Rules of procedure

The rules of procedure (i.e. the information on how to prepare the ingredients of a recipe) are usually spelled out in the Hippocratic recipes, even if they are extremely simple:

Καθαρτήριον ὑστερέων· τοῦ ῥοῦ τὰ φύλλα καὶ ἐρύσιμον λεῖα ποιήσας ἐν οἴνω, ἄλφιτα ἐπιβάλλον, δίδου πιεῖν.

Ἔτερον· μίσκος ὅσον δύο ὀβολοὺς τρίψας ἐν οἴνω, φυρήσας προσθεῖναι.

Ἔτερον· λίνου καρπὸν τρίψας ἐν οἴνω φυρήσας προσθεῖναι.

Ἔτερον· τριφύλλου τὸν καρπὸν ἐν οἴνω πιεῖν δοῦναι.<sup>111</sup>

The last recipe in this list does not give any rules of procedure; the seed of clover had to be prepared in the same way as the linseed of the previous recipe.

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<sup>107</sup> Pinch, ὅσον τοῖσι τρισὶ δακτύλοισι (literally: with three fingers): see for instance *Mul.* 1.34 (L7.80.22); palm, ὅσον παλαιστήν: see for instance *Mul.* 1.80 (L8.200.4).

<sup>108</sup> Bean, ὅσον κύαμος: see for instance *Mul.* 1.46 (L8.106.3); bitter vetch, ὅσον ὄροβον: see for instance *Mul.* 1.81 (L8.202.11); oak-gall, ὅσον κικίδα: see for instance *Mul.* 1.81 (L8.202.11); olive, ὅσον ἔλαιν: see for instance *Mul.* 1.91 (L8.218.13).

<sup>109</sup> See for instance *Nat.Mul.* 34 (Trapp 101.9-11; L7.374.9-11): Ἐρεβίνθους λευκοὺς δύο τρίψας, τῆς δὲ σταφίδος τρίτον, ἐπιχέας ἡμισυ ὕδατος, ἐνεψεῖν, ἔπειτα ἀποχέας, ἐς τὴν αἰθρίην θεῖναι, καὶ τῇ ὑστεραίῃ δοῦναι πῖν. Translation: 'Crush two parts of white chickpeas, a third of raisins, pour half a part of water on this, boil; then pour off, expose to the clear, cold air of the night, and give to drink the next day.'

<sup>110</sup> See Chapter Six, Section Three for more details.

<sup>111</sup> *Nat.Mul.* 32 (Trapp 91.12-17; L7.354.12-17). The rules of procedures are underlined once and the application/administration verb is underlined twice in this example and those following. Translation: 'Purgative of the womb: leaves of sumach and hedge-mustard, crush well in wine, add barley-meal; give to drink. Another: crush two *oboloi* of *misys* in wine, knead; apply. Another: crush linseed in wine, knead; apply. Another: seed of clover in wine; give to drink.'

Ingredients in the Hippocratic recipes have to be dried (ξηραίνω, αυαίνω), roasted (φώγω, φρύγω, ὀπτάω, καίω, κατακαίω), melted (τήκω), chopped (κόπτω), crushed (τρίβω, λειαίνω), ground (ἐρείκω, ἀλέω), sifted (σήθω, κατασήθω, διασήθω, διαπτάω), their juice has to be squeezed out (ἐκχυλίζω, χυλόω, ἐκθλίβω, ἐκπιέζω). These ingredients are mixed together (μίσγω, μείγνυμι, κεράω, κεράννυμι), a liquid vehicle is poured onto them (χέω, περιχέω, ἐπιχέω, παραχέω, ζυγχεῖω) or they are steeped in liquid (ἀναδεύω, διήμι, βρέχω, σβέννυμι). Semi-solid preparations are kneaded (δεύω, φυράω). Liquid preparations are stirred (ἀναταράσσω, ἀνακινέω), boiled (ἔψω, ἀφέψω, συνέψω), heated up (ζέω, ἀναζέω), left to cool down (χλιαίνω, ἀναχλιαίνω, παραχλιαίνω), and filtered (ἠθέω, ἀπηθέω, διηθέω). The liquid that has served for boiling is sometimes completely poured off (ἀποχέω) and preparations are sometimes exposed to cold air of the night (πρὸς τὴν αἰθρίην).<sup>112</sup>

One of the most pervasive features of the Hippocratic recipes (and of most recipes) is that they are composed of short clauses organised in a sequence corresponding to the order in which the procedures have to be executed. Adverbs such as εἶτα and ἔπειτα (then) reinforce this feeling of ‘experiential iconicity’.<sup>113</sup> The time necessary for some procedures is sometimes specified:

Ἴν τὰ ἐπιμήνια μὴ γίνηται ἐν τῷ καθεστηκότι χρόνῳ, κράμβης πέταλα καὶ πήγανον τρίψας λεία, ἔπειτα ἄχυρα ἀπὸ τῶν κριθῶν ὅσον χοίνικα βρέξας ὡς ἂν τέγγηται, ἐξαιθρίασον· ἔωθεν δὲ ἀπηθήσας ὅσον κοτύλην, διεῖναι τὴν κράμβην καὶ τὸ πήγανον, ἔλαιον ἐπιχέας, ἀναταράξας δοῦναι πιεῖν.<sup>114</sup>

<sup>112</sup> For a list of rules of procedure, see Goltz (1974): 179-194. For the vocabulary of boiling and roasting in the Hippocratic Corpus, see Tacchini (1999).

<sup>113</sup> See Taavitsainen (2001).

<sup>114</sup> *Nat.Mul.* 59 (Trapp 113.7-11; L7.398.7-11). Temporal indications are marked by dashed underlining in this example. Translation: ‘If the menses do not occur at the fixed time: leaves of



From a grammatical point of view, the rules of procedures are expressed by verbs subordinate to the main verb of the recipe: the application/administration verb. These rules of procedures are expressed through a variety of grammatical forms: 1) imperatival infinitives, 2) participles (mostly aorist) and, more rarely, 3) imperative second person singular.<sup>115</sup>

1) Imperatival infinitives: Ἡ δάφνης καὶ μυρσίνης φύλλα κόψαι καὶ κυπέρου καρπὸν, ὀργάσασθαι Αἰγυπτίῳ λευκῷ μύρῳ καὶ νετόπῳ, καὶ ἐπὶ βολβίτῳ θυμία.<sup>116</sup>

2) Participles: Ἦν ἀφθήση τὰ αἰδοῖα, μύρα ἐψησας ἐν οἴνῳ διακλυζέσθω τὰ αἰδοῖα.<sup>117</sup>

These participles are usually in the active voice, although participles in the middle voice are sometimes used, as in this example: Κλύσματα πρὸς τὰ παλαιὰ ἔλκεα· χυλῷ κράμβης ἐψημένης κλύζειν.<sup>118</sup>

When the administration/application verb is an imperatival infinitive, the procedure participles can be either in the nominative or, more rarely, in the accusative, as in the following example: Ἄλλο· μώλυζαν σκορόδου περικαθήραντα τὴν κεφαλὴν, ἀποκνίσαντα, προσθεῖναι πρὸς τὴν ὑστέρην...<sup>119</sup>

The manuscripts of the gynaecological treatises sometimes have feminine participles, either in the nominative or in the accusative:

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cabbage and rue; crush well. Then steep a *choenix* of barley chaff until it is wet; place in the clear, cold air of the night. In the morning filter one *kotyle* <of this preparation>. Soak the cabbage and the rue <with this>, pour olive oil, stir and give to drink.'

<sup>115</sup> On the forms of these verbs, see Jouanna (1983): 20, note 1; Goltz (1974): 177-179.

<sup>116</sup> *Mul.* 2.206 (L8.398.17-19). Translation: 'Or chop the leaves of laurel and myrtle, and the seed of cyperus, moisten with Egyptian white perfume and oil of bitter almonds; fumigate on cow's dung.'

On the imperatival infinitive, see Gildersleeve (1902): 131; Goltz (1974): 113.

<sup>117</sup> *Nat.Mul.* 60 (Trapp 113.15-16; L7.398.15-16). Translation: 'If the genitals are ulcerated: boil myrtle bays in wine; let her wash her genitals <with this preparation>.'

<sup>118</sup> *Mul.* 1.78 (L8.192.16-17). Translation: 'Injections against old ulcerations: boil the juice of cabbage; inject.'

<sup>119</sup> *Steril.* 214 (L8.416.2-4). Translation: 'Another: Having washed and peeled a head of garlic, apply to the womb...'

Nominative: Διεκβόλιον, ἣν ἀποθάνη τὸ ἔμβρυον· χαλβάνης ὅσον ἐλαίην ἐνελίξασα ἐς ὀθόνιον, ἐς κέδριον ἐμβάψασα, προστιθέσθω πρὸς τὸ στόμα τῆς μήτρης.<sup>120</sup>

Accusative: Ἐκβόλιον· σικύου ἀγρίου τὸν ὀπὸν, ὅσον πόσιν, ἐς μάζαν ἐμπάσασαν, προσθεῖναι, προνηστεύσασαν ἐπὶ δύο ἡμέρας.<sup>121</sup>

3) Imperative second person singular: imperatives are usually used in conjunction with participles, as in this example: Προθετὸν ἄλλο καθαρκτικὸν, ἣν τὰ γυναικεῖα μὴ φαίνηται· στύρακα καὶ ὀρίγανον τριψας λείον καὶ ξυμμίξας, ἐπίχεε χηνὸς ἔλαιον, καὶ προστίθει.<sup>122</sup>

There is a strong absence of any formulaic aspect in the use of these grammatical forms, which, it seems, can be used almost interchangeably, as in this example, which has one imperatival infinitive, two participles (one masculine and one feminine), and one imperative second person singular:

Ἐκβόλιον προσθετὸν· ἄλας Αἰγυπτίους, καὶ μυόχοδα καὶ ἀγρίην κολοκύντην, καὶ μέλιτος ὅσον τεταρτημόριον ἐπιχεῖν ἡμίεφθον, καὶ λαβὼν ῥητίνης δραχμὴν μίην, ἔμβαλε ἐς τὸ μέλι καὶ τὴν κολοκύντην καὶ τὰ μυόχοδα, ξυντρίψασα πάντα καλῶς, καὶ ποιήσασα βαλάνους, πρὸς τὴν μήτρην προσθέσθω, ἕως ἂν δοκῆ καιρὸς εἶναι.<sup>123</sup>

Moreover, there are many grammatical variations in the manuscripts of the Hippocratic nosological and gynaecological treatises. As pointed out above, it is

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<sup>120</sup> *Mul.* 1.91 (L8.218.13-15): Translation: ‘Expelling, if the embryo has died < inside the womb>: galbanum, in the amount of an olive; wrap in a cloth and soak in cedar oil. Let her apply it to the mouth of the womb.’

<sup>121</sup> *Nat.Mul.* 95 (Trapp 120.16-17; L7.412.15-16). Translation: ‘Expelling: juice of wild cucumber, one draught; knead into a dough. Apply after a fast of two days.’

<sup>122</sup> *Mul.* 1.74 (L8.156.18-20.). Translation: ‘Other purgative pessary, if the menses do not appear: crush well styrax and oregano, mix, pour goose oil; apply.’

<sup>123</sup> *Mul.* 1.78 (L8.188.8-13), also quoted by Goltz (1974): 178. Translation: ‘Expelling pessary: Egyptian salt, mouse’s dung, wild gourd; pour a quarter of half-boiled honey. Take a *drachma* of resin; add it to the honey, the gourd and the mouse’s dung. Crush well all these, make pessaries; let her apply to the womb as long as it seems suitable.’

almost as if grammar did not matter much to those who copied the Hippocratic recipes.

#### d) Application and administration

From a grammatical point of view, the application/administration verb is the main verb of the recipe.<sup>124</sup> This verb is usually found at the end of the recipe, providing us with an easy way to determine where the recipe stops: Προσθετόν· Αἴγυπτίνην στυπτηρίην μαλαθακὴν εἰρίῳ περιειλήσασα προστιθέσθω. Πόσθετον· ἀρτεμισίην τρίψασα ἐν οἴνω λευκῷ δεύσασα προστιθέσθω.<sup>125</sup>

To indicate where a recipe ended, and where another started, was particularly important in a writing system that hardly made use of punctuation.<sup>126</sup> Sometimes, however, the application verb is situated at the beginning of the recipe. This usually does not happen in the catalogues of recipes but in the chapters on particular illnesses containing only a small number of recipes, as in this example taken from *Diseases of Women* 2.117, a chapter on the white flux: ὑποκάπνιξε δὲ ζειὰς καὶ ὀλύνθους χειμερινούς καὶ ἐλαίης πέταλα καὶ ψώρας, καὶ σικύης λέμματα τρίτον μέρος, τὰ δ' ἄλλα ἴσον.<sup>127</sup>

In *Diseases II* and *Internal Affections* the application verb sometimes appears twice, once at the beginning, once at the end of the recipe:

Τῆς δὲ ὀδύνης ἔνεκα τάδε χρὴ δίδόναι πίνειν· ἀλεκτορίδος ὠοῦ ἐφθοῦ τὸ ὠχρὸν τρίψας, παραχέαι στρύχνου χυλοῦ ἡμικοτύλιον καὶ μελίκρητον ἐπιχέαι ἐν ὕδατι πεποιημένον ἥμισυ ἡμικοτύλιου, τούτοισι διεὶς διδόναι

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<sup>124</sup> For a list of these verbs, see Appendix Two.

<sup>125</sup> *Superf.* 35 (Lienau 94.24-26; L8.506.8-10). The application/administration verb is underlined twice in this example and those following. Translation: 'Pessary: soft Egyptian alum; wrap up in wool. Let her apply it. Pessary: crush wormwood, pour white wine; let her apply it.'

<sup>126</sup> See Chapter Six, Section Two for more details.

<sup>127</sup> *Mul.* 2.117 (L8.254.1-2). Translation: 'And fumigate spelt, winter figs, leaves and gall of olive-tree, one third of peeled rind of cucumber, for the rest the same amount.'

πίνειν, καὶ παύσεις τὴν ὀδύνην· διδόναι δὲ ἐκάστης ἡμέρης, τέως ἂν ἡ ὀδύνη παύσῃται.<sup>128</sup>

In long catalogues of recipes, the application/administration verb can be replaced by an expression meaning ‘in the same way’: ...ταῦτα ἐν οἴνω λευκῶ ἡδυόδμῳ μάλιστα νήσται διδόναι· ἢ δαύκου ῥίζην Αἰθιοπικοῦ, σέσελι, γλυκυσίδης ῥίζην τὸν αὐτὸν τρόπον· ἢ ἵποσελίνου καὶ δαύκου Αἰθιοπικοῦ καρπὸν ὡσαύτως.<sup>129</sup>

Times of applications and number of times of application are sometimes mentioned. In the gynaecological treatises, remedies are often applied or administered after a bath and/or whilst fasting:

Ἄγει ἐξ ὑστερέων καὶ τὸ στόμα μαλθάσσει· νάρκισσος, κύμινον, σμύρνα, λιβανωτὸς, ἀψινθίον, κύπειρος, αὐτὰ ταῦτα καθ’ ἑωυτὰ καὶ ζὺν ῥοδίνῳ ἢ λευκῶ ἐλαίῳ, προσθέσθω δὲ λουσαμένη.<sup>130</sup>

Ἄλλο· καρκίνους ποταμίους πέντε καὶ λαπάθου καὶ πηγάνου ῥίζαν, καὶ αἰθάλην ἀπὸ τοῦ ἵππου τρίψασα ὁμοῦ πάντα καὶ ἐνώσασα ἐν μελικρήτῳ, ὑπαίθριον θεῖσα, πινέτω νήστις τρίς.<sup>131</sup>

As in the case of the instruction verbs of the Hippocratic recipes, the application verbs can assume different grammatical forms:<sup>132</sup>

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<sup>128</sup> *Aff.Int.* 27 (Potter 166.9-15; L7.238.3-7). Translation: ‘For the pain it is necessary to give this to drink: crush the white of a boiled fowl’s egg, pour half a *kotyle* of juice of nightshade and add one quarter of a *kotyle* of *melikraton* mixed with water. Let them stand and soak; give to drink and it will stop the pain. Give every day until the pain stops.’

<sup>129</sup> *Mul.* 1.34 (L8.82.1-4). Translation: ‘Give these <ingredients>, especially whilst fasting, in sweet-smelling white wine. Or root of Ethiopian *daukos*, hartwort, and root of peony in the same way. Or seed of alexanders and Ethiopian *daukos* in like manner.’

<sup>130</sup> *Mul.* 2.205 (L8.394.14-16). Translation: ‘Brings <things> out of the womb and softens the mouth <of the womb>: narcissus, cumin, myrrh, frankincense, wormwood, cyperus; these <ingredients> mixed together and with rose oil or white oil. Let her apply it after a bath.’

<sup>131</sup> *Mul.* 1.91 (L8.220.3-6). Translation: ‘Another: five river crabs, root of *lapathon* and rue, and soot from the oven; crush these together and mix to *melikraton*, place in the clear, cold air of the night. Let her drink this three times whilst fasting.’

<sup>132</sup> See Jouanna (1983): 20-21.

- 1) Imperative infinitive: Ἔτερον καθαρτικόν· κνίδης καρπὸν καὶ μαλάχης χυλὸν ἐν χηνὸς στέατι τρίψαντα προσθεῖναι.<sup>133</sup>
- 2) Imperative second person singular: Ἦ ἀλήτου σητανίου ὀξύβαφον, κόμμεως λευκοῦ ἥμισυ, μάννης τρίτον μέρος, καὶ σχοίνου ὀλίγον, ἢ πίτυος, ἢ κυπαρίσσου διεῖς ὕδατι πίνειν δίδου δις τῆς ἡμέρης.<sup>134</sup>
- 3) Imperative third person singular: Ἦ γλήχωνα ξηρὴν ἐν ὀθονίῳ προστιθέσθω.<sup>135</sup>

The first person is never used.<sup>136</sup> Verbs in the second person singular refer to actions to be performed by the reader according to the instructions of the compiler. Orders expressed in the imperative second person singular are also common in ancient culinary literature.<sup>137</sup> Verbs in the third person singular refer to actions to be performed by the patient according to the reader's orders; this patient is one step further removed from the compiler than is the reader.<sup>138</sup>

### e) Conclusion

In conclusion, recipes in the Hippocratic Corpus are all built on the same principle: rubric, instructions for the preparation of ingredients, and instruction for the application/administration of the remedy. Instructions are given in the chronological order in which they are to be executed. Hippocratic recipes are constituted of short clauses, sometimes linked by the conjunction καὶ. These recipes are usually syntactically 'complete', i.e. there is no 'telegrammatic' style; Hippocratic recipes do not usually take the form of a list of ingredients.<sup>139</sup>

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<sup>133</sup> *Nat. Mul.* 109 (Trapp 127.21-22; L7.426.21-22). Translation: 'Another purgative: seed of nettle, juice of mallow; crush in goose suet and apply.'

<sup>134</sup> *Mul.* 2.192 (L8.372.2-4). Translation: 'Or an *oxybaphon* of this year's flour, half <this quantity> of white gum, a third part of *manna* <sc. frankincense powder?>, and a little reed, or pine, or cypress; soak in water. Give to drink twice a day.'

<sup>135</sup> *Mul.* 1.75 (L8.164.19-20). Translation: 'Or let her apply dried pennyroyal in a cloth.'

<sup>136</sup> The first person singular is sometimes used in Babylonian cooking recipes. See Bottéro (1987).

<sup>137</sup> See Degani (1990): 43.

<sup>138</sup> See Jouanna (1983): 20. Green (1989): 71.

<sup>139</sup> This is also the case in Middle English recipes. See Carroll (1999): 29.

A basic formulary is therefore recognizable in the Hippocratic recipes. However, within this formulary, different grammatical forms are used: different moods (infinitive, participle, imperative), tenses (present and past) and persons (second singular and third singular). In this respect, Hippocratic recipes differ from Akkadian recipes in which a strict grammatical formulary is applied.<sup>140</sup>

### ***2.5 Catalogues of recipes as collections of fragments and as discourse colonies***

Hippocratic recipes can be found in two settings: in nosological descriptions or in catalogues of recipes. In both cases, a recipe is, to use Goltz's expression, a '*geschlossener Bericht*', a small unit whose meaning does not depend on adjacent units.<sup>141</sup> If a recipe is removed or added from a catalogue, or if it is replaced by another, the catalogue remains a catalogue.

Hanson argued that each recipe in a catalogue could be qualified as a medical fragment, 'in the sense that its text can easily be excerpted from one context and inserted into another.'<sup>142</sup> She adds:

Catalog-format is easily shattered, but the constituent fragments can be set into new surroundings and other collections, maintaining a textual integrity which strongly suggests that these therapies and medicaments continued to meet the expectations of doctors and patients alike.<sup>143</sup>

Recently, linguists have started to examine such characteristics of catalogues. Michael Hoey (1986) grouped cookery books, shopping lists, classified ads, newspapers, dictionaries and directories under the denomination of 'discourse colony'. Discourse colonies, by opposition to 'mainstream written discourses', do not 'take the form of continuous prose composed of complete sentences semantically

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<sup>140</sup> See Goltz (1974): 194.

<sup>141</sup> Goltz (1974): 305.

<sup>142</sup> Hanson (1997): 303.

<sup>143</sup> Hanson (1997): 304.

related in respect of their lexis and the propositions they articulate'.<sup>144</sup> To contrast discourse colonies to mainstream discourses, Hoey used the imagery of, on the one hand, the beehive or ant colony, and on the other, the human body. A mainstream discourse can be compared to a human body: the human body is made of interconnecting parts; if these parts are 'jumbled up', a human dies.<sup>145</sup> A discourse colony can be compared to a beehive or ant colony: a hive is composed of many bees that are not interconnected in a physical sense; if one bee dies, the beehive survives. However, in many ways, the hive functions as if it were a single individual. Hoey discerned nine characteristics of the discourse colony: 1) The component parts of a discourse colony do not derive their meaning from the sequence in which they are placed; 2) the adjacent units of a discourse colony do not form continuous prose; 3) a discourse colony needs a framing context which will provide conditions for the interpretation of the colony or alternatively provide a characterisation of the colony; 4) a discourse colony usually has either no named author or has multiple authors; 5) one may make use of a component of a discourse colony without referring to other components; 6) a component of a discourse colony can join a new discourse colony; 7) discourse colonies may change over time; 8) many of a colony's components serve the same function in the colony; and 9) most discourse colonies make use of some form of arbitrary sequence (usually alphabetical or numerical).

The two first characteristics of the discourse colony are clearly discernible in the Hippocratic catalogues of recipes: the recipes do not derive their meaning from the sequence in which they are placed, and the recipes following each other do not form continuous prose. With regard to the third characteristic, the catalogues of Hippocratic recipes usually have a title indicating which types of recipes are going to be listed. In addition, most of the Hippocratic treatises including catalogues of recipes have a *proemium*, in which the compiler declares his intentions.<sup>146</sup> With regard to the fourth characteristic, our recipes are known to us under the name of

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<sup>144</sup> Hoey (1986): 1.

<sup>145</sup> Hoey (1986): 3.

<sup>146</sup> *Diseases of Women II* does not have such a proemium. None of the Hippocratic treatises in catalogue-format has a formal conclusion. See Hanson (1971): 269; Groningen (1958): 247-255; Roselli (2001).

Hippocrates, but it is unlikely that Hippocrates authored any of these recipes. There is a strong possibility that our recipes, and the treatises in which they are embedded, were transmitted anonymously before being ascribed to the physician of Cos. Characteristics 5 to 8 of the discourse colony are fulfilled. A recipe in a Hippocratic catalogue could be used without reference being made to the other recipes of the catalogue. As the phenomenon of the ‘parallel redactions’ indicates, Hippocratic recipes could be excerpted from one context and inserted into another, and the Hippocratic catalogues seem to have evolved and changed over time. The last characteristic of the discourse colony is not always fulfilled in the case of the Hippocratic catalogues: the ordering of the catalogues at the end of the gynaecological treatises either follows the ordering of matters in the main text or a ‘chronological order’ (from conception to delivery), and the descriptions of diseases in the nosological treatises are usually classified *a capite ad calcem*. However, these ordering principles are not always followed, and within individual catalogues of recipes, organisational principles cannot be discerned.<sup>147</sup>

Hoey suggested that discourse colonies arose in response to a ‘reading strategy’; ‘they are organised so as to allow the reader to select what he or she needs.’<sup>148</sup> Ancient medical writers may have adopted the catalogue-format because this was the best format for their readers to absorb and retrieve information. I would also suggest that ancient medical writers chose the catalogue format because it was extremely flexible: recipes could be added or removed, and small catalogues could be collected together to form larger catalogues or treatises.

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<sup>147</sup> Many of these characteristics of discourse colonies will be studied in more details in the following chapters of this thesis.

<sup>148</sup> Hoey (1986): 23.



**Appendix one: The cantharides recipes**

<p><i>Nat.Mul.</i> 32 (Ihm [1999]: 276-278; Trapp 87.13-10; L7.346.13-20)</p>	<p><i>Mul.</i> 1.78 (Ihm [1999] 276-278; L8.182.13-20)</p>	<p><i>Mul.</i> 1.78 (Ihm [1999]: 276-278; L8.178.1-12)</p>	<p><i>Mul.</i> 1.84 (Ihm [1999]: 276-287; L8.208.15-210.4)</p>
<p>Ἔτερα ποτὰ καὶ πρόσθετα, χόριον ἐξάγειν καὶ τὰ ἐπιμήνια κατασπάσαι·</p> <p>κανθαρίδας πέντε ἀποτίλας τὰ πτερὰ καὶ τοὺς πόδας καὶ τὴν κεφαλὴν· ἔπειτα τριβόλους παραθαλασσίους σὺν τῇ ρίζῃ κόψας ὅσον κόγχην, καὶ τοῦ ἀνθέμου τοῦ χλωροῦ τὸ εἶσω ξηρὸν τρίψας ὅσον κόγχην σελίνου σπέρμα ἴσον καὶ σηπίης ὥα πεντεκαίδεκα, ἐν οἴνῳ γλυκεῖ κεκρημένῳ δίδου πιεῖν.</p> <p>Καὶ ἐπὶ ὀδύνη ἔχη, ἐν ὕδατι θερμῷ καθήσθω, καὶ μελίκρητα ὕδαρέα πινέτω.</p> <p>Ἔτερον· βατραχίου τῶν φύλλων καὶ ἄνθος τετριμμένου ὅσον στατήρα Αἰγίναϊον ἐν οἴνῳ γλυκεῖ πιεῖν.</p>	<p>Χόριον ἐξάγει καὶ ἐπιμήνια κατασπᾶ, καὶ ἔμβρυον ἡμίεργον ἐξάγει·</p> <p>κανθαρίδας πέντε ἀποτίλας τὰ πτερὰ καὶ τὰ σκέλεα καὶ τὴν κεφαλὴν· ἔπειτα τρίβολον παραθαλάσσιον κόψας σὺν τῇ ρίζῃ καὶ τοῖσι φύλλοισιν ὅσον κόγχην καὶ τὸ εὐάνθεμον τὸ χλωρὸν τρίψον ἴσον πληθος καὶ σελίνου σπέρμα καὶ σηπίης ὥα πεντεκαίδεκα, ἐν οἴνῳ γλυκεῖ κεκρημένῳ ταῦτα ὁμοῦ,</p> <p>καὶ ἐπειδὰν ὀδύνη ἔχη, πίνειν, καὶ ἐν ὕδατι θερμῷ ἐγκαθιζέσθω πινέτω δὲ μελίκρητον ὕδαρὲς καὶ γλυκὺν οἶνον λευκόν.</p> <p>Ἡ βατραχίου τοῦ φύλλου καὶ τοῦ ἄνθος τετριμμένου ὅσον δραχμὴν Αἰγίναϊν ἐν οἴνῳ πίνειν γλυκεῖ.</p>	<p>Πρόσθετον χόριον ἐξάγει καὶ ἐπιμήνια κατασπᾶ καὶ ἔμβρυον ἀπόπληκτον</p> <p>κανθαρίδας πέντε τίλας τὰ πτερὰ καὶ τὰ σκέλεα καὶ τὴν κεφαλὴν· εἶτα τρίβολον παραθαλάσσιον κόψας σὺν τῇ ρίζῃ καὶ τοῖσι φύλλοισι ὅσον κόγχην καὶ βοάνθεμον χλωρόν, τρίψας τὸ ἔξω σκληρὸν ὅσον κόγχην καὶ σελίνου σπέρματος ἴσον καὶ σηπίης ὥα πεντεκαίδεκα ἐν οἴνῳ γλυκεῖ κεκρημένῳ</p> <p>καὶ ἐπὶ ὀδύνη ἔχη, ἐν ὕδατι θερμῷ καθήσθω, καὶ μελίκρητον ὕδαρὲς πινέτω, καὶ οἶνον γλυκύν·</p> <p>καὶ τοῦ τετριμμένου ὅσον στατήρα Αἰγίναϊον ἐν οἴνῳ πίνειν γλυκεῖ.</p>	<p>Πρόσθετον καθαρτικὸν χόρια ἐκβάλλει καὶ καταμήναι κατασπᾶ καὶ ἔμβρυον ἐξαγει ἀπόπληκτον·</p> <p>κανθαρίδας πέντε ἀποτίλας καὶ τὰ πτερὰ καὶ τὰ σκέλεα καὶ τὴν κεφαλὴν· εἶτα τρίβολον παραθαλάσσιον κόψας σὺν τῇ ρίζῃ καὶ τοῖσι φύλλοισι καὶ τὸ χλωρὸν τὸ ἔξω, τρίψας ἴσον ὄγκον καὶ σελίνου σπέρματος καὶ σηπίης ὥα πεντεκαίδεκα, ἐν οἴνῳ γλυκεῖ κεκρημένῳ</p> <p>καὶ ἐν ὕδατι θερμῷ καθινύσθω καὶ μελίκρητον ὕδαρὲς πινέτω, καὶ οἶνον γλυκύν.</p> <p>Καὶ τοῦ τετριμμένου ὅσον στατήρα Αἰγίναϊον ἐν οἴνῳ πίνειν γλυκεῖ·</p>

<p><i>Nat.Mul.</i> 32 (Ihm [1999]: 276-278; Trapp 87.13-10; L7.346.13-20)</p>	<p><i>Mul.</i> 1.78 (Ihm [1999] 276-278; L8.182.13-20)</p>	<p><i>Mul.</i> 1.78 (Ihm [1999]: 276-278; L8.178.1-12)</p>	<p><i>Mul.</i> 1.84 (Ihm [1999]: 276-287; L8.208.15-210.4)</p>
<p>Other drinks and pessaries to cast out the afterbirth and induce the menses:</p> <p>Five cantharides, remove the wings, legs and head. Then crush prickly samphire, together with its root, in the amount of one <i>konche</i>; and crush the inside of fresh <i>anthemon</i>, in the amount of one <i>konche</i>, equal quantity of celery seed, add 15 eggs of cuttlefish; give to drink in sweet mixed wine.</p> <p>And when there is pain, let her have a sitz-bath in warm water and drink watery <i>melikraton</i>.</p> <p>Another. Crush leaves and flower of <i>batrachion</i>, in the amount of an Aeginetan <i>stater</i>; drink in sweet wine.</p>	<p>Draws out the afterbirth, brings down the menses, and draws down the half-completed embryo:</p> <p>Five cantharides, remove the wings, legs and head. Then crush prickly samphire, together with its root and leaves, in the amount of a <i>konche</i>; crush the same amount of fresh <i>euanthemon</i>, seed of celery, 15 eggs of cuttlefish; these together in sweet mixed wine</p> <p>When there is pain, make her drink these, let her have a sitz-bath in warm water, and let her drink watery <i>melikraton</i> and sweet white wine.</p> <p>Or crush leave and flower of <i>batrachion</i>, in the amount of an Aeginetan <i>drachma</i>; drink in sweet wine.</p>	<p>Pessary able to cast out the afterbirth, bring down the menses and the embryo disabled by a stroke:</p> <p>Five cantharides, remove the wings, legs and head. Then crush one <i>konche</i> of prickly samphire, together with its root and leaves; and crush the external, dry, part of fresh <i>boanthemon</i>, in the amount of a <i>konche</i>, same amount of seed of celery, 15 eggs of cuttlefish in sweet mixed wine.</p> <p>When there is pain, let her have a sitz-bath in warm water, and let her drink watery <i>melikraton</i> and sweet wine.</p> <p>And &lt;make&gt; her drink one Aeginetan <i>stater</i> of this ground preparation in sweet wine.</p>	<p>Purgative pessary, draws out the afterbirth, brings down the menses, and casts out the embryo dead because of apoplexy:</p> <p>Five cantharides, remove the wings, legs and head. Then pound prickly samphire, together with its roots and leaves, and the fresh external part; crush the same amount of celery seed and 15 eggs of cuttlefish in sweet mixed wine.</p> <p>Let her seat in a warm bath, and let her drink watery <i>melikraton</i> and sweet wine.</p> <p>And &lt;make&gt; her drink one Aeginetan <i>stater</i> of this ground preparation in sweet wine.</p>

*Appendix Two: Types of medications and application/administration verbs*

Type of medication	Name of the medication in Greek	Number of recipes in the CH	Verbs of application
<b>Oral medications</b>			
Drink	Ποτόν, πότημα	385	Πίνω, πιπίσκω, δίδωμι πίνειν, δίδωμι έκπινειν, δίδωμι μεταπίνειν, παρέχω.
Kykeon	Κυκεών	17	Διδώμι ἐσθίειν, δίδωμι καταφαγεῖν, τρώγω
Gruel	Ῥόφημα, ῤύφημα	29	Ῥοφέω, ῤοφάνω, ῤυφάνω, προροφάνω, καταρυφάνω, ἐπιρυφάνω
Electuary	Ἐκλεικτόν	14	Ἐλλείχω
Pill	Καταπότ(ι)ον	3	Καταπίνω
Toothpaste	–	1	Τρίβω
Gargle	Ἄναγαργαρίστον	3	Ἄναγαργαρίζω
<b>External medications</b>			
Ointment	No substantive given in the Hippocratic recipes	87	Χρίω, διαχρίω, ἀποχρίω, ἐπιχρίω, ἀποσμήχω, ἐγχρίω, ἀλείφω, ἀναλείφω, ἐπαλείφω, διαλείφω
Cataplasm	Κατάπλασμα, ἐπίπλασμα	46	Καταπλάσσω, ἐπιπλάσσω, προσπλάσσω
Plaster	Ἐμπλασμα	38	Ἐμπλάσσω
Application to put under a bandage	Ἐπιδετόν	5	Ἐπιδέω

Powder	Παράπαστον	8	–
<b>Vaginal and rectal medications</b>			
Enema	Κλύσμα, κλυσμός	194	Κλύζω, ἀποκλύζω, μετακλύζω, διακλύζω, προσκλύζω, ἐνήμι
Infusion <sup>149</sup>	Ἐγχυτον	38	Ἐγγέω
Pessary	Βάλανος, πρόσθετον, πρόσθεμα	410	Προστίθιμι, πρόσκειμαι, προσάγω, ἐντίθιμι, ἐμβάλλω, προσίσχω
Suppository		12	Ἐντίθιμι, ἐνήμι
<b>‘Vapour’ medications</b>			
Fumigation	Ἀποθυμίσεις, θυμήμα	114	Θυμιάω, ἀποθυμιάω, ἀποκαπνίζω
Fomentation <sup>150</sup>	Πυριά/η, πυρίασις	29	Πυριάω, ξυμπυριάω, προσπυριάω
Inhalation	Ὀλκός	2	Ὀλκάζω
Instillation in the nostrils		1	Ἐνστάζω
<b>Total</b>		<b>1436</b>	

<sup>149</sup> In opposition to the enema, an infusion has to stay a while in the body.

<sup>150</sup> Gourevitch (1999): The aim of a fumigation is to bring to a part of the body a dry smoke whereas the aim of a fomentation is either to bring to a part of the body a wet and hot vapour or to put a part of the body in contact with a wet and warm cloth. However, the difference between the two techniques is far from being strict.

### **3 The History of the written catalogues of recipes**

#### ***3.1 Introduction***

This chapter examines the ways in which written catalogues of recipes were composed and transmitted in classical Greece.

In the first part of this chapter, I identify small, self-contained, collections of recipes within the Hippocratic gynaecological treatises. I argue that small collections of written recipes, comparable to those found on papyri and ostraca from Egypt, were available to the compilers of these treatises. In the second part of this chapter, I suggest, that in the late fifth century BC or early fourth century BC, the compilers of the gynaecological treatises made a selection of these small catalogues and included them in their writings. Although *Diseases of Women* and *Nature of Women* had the same material at their disposal, I suggest that they organised and structured it independently of each other.

I then ask when the production of small collections of written recipes may have started, taking into account the cultural reasons that might have encouraged physicians or healers to use writing.

In the fourth section of this chapter, I attempt to reconstruct the structure of the lost *Pharmakitis*, mentioned several times in *Affections*, and to identify possible fragments of this recipe book. I also reflect on the reasons for the disappearance of this treatise.

I conclude by asking whether the ‘Hippocratic’ treatises included recipes that were transmitted anonymously before being ascribed to the master of Cos.

#### ***3.2 The composition of the Hippocratic gynaecological collections of recipes***

##### ***3.2.1 Identification of small collections of recipes within the Hippocratic gynaecological treatises***

In Chapter Two, I discussed the phenomenon of the parallel redactions of recipes in the gynaecological treatises. Together with Ann Hanson and Sybille Ihm, I considered these parallel redactions as an indication that written sources were

available to the compilers of these treatises. However, I argued that no general conclusions for the composition of the gynaecologies could be drawn from the study of the parallel redactions of a single recipe, as Ihm did in her analysis of a cantharid-drink.

In addition to parallel redactions of individual recipes, there are numerous examples of repetitions, in the same order, of series of recipes in different gynaecological treatises, as in the following example:<sup>1</sup>

A = <i>Nature of Women</i> 109 (Trapp 125.23-126.11; L7.422.23-424.11)	B = <i>Diseases of Women</i> 1.78 (L8.174.16-176.8)
1. Γυναικεῖα καθαρτήρια, ἣν μὴ πορεύηται ἢ κάθαρσις· λαβὼν σικύης ἐντεριώνην ὅσον τριώβολον καὶ ἀρτεμισίην ποίην καὶ λιβανωτοῦ ὄβολον, τρίψας, ἐν μέλιτι μίξας, ἐς εἶριον ἐνελίξας, πρόσθεσ πρὸς τὸ στόμα τῆς μήτρης, ἅπαξ τῆς ἡμέρης πεντάκις τοῦτο ποιεῖν.	1. Ἦν μὴ κατή ἢ κάθαρσις ἢ λοχεΐη, λαβὼν σικύης ἐντεριώνης ὅσον τριώβολον, καὶ ἀρτεμισίην ποίην, καὶ λιβανωτοῦ ὄσον ὄβολον, τρίψας, ἐν μέλιτι μίξας, ἐς εἶριον ἐνελίξας, πρόσθεσ πρὸς τὸ στόμα τῆς μήτρης, νυκτός ἀεὶ καὶ ἡμέρης, ἄχρις ἡμερέων πέντε τοῦτο ποιεῖν.
2. Ἔτερον· τὸ ἀμπέλιον τρίβων χλωρὸν ἐν μέλιτι, ἐς εἶριον ἐνελίξας, προστιθέναι τὸν αὐτὸν τρόπον.	2. Ἦ τὸ ἀμπέλιον τρίβειν χλωρὸν, καὶ μέλιτι μίσγων, ἐς εἶριον ἐνελίξας, προστιθέναι τὸν αὐτὸν τρόπον.
3. Ἔτερον· τῆς κυπαρίσσου τὸν καρπὸν καὶ λιβανωτὸν τρίψας ἐν τῷ αὐτῷ, ῥοδίνῳ μύρῳ διεῖς καὶ μέλιτι, ἐς εἶριον ἐνελίξας, προστιθέναι.	3. Ἦ τῆς κυπαρίσσου τὸν καρπὸν καὶ λιβανωτὸν τρίψας ἐν τῷ αὐτῷ, ῥοδίνῳ διεῖς καὶ μέλιτι, ἐς εἶριον ἐνελίξας, προστιθέσθω.
4. Ἔτερον· ἀβροτόνου ὅσον τριώβολον τρίψας ἐν μέλιτι, ἐς εἶριον ἐνελίξας, προστίθεναι.	4. Ἦ ἀβρότονον ὅσον δραχμὴν, καὶ σικύης ἐντεριώνην ὅσον ὄβολον τρίψας ἐν μέλιτι, ἐς εἶριον ἐνελίξας, προστιθέναι.
5. Ἔτερον· ἐλατηρίου ὄβολον καὶ σμύρνης ὄβολον τρίψας ἐν μέλιτι, ἐς εἶριον ἐνελίξας, προστιθέναι.	5. Ἦ ἐλατηρίου ὄβολον καὶ σμύρνης τρίψας ἐν μέλιτι, ἐς εἶριον ἐνελίξας, προστιθέσθω.

<sup>1</sup> For translation, see Appendix one. For ease of reference, I shall refer to these series as Series A and Series B respectively.

<p>6. Ἐτερον κυπαρίσσου τὸν καρπὸν καὶ σικυῶνης ἐντεριώνην καὶ λιβανωτὸν τρίψας ἐν τῷ αὐτῷ μέλιτι, ἐνελίξας ἐν εἰρίῳ, πρόσθεες τὸν αὐτὸν τρόπον.</p>	<p>6. Ἡ κυπαρίσσου καρπὸν καὶ σικύης ἐντεριώνην καὶ λιβανωτὸν μέλιτι μίξας, ἐν εἰρίῳ προστιθέσθω.</p>
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The similarities between these two series of recipes are very pronounced. On the other hand, there are small variations between the versions of the individual recipes.<sup>2</sup> For instance, A4 has three *oboloi* of wormwood, and honey; whereas B4 has one *drachma* of wormwood, one *obolos* of cucumber, and honey. In addition, A5 recommends using one *obolos* of squirting cucumber and one *obolos* of myrrh; whereas B5 specifies that that one *obolos* of squirting cucumber be used, but is silent on the quantities of myrrh required. There are also several grammatical differences between the versions of the individual recipes; but, as suggested in Chapter Two, these differences are not significant.

Both series are introduced by a similar title (A: Γυναικεῖα καθαρτήρια, ἣν μὴ πορεύηται ἢ κάθαρσις; B: Ἡ μὴ κατή ἢ κάθαρσις ἢ λοχείη). Series B is followed by a series of recipes for a similar purpose, introduced by the title Καθαρτήριον, ἣν ἐκ τόκου μὴ καθαρθῆ (purgatives if she does not purge herself after childbirth),<sup>3</sup> whereas series A is followed by a series of recipes for a different purpose, introduced by the title Ἡ γυνὴ μὴ κύσκηται, καθαρτήριον (if a woman cannot bear children).<sup>4</sup> In other words, Series A and B are parallel redactions of a self-contained collection of recipes. The parallel redactions of self-contained collections of recipes within the Hippocratic gynaecological treatises point to the existence of smaller catalogues that were later absorbed within the treatises.

Small catalogues could include recipes for a series of different purposes, organised by type of medication, as in the following example:<sup>5</sup>

<sup>2</sup> In Littré's edition, there are variations in the order of the recipes: A6 is placed in third position, between the recipe with vine and honey (A2) and the recipe with cypress, frankincense, rose oil and honey (A3).

<sup>3</sup> *Mul.* 1.78 (L8.176.8).

<sup>4</sup> *Nat. Mul.* 109 (Trapp 126.11; L7.424.11).

<sup>5</sup> For translation, see Appendix One. For ease of reference, I shall refer to these series of recipes as Series C and Series D respectively.

C = <i>Nature of Women</i> 95, 96 and 97 (Trapp 120.16-121.9 with small changes by Andò 186-188; L7.412.15-414.9)	D = <i>Diseases of Women</i> 1.78 (L8.178.12-180.1)
1. Ἐκβόλιον· σικύου ἀγρίου τὸν ὀπὸν ὅσον πόσιν, ἐς μᾶζαν ἐμπάσασαν, προσθεῖναι, προνηστεύσασαν ἐπὶ δύο ἡμέρας.	1. Ἐκβόλιον ὑστέρων· σικύου ἀγρίου τὸν ὀπὸν ὅσον ποιεῖν ὡς μαζίον ἐμπλάσασα προστιθέναι, προνηστεύσασα ἐπὶ δύο ἡμέρας, οὐκ ἂν εὖροις τούτου ἄμεινον.
2. Πειρητήριον· μάλυζαν σκορόδου ἀποζέσας, προσθεῖναι πρὸς τὰς μήτρας· τῇ δὲ ὑστεραίῃ τὸν δάκτυλον ἐσαφάσσουσα σκοπεῖται, καὶ ἦν μὲν ὄζη τὸ στόμα· εἰ δὲ μή, πάλιν προστιθέναι.	2. Πειρητήριον· μάλυζαν σκορόδου ἀποζέσας προσθεῖναι.
3. Πειρητήριον· νέτωπον ὀλίγον ἐν εἰρίῳ εἰλίξας, καὶ ὀρην, ὅθεν ἂν τοῦ στόματος ὄζη.	3. Ἔτερον πειρητήριον· νέτωπον ὀλίγον εἰρίῳ ἐνελίξας προσθεῖναι, καὶ ὀρην ἦν διὰ τοῦ στόματος ὄζη.
4. Προσθετά· σκορπίου θαλασσίου τὴν χολὴν ἐς εἴριον εἰλίξας καὶ ξηρήνας ἐν σκιᾷ, προστίθει	4. Προσθετά· σκορπίου θαλασσίου τὴν χολὴν ἐν εἰρίῳ τιθεὶς καὶ ξηρήνας ἐν σκιῇ προστίθει
5. Ἔτερον· γλήχωνα ξηρήν, λείην ποιήσας, μέλιτι δεύσας, ἐν εἰρίῳ προστίθει.	5. Ἡ γλήχωνα ξηρήνας, λείην ποιήσας, ἐν μέλιτι δεύσας, ἐν εἰρίῳ προστιθέναι.
	6. Ἡ ἄνθος χαλκοῦ ἐν μέλιτι ἐς ὀθόνιον ἐνδήσας προσθεῖναι.
6. Ἔτερον· σικύου σπέρμα καὶ ὄστρακον κατακαύσας, οἴνω δεύσας, ἐν λαγῶησι θριξὶ καὶ ἐν εἰρίῳ προσθεῖναι.	7. Ἡ σικύου σπέρμα καὶ ὄστρακον κατακαύσας, ἐν οἴνω τε δεύσας, ἐν λαγῶησι θριξὶν ἢ εἰρίῳ προστιθέναι.
7. Ἔτερον· στυπηρίην Αἰγυπτίην εἰρίῳ κατελίξας, προστίθει.	8. Ἄλλο προσθετόν· στυπηρίην Αἰγυπτίην ἐν εἰρίῳ κατελίξας προσθεῖναι



Series C and D are parallel redactions of a catalogue of pessaries including a recipe for an expelling drug, two recipes for pregnancy tests, and pessary recipes for which a purpose is not specified. In our modern editions, Series C is divided into three chapters: *Nature of Women* 96, 97 and 98; whereas Series D is part of the longest chapter of *Diseases of Women I*: chapter 78. At times, the ways in which our modern editions are divided into chapters conceal the existence of small self-contained collections of recipes within these chapters.

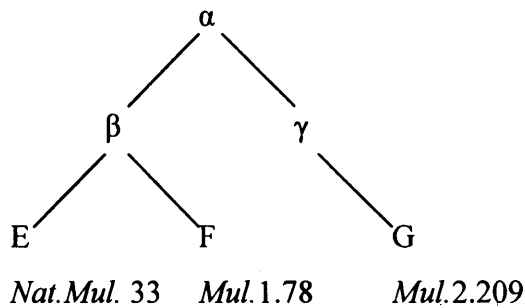
When three – or more – parallel redactions of small collections exist, it becomes possible to draw *stemmata*, as in the following example:<sup>6</sup>

E = <i>Nat.Mul.</i> 33 (Trapp 97.17-98.6; L7.366.16-368.6)	F = <i>Mul.</i> 1.78 (L8.192.16-194.4)	G = <i>Mul.</i> 2.209 (L8.404.7-404.19)
1. Ἐτερον · πράσα ἐψήσας ἐν ὕδατι, ἀκτῆς καρπὸν, ἄνησον, λιβανωτόν, σμύρναν, οἶνον, τῷ χυμῷ τούτων κλύζειν.		1. Ἐτερος κλυσμός, ἦν περιωδυνίη καὶ στραγγουρίη ἔχη· πράσου χυλὸν, ἀκτῆς καρπὸν, σέσελι, ἄνησον, λιβανωτόν, σμύρναν, οἶνον, χύλωσον καὶ μίξον καὶ κλύσαι.
2. Ἐτερον· κράμβην ἐψήσας ἐν ὕδατι, ἐν τῷ χυμῷ τῆς κράμβης ἔψε τὴν λινόζωστιν, παρεμβάλλων λίνου σπέρμα μικρόν· ἔπειτα ἀποχέας κλύζει.	1. Κλύσματα πρὸς τὰ παλαιὰ ἔλκεα· χυλῷ κράμβης ἐψημένης κλύζειν· καὶ λινόζωστιν ὁμοίως· καὶ νίτρον παράμιση ἐρυθρὸν ὀλίγον.	
3. Ἐτερον· σμύρνης ὅσον ὀξύβαφον, λιβανωτόν, σέσελι, ἄνησον, λίνου σπέρμα, νέτωπον, ῥητίνην, μέλι, χηνὸς ἔλαιον, ὄξος λευκόν, τὸ Αἰγύπτιον, τούτων ἑκάστου τὸ ἴσον τρίψας, διεῖναι οἴνου λευκοῦ κοτύλαις δυσί· ἔπειτα χλιερῷ κλύζειν.	2. Σμύρνης ὀξύβαφον, λιβανωτόν, σέσελι, ἄνησον, σελίνου σπέρμα, νέτωπον, ῥητίνην, μέλι, χήνειον στέαρ, ὄξος τὸ λευκόν, μύρον τὸ λευκόν Αἰγύπτιον, ἐν τούτῳ τρίβειν ἴσον ἑκάστου λεία, εἶτα οἴνω διεῖς λευκῷ κοτύλησι δυσί· χλιερῷ κλύζειν.	2. Ἡ σμύρνης ὀξύβαφον, λιβανωτοῦ ἴσον, μελανθίου καὶ κυείου ἴσον, σέσελι, ἄνησον, σελίνου σπέρμα, νέτωπον, μέλι, ῥητίνην, χηνὸς στέαρ, ὄξος λευκόν, μύρον Αἰγύπτιον, τούτων ἴσον ἑκάστου διεῖναι οἴνω λευκῷ γλυκεῖ καὶ κλύζειν.
4. Ἐτερον· λινόζωστιν ἐν	3. Ἡ λινόζωστιν ἐψεῖν ἐν	3. Ἡ λινόζωστις ὕδωρ

<sup>6</sup> For translation, see Appendix One. For ease of reference, I shall refer to these series of recipes as Series E, F and G respectively. Series E and F have 14 further recipes in common.

ὕδατι ἐψησας, ἀπηθήσας, σμύρνης ὀξύβαφον, λιβανωτοῦ, νετώπου, ἴσον ἐκάστου μίξας, χλιερῶ κλύζειν.	ὕδατι καὶ ἀπηθεῖν. Ἡ σμύρνης ὀξύβαφον, λιβανωτὸν, σέσελι, νέτωπον, ἴσον ἐκάστου, χλιαρῶ κλύζειν.	ἀφεψησας ξὺν σμύρνη, λιβανωτῶ, νετώπῳ.
5. Ἔτερον ἐλελίσφακον καὶ ὑπερικὸν ἐν ὕδατι ἐψησας, τῷ ὕδατι κλύζε.	4. Ἡ ἐλελίσφακον καὶ ὑπερικὸν, ἐν ὕδατι ἐψησας, κλύζειν τῷ ὕδατι.	4. Ἡ ἐλελίσφακον, ὑπερικὸν, ἐψεῖν ἐν ὕδατι καὶ κλύζειν.
		5. Ἡ λίνου καρπὸν, ἄνησον, μελάνθιον, σέσελι, σμύρναν, κασσίης καρπὸν ἐν οἴνῳ ἐψεῖν καὶ κλύζειν.
6. Ἔτερον ἀκτῆς καρπὸν, δαφνίδας, ἐκατέρου τὸ ἴσον, ἐν οἴνῳ ἔψε ἔπειτα τῷ οἴνῳ κλύζε.	5. Ἡ ἀκτῆς καρπὸν καὶ δαφνίδας ἐκατέρων ἐξ ἴσου ἔψε ἐν οἴνῳ, εἶτα τῷ οἴνῳ κλύζε.	6. Ἔτερος κλυσμὸς, ἦν ὀδύνη ἴσχη σφοδρῆ μετὰ κάθαρσιν ἀκτῆς καρπὸν καὶ δαφνίδας ἐψεῖν ἐν οἴνῳ μέλανι καὶ κλύσαι.

Although the recipe with leeks (E1=G1) is not present in Series F, Series E and Series F are generally closer to each other than they are to Series G. For instance, the recipe with cabbage and mercury (E2=F2) is not present in Series G; recipe G2 has two more ingredients than its parallels (E3 and F3): love-in-a-mist (*melanthion*) and cyperus. In addition, E4 and F4 specify that the ingredients have to be used in the same quantity and injected lukewarm; these specifications are not found in G3. Series G sometimes specifies the colour or sweetness of the wine to be used, when Series E and Series F are silent (see E3=F2=G2; E6=F5=G6). Furthermore, Series G has a recipe that is not present in the two other series (G3); this recipe may have been part of the model for these three redactions but omitted in Series E and F, it may have been added to this model by the compiler of Series G, or it may have been present in an intermediary copy. One could draw the following *stemma* for the transmission of this series of recipes:



However, it should be noted that, if *stemmata* can sometimes be useful for understanding the transmission of individual recipes or catalogues of recipes, they do not necessarily reflect the history of the gynaecological treatises in their entirety.

This conclusion is reinforced by the fact that small catalogues of recipes are sometimes repeated twice in the same treatise, as in the following example:<sup>7</sup>

H = <i>Diseases of Women</i> 2.158 (L8.336.2 and 12-21)	J = <i>Diseases of Women</i> 2.205 (L8.392.17-394.5)
1. Προσθέτοισι μαλθακοῖσι... Ἄριστον δὲ ὠοῦ τὸ πυρρὸν καὶ αἰγὸς στέαρ καὶ μέλι καὶ ἔλαιον ρόδιον, τουτέοισιν ἀναφυρήν, παραχλιαίνειν δὲ παρὰ τὸ πῦρ καὶ τὸ ἀποστάζον εἰρίῳ ξυλλέγειν καὶ προστιθέναι.	1. Μαλθακτῆρια ὑστέρης· ὄϊος στέαρ, ὠῶν λέκιθος, μέλι, ἔλαιον ρόδιον, τουτέοισιν, ἀναφυρήσας ἄλητα, παραχλιαίνειν ἐν πυρὶ μαλθακῶ, τὸ ἀποσταζόμενον ἐς εἴριον ἀναμαλάσσειν, καὶ προστιθέναι.
2. Ἡ στέαρ ἐρυθρὸν τὸ ἠδυντὸν χηνός, μύρον ρόδιον, ταῦτα ξυμμίσγειν, καὶ προστιθέναι εἴριον ἀναδεύσασα.	2. Ἡ στέαρ ἠδυντὸν τὸ ἐρυθρὸν, χηνός ἄλειφα, ρόδιον ἔλαιον, ξυντήξας καὶ ἐς εἴριον ἀναφυρήσας, προσθεῖναι.
3. Ἄμεινον δὲ χηνός ἔλαιον, ἢ ὄϊος στέαρ, κηρὸς λευκός, ρητίνη, νέτωπον, ἔλαιον ρόδιον, ταῦτα ὁμοῦ τῆξαι καὶ μῖξαι· λουσαμένη δὲ προστιθέσθω χλιερὰ εἴσω πρὸς τὸ στόμα τῶν	3. Χηνός ἄλειφα ἢ μῆλειον στέαρ, κηρὸν λευκὸν, νέτωπον, ρόδιον ἔλαιον, ὡς ἄριστα ταῦτα ἀναμῖξ ποιέειν, καὶ ράκεα ἐγκατατίλλειν λεπτὰ, καὶ αὐτίκα λουσαμένη,

<sup>7</sup> For translation, see Appendix One. For ease of reference, I shall refer to these series as Series H and J respectively. I am aware of the fact that recipes can be repeated in the same treatise because the cantharid recipe is repeated three times in *Diseases of Women* I (twice in *Mul.* 1.78 and once in *Mul.* 1.84).

ὕστερέων.	προστιθέσθω χλιαρὰ πρὸς τὸ στόμα.
4. Ἡ ἐλάφου μυελὸν καὶ στέαρ χηνὸς τήξας ῥοδίνῳ ἢ ἱρίνῳ ἐλαίῳ ἀναφυρῆν· εἴριον δὲ μαλθακὸν ἄγαν προστιθέναι.	4. Ἡ ἐλάφου μυελὸν καὶ στέαρ τήξαι ἐν ῥοδίνῳ ἐλαίῳ ἀναφορύξασα εἴριον μαλθακὸν, προστιθέσθω.

Although these two redactions are very similar, they are preserved in different contexts.<sup>8</sup> Series H is found at the end of a chapter describing treatments for a disease in which the mouth of the womb is hard and closed (*Mul.* 2.158); whereas Series J, is not included in a nosological chapter, but is a section of a long catalogue of softening pessaries (*Mul.* 2.205). The compact format of these small catalogues allowed them to be inserted into a variety of contexts: into chapters on individual diseases or into sections devoted entirely to recipes.

I would suggest that small collections of recipes were circulated independently before being included into the gynaecological treatises. These collections could be transmitted on materials such as sheets of papyrus, small scrolls of papyrus, wooden tablets or ostraca.<sup>9</sup>

Such small collections of recipes were found on Egyptian papyri and ostraca.<sup>10</sup> Our earliest example of the kind (Papyrus Rylands 3.531 = Mertens-Pack3, 2418) dates from the end of the third century BC or the beginning of the second century BC. The papyrus preserves the upper part of a scroll bearing three columns of recipes on the recto and two columns on the verso.<sup>11</sup>

The three recipes preserved on the second column of the papyrus can be compared with recipes from *Diseases of Women II*:<sup>12</sup>

<sup>8</sup> Again, there are small differences between the individual versions of the recipes. For instance, H1 recommends egg yolks, goat suet, honey, and rose oil; whereas J1 has egg whites, sheep suet, honey, rose oil and flour.

<sup>9</sup> See Chapter Six, Section Two for more details on the materials on which pharmacological texts could be transmitted in antiquity.

<sup>10</sup> On recipes on papyri and ostraca see Andorlini (1981); (1993); (1999); Calame (1983); Gazza (1955); Marganne (1981); (1994); (2001); (2004): 78-80 and 113; Marganne and Mertens (1997); Préaux (1956).

<sup>11</sup> See Chapter Six, Section Two for more details on the presentation of the recipes on this papyrus.

<sup>12</sup> For translation, see Appendix One. For ease of reference, I shall refer to these series as Series K and L respectively. Recipes L1 and L2 have parallels in *Nat.Mul.* 32 (Trapp 93.12-13 [=L2] and 15-16 [=L1]; L7.358.12-13 and 15-16); L3 has a parallel at *Mul.* 2.203 (L8.388.11-14).

K = P. Rylands 531, recto col. II (Roberts 166.10-18)	L = <i>Diseases of Women</i> 2.200 and 201
1. Καθαρισιν ποιειν μαραθου καρπον κρηθμου φλοιον εν οινω διδου πειν	1. Mul. 2.201 (L8.384.8-10) Ὅταν δὲ ὀδύνη ἔχη καὶ πνίγηται, μαλάχης ῥίζαν, ἢ ὀξύμελι ἢ φλοιὸν μαράθου καὶ κρηθμον ἐν ὕδατι δοῦναι πίνειν, ἄριστον δὲ ἐρυγγάνειν καὶ διανακαθίζειν.
2. Προς τους απο των υστερων πνιγμους ενδυριδος τους νεφρους ξηρανας διδου οσον τοις τρισιν δακτυλοις λαβειν εν οινω ευωδει τουτο και προς τους των διδυμων πονου<ς> βοιηθει και κλυστηριον εστιν υστερων	2. Mul. 2.200 (L8.382.12-13) Ὅταν πνίγηται ὑπὸ ὑστερέων· κάστορα καὶ κόνυζαν ἐν οἴνῳ χωρὶς καὶ ἐν ταύτῳ πινέτω.
3. Αλλο εαν μετα του πνιγεσθαι και βησση [σα]νδαρακης θειου απυρου το ισον αμυγδαλα π[εν]τε η δ αποκαθαρας συμμειγνυε ειτα ταυτα [...].τηι εν οινω[ι]	3. Mul. 2.200 (L8.382.15-18) Ὅταν δὲ πνίγωσι καὶ ὁμοῦ βήσση, σανδαράκης ὅσον ὀβολὸν καὶ θείου ἀπύρου ἴσον καὶ ἀμύγδαλα πικρὰ καθήραντα ζυμμίσειν τρία ἢ τέσσαρα, καὶ διδόναι ἐν οἴνῳ εὐώδει.

K3 and L3 are parallel redactions of the same recipe, with small variations in the quantities indicated. (L3 indicates that one *obolos* of realgar should be used; whereas K3 is silent. In addition, L3 recommends using three or four almonds; whereas K3 recommends five almonds.)

K1 and L1 are both drinks including fennel and samphire; but L1 suggests two alternatives to fennel (root of mallow or *oxymelon*). K1 should be taken in wine, whereas L1 should be taken in water. In addition, these recipes have different purposes: K1 is a cathartic, whereas L1 is prescribed in case of suffocation.

K2 and L2, at first sight, present fewer similarities. They are both drink recipes against uterine suffocation. However, K2 has a pinch of dried otter

kidneys in sweet smelling-wine; whereas L2 has castoreum and fleabane in wine. There are no mentions of otter kidneys in the Hippocratic Corpus, nor in any other classical medical writing. However, as the editor of the papyrus (C.H. Roberts) noted, in the early modern period, otter testicles could be used as a substitute for castoreum.<sup>13</sup> Otter kidneys may have been more easily available in Egypt than castoreum, and as suggested by Isabella Andorlini, closer to the religious traditions of the people using the recipe: according to Herodotus, the otter was a sacred animal in Egypt.<sup>14</sup>

Scholars, starting with Claire Préaux in 1956, have argued that the source for this papyrus could be ‘Hippocratic’ or ‘Cnidian’; they imply that the compiler of the papyrus has read a treatise of the Hippocratic Corpus.<sup>15</sup> The fact that this papyrus collection is chronologically later than the Hippocratic gynaecological treatises could reinforce this hypothesis. However, the compiler of the papyrus collection may never have read any Hippocratic treatise, but have had access to small collections of recipes that had been absorbed independently into the Hippocratic writings.

Not all recipes on papyrus Rylands 531 have parallels in the Hippocratic Corpus. For instance, the third column of the papyrus bears a recipe for an *atokion* (contraceptive) that has no parallel in the Hippocratic gynaecologies:

Ατοκειον κηκιδος και ροα[ς] τα .  
 δια φυσεως των κοκκων κ[ ]<sup>16</sup>

The Hippocratic treatises contain only one recipe for an *atokion*, at *Diseases of Women* 1.76: Ἀτοκίον· ἦν μὴ δέη κύσκεισθαι, μίσυος ὅσον κύαμον διεῖς ὕδατι, πίνειν διδόναι, καὶ ἐνιαυτὸν, ὡς ἔπος εἰπεῖν, οὐ κύσκεται.<sup>17</sup>

<sup>13</sup> Roberts (1938): 167.

<sup>14</sup> Andorlini (1999): 442-443. See also Hanson (1998): 80. On otters in Egypt, see Herodotus 2.72.

<sup>15</sup> Andorlini (1981): 38; (1999); Hanson (1998): 80 talks about ‘subsequent recontextualization of Hippocratic medicaments’; Marganne (2001): 61 and (2004): 113 suggests that the papyrus may have had a Hippocratic or Cnidian source, or that the papyrus and *Diseases of Women* had a source in common; Préaux (1956): 147.

<sup>16</sup> P.Ryl. 531, recto col. III (Roberts 166.25-26). The combination of oak-gall and pomegranate appears in the Hippocratic Corpus, in a recipe against red flux. *Mul.* 2.192 (L8.372.19-21). Ἡ τάμισον ὄνειον καὶ σίδης γλυκεῖης ῥίζην καὶ κικίδα ἐξ ἴσου πάντα, καὶ ῥοιῆς γλυκεῖης χυλὸν ξὺν οἴνω πίνειν. Translation: ‘Or donkey’s rennet, root of sweet pomegranate-tree, oak-gall, of each the same amount, and juice of sweet pomegranate; drink with wine.’

It seems that more *atokia* recipes were circulated in antiquity than were integrated in the Hippocratic Corpus – unless the recipe of papyrus Rylands was ‘invented’ after the writing down of the Hippocratic gynaecological treatises. The similarities between the recipes of the Hippocratic treatises and the recipes on papyri must not be considered in a simplistic way, namely by suggesting that the Hippocratic treatises influenced the papyri. The Hippocratic treatises and the papyri are only two manifestations of a complex and extended transmission of pharmacological knowledge in antiquity. It is important to acknowledge that there are many missing links in this transmission. It is tempting to give a central importance to the texts of the ‘Hippocratic Corpus’, but these texts may not have been as familiar to readers in third-century Egypt as they are to modern historians of medicine.

I have suggested that small collections of gynaecological recipes were in circulation before – and after – the compilation of the Hippocratic gynaecological treatises. These small collections were most probably circulated anonymously; they cannot be called Hippocratic, they became Hippocratic when the treatises in which they were included were ascribed to the physician of Cos.

### 3.2.2 *The small collections are integrated into treatises*

As exposed in Chapter One, there are two competing interpretations of the links between *Nature of Women* and *Diseases of Women* I and II: some scholars believe *Nature of Women* to be an extract from *Diseases of Women*; others argue that these treatises use one or several common source(s). I would argue this later interpretation is to be favoured for the history of the catalogues of recipes; the compilers of the gynaecological treatises collected small collections of recipes to create the large catalogues of recipes found at the end of *Nature of Women* and *Diseases of Women* II and I. In other words, the compilers of the three main gynaecological treatises drew upon the same ‘stock’ of recipe collections, but organised them in different ways.

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<sup>17</sup> *Mul.* 1.76 (L8.170.7-8). Translation: ‘Contraceptive, if she does not want to bear children: copper ore (*misy*), in the amount of a bean; soak with water. Give to drink and for a year, so to say, she will not bear children.’

The catalogues of recipes at the end of *Diseases of Women I* and II are not mere disorganised addenda to these treatises, as was first noticed by Helga Trapp.<sup>18</sup> The ordering of the catalogues of recipes follows the ordering of matters in the main text of the treatises, i.e. a ‘chronological’ order from menstruation to birth in *Disease of Women I*,<sup>19</sup> and an organization by themes in *Diseases of Women II*.<sup>20</sup> This observation leads to the conclusion that the catalogues of recipes were integrated into the structure of *Diseases of Women I* and II when these treatises were first organised as we know them. According to Hermann Grensemann and Iain Lonie, this is likely to have happened at the end of the fifth century BC (Lonie: c. 420 BC; Grensemann: c. 400 BC).

Collections of recipes breaking away from the structure of the treatises – such as the non-gynaecological recipes found at the close of *Diseases of Women I* (*Mul.* 1.92-109) and the cosmetic recipes included in *Diseases of Women II* (*Mul.* 2.185-191) – might have been added after this date.

The non-gynaecological recipes at *Diseases of Women* 1.92-109 are qualified as spurious (νόθα τῆ τελευταίῃ τοῦ πρώτου περὶ γυναικείων βιβλίου προσκείμενα) in some manuscripts, and omitted in other manuscripts.<sup>21</sup> There is

<sup>18</sup> Trapp (1967): 37. See also Hanson (1971): 29 and 267; (1991): note 19.

<sup>19</sup>

Descriptions of diseases	Corresponds to collection(s) of recipes
1-9: menstruation	74: remedies to draw down the menses
10-24: conception	75: remedies to assist conception 76: contraceptive
25-34: pregnancy	No collection of recipes
35-73: birth and ailments occurring after the birth	From 77 (remedies to promote a quick childbirth) to 91 (remedies to expel the embryo if it is dead)

<sup>20</sup>

Descriptions of diseases	Corresponds to collection(s) of recipes
	185-191: cosmetics recipes
110-122: fluxes	192-199
123-153: the wandering womb	200-204
154-184: other afflictions of the uterus or genitals	205-212

<sup>21</sup> The word νόθα does not appear in all the manuscripts: for instance, it does not appear in the earliest manuscript of *Diseases of Women*: Manuscript Theta. These collections of recipes are omitted from Manuscript M. See Hanson (1971): 129.



only one recipe included in this section that has a parallel in another section of the gynaecological treatises:<sup>22</sup>

<i>Diseases of Women</i> 1.109 (spurious)	<i>Diseases of Women</i> 1.81
Ἦν δὲ θέλης χολὴν ἄγειν... Ἔτερον κολοκυνθίδος δραχμὴν τρίψας καὶ προβρέξας ἐν γάλακτι ὀνείῳ, μίσειν τὰ αὐτά.	Ἦν δὲ χολώδης ἦ, κολοκυνθίδας δύο ἀποβρέξαι ἐν γάλακτι ὀνείῳ ἕφθῶ ὅσον τέσσαρσι κοτύλῃσι, καὶ ἀπηθήσαντα κλύσαι, ξυμμίξει δὲ ἔλαιον ναρκίσσινον ἢ ἄνθινον

Whereas the recipe at *Diseases of Women* 1.109 is destined to draw out the bile, whatever the sex of the patient, the recipe at *Diseases of Women* 1.81 is for female patients only. This latter recipe includes a sweet-smelling ingredient (narcissus or lily oil), probably in order to make the preparation more pleasant for female patients.

One of the medications for which a recipe is given in the spurious section, the black remedy (τὸ μέλαν φάρμακον; recipe at *Mul.* 1.94), is recommended at *Diseases of Women* 2.126 for cases of displacement of the womb to the hypochondria.<sup>23</sup>

The recipes of the spurious section were probably qualified as ‘spurious’ simply because they were non-gynaecological; they do not seem to partake in a different type of pharmacology from the recipes prescribed in the remainder of the gynaecological treatises.

Recipes may also have been added to *Diseases of Women* I and II whilst respecting the ‘original’ structure of these treatises. For instance, chapters 192-199 of *Diseases of Women* II are collections of recipes against fluxes. The first five chapters are systematically organised by types of medication,<sup>24</sup> but are

<sup>22</sup> Translation:

<i>Mul.</i> 1.109 (L8.230.21 and 323.5-6)	<i>Mul.</i> 1.81 (L8.200.18-21)
If you want to draw the bile... Another: crush a <i>drachma</i> of gourd, soak beforehand with donkey’s milk; mix these ingredients.	If she is bilious: soak beforehand two gourds in boiled donkey’s milk, as much as four <i>kotyloi</i> ; filter <this preparation> and inject it, having added narcissus or lily oil.

<sup>23</sup> *Mul.* 2.126 (L8.270.15-16): Ἔς δὲ τὰς ῥίνας, τοῦ φαρμάκου τοῦ μέλανος, τοῦ τῆς κεφαλῆς, λαβόντα τῇ μήλῃ ἐμπλάσαι. Translation: ‘Having taken some black remedy (which is for the head) with a probe, plaster it onto the nostrils.’

<sup>24</sup> Chapter 192: drinks; 193: cataplasms; 194: injections; 195: fumigations; 196: pessaries.

followed by eight recipes against fluxes (chapters 197-199) jumbled up together, perhaps added at a later date.<sup>25</sup>

Recipes ‘invented’ in the fourth century may also have been integrated to the structure of the treatises. This may be the case for a recipe including a drug named ‘*philistion*’ (φιλιστίων).<sup>26</sup> Scholars generally consider this drug to be named after Philistion (Φιλιστίων), the Sicilian physician whose acme is situated in the middle of the fourth century BC; and Hanson argues that the recipe involving *philistion* was one of the last entries in the gynaecological treatises.<sup>27</sup> However, there is no way of telling whether the *philistion* of the Hippocratic treatises was named after the Sicilian physician. The Galenic lexicon of Hippocratic words does not raise this possibility.<sup>28</sup> In addition, there is no drug (whether simple or compound) named after a physician in the Hippocratic treatises; this seems to be a practice uncommon in classical Greece.<sup>29</sup>

Although the mention of the ‘*philistion*’ is difficult to use as a *terminus*, it should be noted that, at some point in time, the process of recipe accretion within the gynaecological treatises stopped; the treatises *Diseases of Women* I and II, including their catalogues of recipes, froze. The catalogues contain none of the long poly-pharmaceutical recipes fashionable in the late Hellenistic and Roman period. In addition, many recipes are introduced by formulae of the type ‘if... then’ which were not used in later recipes.<sup>30</sup> It is likely that the catalogues of recipes froze during the Hellenistic period, probably when *Diseases of Women* I and II were included in the collections of the Alexandrian library and attributed to Hippocrates.

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<sup>25</sup> Chapter 197: two infusions and one pessary against a watery flux; 198: a cataplasm against a watery flux; 199: one pessary and three drinks against fluxes.

<sup>26</sup> *Mul.* 2.201 (L8.386.9-10): Ἦ φιλιστίων ὁμοίως προστίθει. Translation: ‘Or apply *philistion* in the same way.’ See also *Nat. Mul.* 32 (Trapp 94.15; L7.360.14-15).

<sup>27</sup> Hanson (1996a): XXI; (1997): 305; (1998): 76. See also Andò (2000): 291, note 343; Thivel (1981): 96 who believes that the name of the physician probably became a plant name at the end of the fourth century BC. This recipe was long believed to be a *terminus post quem* for the composition of the gynaecological treatises instead of a *terminus ante quem*: see Gossen (1913): col. 1830; Wellmann (1901): 17.

<sup>28</sup> Galen, *Glossarium* 105 (K19.151.9): Φιλίστιον· τὸ αὐτὸ καὶ τοῦτο ἔοικεν εἶναι τῇ ἀπαρίνῃ καὶ φιλεταιρίῳ. Translation: ‘Philistion: it seems to be the same as *aparine* and *philetairion*.’

<sup>29</sup> The practice of naming a remedy after a physician or after a famous character becomes common in Roman times. The Mithridatic antidote, named after Mithridates VI, King of Pontus, is one example.

<sup>30</sup> See Chapter Two, Section Four.

*Nature of Women* is, as noted by Trapp, composed of two different treatises: treatise A (*Nat.Mul.* 1-34) and treatise B (*Nat.Mul.* 34-109). In each of these sub-treatises, the organisation of the catalogues of recipes does not follow the organisation of the nosological chapters.<sup>31</sup>

In *Nature of Women A*, the catalogues of recipes (*Nat.Mul.* 34-35) are organised by types of medications.<sup>32</sup> They share a large amount of material with the recipe collections of *Diseases of Women I* and II, but use an entirely different criterion of organisation.<sup>33</sup>

In *Nature of Women B*, the catalogues of recipes (*Nat.Mul.* 93-109) are organised either by efficacy or by types of medications. There are strong parallels between the organisation of the catalogues in *Nature of Women B* and *Diseases of Women II*. For instance, the catalogues found at *Nature of Women* 102-105, organised by types of medications, are shorter versions of catalogues of recipes found at *Disease of Women* 2.193-195.<sup>34</sup> However, whereas the latter catalogues list recipes against fluxes, the purpose of the recipes listed in the former catalogues is not indicated.

In addition, *Nature of Women B* also includes recipes that are not found anywhere else in the Hippocratic Corpus.<sup>35</sup> Here again the treatise may have been created by accretion of sources, independently from the compilation of *Diseases of Women*.

As in the case of the catalogues of recipes attached to *Diseases of Women I* and II, there is no strong argument against the suggestion that catalogues of recipes were attached to *Nature of Women A* and B when these treatises were first organised as we know them. If we follow Grensemann's chronology, this is likely to have happened in the second half of the fifth century BC. However, written collections of recipes could have been in circulation even earlier. Dividing the catalogues of recipes into layers, using philological criteria, as was

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<sup>31</sup> Trapp (1967): 32 and 36.

<sup>32</sup> Chapter 32: drinks and pessaries; 33: enemas; 34: fumigations.

<sup>33</sup> *Nat.Mul.* 32 has recipes in common with 7 chapters of *Mul.*I (1.74; 78; 79; 81; 84; 91; 109); 6 chapters of *Mul.* II (2.192; 200; 201; 205; 206) and with *Nat.Mul.* 109. *Nat.Mul.* 33 has recipes in common with three chapters of *Mul.* I (1.78; 80; 90) and one chapter of *Mul.* II (2.209). *Nat.Mul.* 34 has recipes in common with two chapters of *Mul.* II (2.95 and 203) and one recipe in common with *Nat.Mul.* 103.

<sup>34</sup> Chapter 102 (cataplasm) see *Mul.* 2.193; 103 (fumigations) see *Mul.* 2.195; 104 (injections) see *Mul.* 2.194; 105 (fomentations) see *Mul.* 2.193.

<sup>35</sup> See for instance *Nat.Mul.* 99 and 101.

suggested by Grensemann, would prove tedious and of little interest. On the other hand, it is important to ask when small collections of recipes started to be written down.

### 3.3 *The beginnings of the tradition of small collections of recipes*

Hanson noted that a pennyroyal recipe was ‘in use more than a century or two before a medical writer subsumed it into his collection’.<sup>36</sup> At the end of the seventh century, a recipe for a *kykeon* (i.e. a sort of porridge) containing pennyroyal first appeared in written form in the Homeric *Hymn to Demeter*, where it provides an aetiological myth for the consumption of the *kykeon* at the Eleusinian mysteries:

Τῆ δὲ δέπας Μετάνειρα δίδου μελιηδέος οἴνου  
πλήσας, ἢ δ’ ἀνέσευσ’· οὐ γὰρ θεμιτόν οἱ ἔφασκε  
πίνειν οἶνον ἐρυθρόν, ἄνωγε δ’ ἄρ’ ἄλφι καὶ ὕδωρ  
δοῦναι μίξασσαν πιέμεν γλήχωνι τερεῖνῃ  
ἢ δὲ κυκεῶ τεύξασα θεᾷ πόρεν, ὡς ἐκέλευε.<sup>37</sup>

A similar recipe for pennyroyal *kykeon* is found in *Diseases of Women II* in a chapter on the red flux:

Καὶ τῆς ψώρας τῆς ἀπὸ ἐλαΐης, καὶ κικίδα, καὶ πήγανον, καὶ ὀρίγανον,  
καὶ γλήχωνα ἐν ἀλφίτοισι σῆσαι καὶ φυρῆσαι, καὶ κρίμνα ἀπ’ ἀλφίτων  
ἀδρὰ φῶξαι, καὶ πύανα καταλέσας, καὶ τυρόν αἴγειον περιξύσας τὸ  
αἴσχος, τῶν μὲν ἄλλων ἴσον ἐκάστου μίσγε, ὀριγάνου δὲ καὶ πηγάνου καὶ  
ψώρας καὶ κικίδος ἥμισυ, ταῦτα πίνειν νῆστιν πρῶτ’ ἀπὸ τῆς κινήσιος·  
κιννάνα δὲ χρῆ καὶ ἐς χρῆσιν· ἦν δριμέα ἕη, καὶ κυκεῶνα διδόναι, ἐν μὲν  
τοῦ φαρμάκου μέρος ἕστω, ἐν δὲ τοῦ τυροῦ, ἐν δὲ τῶν ἀλφίτων. ἐς  
ἐσπέρην δὲ τοῦ μέλιτος ξυμμίσγοντα πιπίσκειν.<sup>38</sup>

<sup>36</sup> Hanson (1997): 305. See also (1996): XXI; (1998): 77-79.

<sup>37</sup> *Hymnus ad Cererem* 206-210. Translation: ‘Metaneira filled a goblet with honey-sweet wine and offered it to her <sc. Demeter>, but she refused saying that it was not righteous for her to drink red wine; and she prompted her to mix barley and water with the tender pennyroyal and give it to her as a drink. So she <sc. Metaneira> prepared the *kykeon* and gave it to the goddess, as she requested.’

<sup>38</sup> *Mul.* 2.113 (L8.244.8-16). Translation: ‘Moss from olive-tree, oak-gall, rue, oregano, pennyroyal, with barley groats, sieve, knead; and roasted coarse barley meal, ground *pyanos*

The two recipes have several points in common: they both include the traditional ingredient of the *kykeon* (barley groats, ἄλφιτον) to which water is added.<sup>39</sup> Both recipes also include pennyroyal (γλήχων), a plant associated with female ailments in classical literature.<sup>40</sup> Scholars have argued that, in the *Hymn*, Demeter chose to include pennyroyal in the *kykeon* because of its connections with female health and sexuality.<sup>41</sup> However, it is difficult to determine whether pennyroyal was included in the *Hymn* recipe because it had connections with female sexuality in the archaic period or earlier, or whether the herb was later used in female health-care because of its connections with the goddess. Finally, both the Hippocratic and Homeric *kykeones* have to be taken while fasting, an act laden with religious connotations in antiquity.<sup>42</sup>

There are also differences between the two recipes. First, the Hippocratic recipe has more ingredients than the Homeric recipe. Second, the context of transmission is different: the *Hymn* recipe is transmitted in a verse literary text, whereas the Hippocratic recipe is transmitted in a prose technical text.

It should be noted that recipes for *kykeones* are the only recipes found in the Homeric Corpus. In the tenth book of the *Odyssey*, Circe concocts a *kykeon*

(mixture of a variety of pulses), goat-cheese from which the filth (?) is removed. Mix an equal amount of each, except the rue, the moss and the oak-gall, of which there is half <a portion>. Give to drink while fasting in the morning before any movement. One must agitate before using it. If <the flux> is pungent, give a *kykeon*: let there be one portion of the previous remedy, one of cheese, one of barley groats. Towards the evening, add some honey and give to drink.'

<sup>39</sup> On *alphiton*, see Amouretti (1986): 123-124; Braun (1995); Dalby (2003): 46 (s.v. barley); Moritz (1949) and (1958): 151-152. The use of water is not expressly mentioned in the recipe of *Diseases of Women* 2.113 but is implied.

<sup>40</sup> On pennyroyal, see Dalby (2003): 254 (s.v. pennyroyal). In medical writings from the Hippocratic treatises to Dioscorides, Galen and Soranus, pennyroyal is recommended as an abortifacient and in childbirth. The audience of Aristophanes' *Peace* might have been aware of the use of pennyroyal as an abortifacient (*Pax* 712, see Riddle [1992]: 59-60; [1997]: 46-47; Scarborough [1991]: 144-145). In Aristophanes' *Lysistrata*, the word 'pennyroyal' is used as a metaphor for pubic hair (*Lys.* 89, see Henderson [1991]: 135).

<sup>41</sup> See Foley (1994): 47; Scarborough (1991): 144-145. Other explanations can be given for the use of this herb in the *Hymn kykeon*. For Delatte (1955): 38-39, the herb was simply chosen for its aromatic properties. Burkert (1987): 108 and Kerényi (1967): 96 suggested that pennyroyal was chosen for its mild hallucinogenic powers. Against this view, see Richardson (1974): 344; Foley (1994): 47.

<sup>42</sup> On the practice of fasting in ancient medicine, and its relations to religious practice, see Thivel (1999): 157-158. In other passages of the Hippocratic gynaecological treatises, the administration of a *kykeon* is preceded by fasting and a bath and followed by sexual intercourse – a series of acts laden with symbolic and religious connotations in antiquity. See for instance *Mul.* 2.162 (L8.342.2-4): Λουέσθω, καὶ διανιψαμένη ὕδατι ψυχρῷ κυκεῶνα πινέτω ἀναλτον, σίτου δὲ μὴ ἀψάσθω· ξυνευδέτω δὲ τῷ ἀνδρὶ δύο ἡμέρας ἢ τρεῖς. Translation: 'Let her bathe, and having made her ablutions with cold water, let her drink a *kykeon* without salt, and let her not take any food. Also, let her sleep with her husband for two or three days.'

spiced up with baneful drugs (*pharmaka lygra*) for Odysseus' companions.<sup>43</sup> And in the eleventh book of the *Iliad*, Hecamede prepares a *kykeon* for Nestor and the wounded Machaon.<sup>44</sup> Food preparation is usually not considered elevated enough a topic to be included in epics; but for the *kykeon*, an exception is made.<sup>45</sup>

It is difficult to determine whether these Homeric recipes for *kykeones* presupposed an extended tradition of recipe writing in the archaic period. No recipe has been preserved on papyrus, ostrakon, stone or any other material for this period. Albeit undocumented, the existence of such a tradition is possible from a theoretical point of view. Contrary to what happened in Egypt and the Near East, where literacy was the privilege of a caste of scribes, Greek artisans and merchants learnt to use writing soon after the adoption of the alphabet (c. 750 BC). In archaic Greece, medical practitioners were craftsmen who may have started to use writing as early as the seventh century BC. However, even if such a tradition is theoretically possible, sociological aspects have to be taken into account, as noted by Lonie:

But we must remind ourselves that the Greek doctor did not need to use writing in his craft, and that therefore he must have made a conscious decision to do so, because he saw some particular advantage in it. Medicine, like other crafts, tends to be traditional, discourages innovation, and protects its corporate nature, The private notebook, even if all it contains is a collection of private remedies, offers the means of breaking away from this corporate nature.<sup>46</sup>

Modern scholars generally believe that physicians started using writing for teaching purposes, when the art opened itself to people who were not members of medical families.<sup>47</sup> This conclusion is based on the following passage of Galen:

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<sup>43</sup> *Odyssey* 10.234 sqq.

<sup>44</sup> *Iliad* 11.638 sqq.

<sup>45</sup> An exception is also made for roasting meat (meat was a luxury), but this does not involve recipes.

<sup>46</sup> Lonie (1983): 156. See also Marganne (2004): 16-17.

<sup>47</sup> See Boudon (2004): 199; Dean-Jones (2003); Marganne (2004): 21. Kudlien (1970): 5-6.

Οὔτε τοῖς παλαιοῖς μέμφομαι μὴ γράψασιν ἀνατομικὰς ἐγχειρήσεις, καὶ Μαρίνον ἐπαινῶ γράψαντα. Τοῖς μὲν γὰρ περιττὸν ἦν αὐτοῖς ἢ ἑτέροις ὑπομνήματα γράφεσθαι παρὰ τοῖς γονεῦσιν ἐκ παίδων ἀσκουμένοις, ὥσπερ ἀναγινώσκειν καὶ γράφειν, οὕτως ἀνατέμνειν... Ἐπεὶ δὲ, τοῦ χρόνου προϊόντος, οὐ τοῖς ἐγγόνιοις μόνον, ἀλλὰ καὶ τοῖς ἔξω τοῦ γένους ἔδοξε καλὸν εἶναι μεταδιδόναι τῆς τέχνης, εὐθὺς μὲν τοῦτο πρῶτον ἀπολώλει, τὸ μηκέτι ἐκ παίδων ἀσκεῖσθαι τὰς ἀνατομὰς αὐτῶν· ἤδη γὰρ τελείοις ἀνδράσιν, οὓς ἐπίμησαν ἀρετῆς ἕνεκα, ἐκοινώνουν τῆς τέχνης... Ἐκπεσοῦσα τοίνυν ἔξω τοῦ γένους τῶν Ἀσκληπιαδῶν ἡ τέχνη, κᾶπειτα διαδοχαῖς πολλαῖς ἀεὶ χείρων γιγνομένη, τῶν διαφυλαζόντων αὐτῆς τὴν θεωρίαν ὑπομημάτων ἐδεήθησαν.<sup>48</sup>

To accept Galen's <sup>συγγραφή</sup> begs the question: Why was it felt necessary around the time of Hippocrates to teach medicine to people who were not members of medical families? Burkhard Meissner relates the reduction in the importance of the intra-family model of knowledge transmission (in the field of medicine, but also in the transmission of poetry, etc.) to political events. With the development of the city-state (*polis*) and of Greek colonization (eighth to sixth centuries BC),

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<sup>48</sup> Galen, *De anatomicis administrationibus* 2.1 (K2.280.1-282.1). Translation: 'Nor do I blame the ancients for not having written on the subject of practical anatomy, and I praise Marinus for having written <on this subject>. For the ancients, indeed, it was superfluous to write such treatises for themselves or for others, since, from childhood, they learnt from their parents how to dissect as well as how to read and write... But then, as time went by, it seemed good to share this art, not only with family members but also with people from outside the family. Following this, first the practice of anatomy from childhood was lost; for they shared the art with adult men who they judged worth of this honour because of their virtue... Thus the art having come out of the family of the Asclepiads, and having become weaker through many successions, they needed handbooks (*hypomnemata*) to preserve its theory.' A similar story is told in the *Commentary on the Hippocratic Oath*. This text is lost in Greek, but fragments have been transmitted in Arabic. The following fragment is transmitted by Ibn Abi Usaybi'ah 1.24 (Müller), translation Rosenthal (1956): 80-81: 'The places in which the craft of medicine was studied were, according to the information mentioned by Galen in his *Commentary on the Book of the Oaths by Hippocrates*, three in number: One was in the city of Rhodes, the second in the city of Cnidus, and the third in the city of Cos. <Medical> instruction in the city of Rhodes had disappeared, because the masters had no heirs. <Medical instruction> in the city of Cnidus was <nearing> extinction, because those who were heirs to it were just a few persons. In the city of Cos, where Hippocrates resided, <medical instruction> still persisted, <but only> a few remnants remained of it, because those who were heirs to it were few. Now, Hippocrates looked into the craft of medicine and found that it had almost disappeared, because there were few children in the family of Asclepius to inherit it. Therefore, he was of the opinion that he <should> spread it everywhere on earth, hand it over to the rest of mankind, and teach it to those who were deserving of it, so that it might not disappear. He said that "benefits should be liberally extended to all who deserved them, whether they be one's relatives or not." He took in strangers and taught them the craft of medicine. He established the written *Covenant* for them and made them swear the oaths contained in it.'

the Greek states came to play a more important role in the transmission of knowledge, and compromised the family model of transmission. By the classical period, the family model was outdated.<sup>49</sup>

However, the family model of transmission never entirely disappeared in the ancient world. To mention only one example, Plato, in the *Phaedrus*, mentions an example of a ‘dynasty’ of physicians (Eryximachos and his father Akoumenos).<sup>50</sup> Even if there was a collapse in the family model of transmission, this does not explain why physicians started to use writing: a master could teach orally apprentices that were not members of his family. I believe the scenario might have been the exact opposite of what Galen suggests: physicians started to write about their art; these writings attracted people who were not members of medical families; the medical profession had to open itself to new members. Physicians might have started to use the written medium, not so much for practical reasons (i.e. for teaching), but for symbolic reasons. By accumulating recipes in writing, physicians could demonstrate the extent of their medicinal knowledge; writing could act as a means to display knowledge in a very concrete manner. However, the question remains, why and when did physicians start to use writing?

The earliest physician credited with having written on medical matters is Democedes of Croton (sixth century BC).<sup>51</sup> The source (the Byzantine *Suda*) telling us that Democedes wrote a medical book might not be trusted; however, Diogenes Laertius tells us that another Crotoniate, Alcmaion, ‘talked’ (*legei*) about medical matters.<sup>52</sup> Both Democedes and Alcmaion were close to Pythagoras: Democedes is said to have married the daughter of the famous Pythagorean athlete Milo,<sup>53</sup> and Alcmaion was close to Pythagorean circles. Another Western philosopher, Empedocles of Agrigentum (early fifth century BC) wrote on drugs.<sup>54</sup> Each of these cases taken alone is problematic, but taken

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<sup>49</sup> Meissner (2003).

<sup>50</sup> Plato, *Phaedrus* 268a. See Althoff (1993): 217.

<sup>51</sup> *Suda* s.v. Δημοκίδης 442 (Adler 42.32-43.3): Δημοκίδης... Κροτωνιάτης, ιατρός... Ἐγραψεν ἰατρικὸν βιβλίον. Translation: ‘Democedes... Of Croton, physician.. He wrote a medical book.’

<sup>52</sup> Diogenes Laertius 8.83: Ἀλκμαίων Κροτωνιάτης... Καὶ τὰ πλεῖστα γε ἰατρικὰ λέγει. Translation: ‘Alcmaion of Croton... For the most, he talked about medical matters.’ See Althoff (1993): 21-212.

<sup>53</sup> See Herodotus 3.137.

<sup>54</sup> Empedocles fr. 31B111 (Diels and Kranz): Φάρμακα δ’ ὅσα γεγάσι κακῶν καὶ γήραος ἄλκαρ πύση. Translation: ‘And you will learn all the drugs that are a defence against ill and old age.’



together they point to a link between writing on medical matters and Western philosophy. This link was observed by Celsus:

*Primoque medendi scientia sapientiae pars habebatur, ut et morborum curatio et rerum naturae contemplatio sub iisdem auctoribus nata sit: scilicet iis hanc maxime requirentibus, qui corporum suorum robora inquieta cogitatione nocturnaque uigilia minuerant. Ideoque multos ex sapientiae professoribus peritos eius fuisse accipimus, clarissimos uero ex iis Pythagoran et Empedoclen et Democritum. Huius autem, ut quidam crediderunt, discipulus Hippocrates Cous, primus ex omnibus memoria dignus, a studio sapientiae disciplinam hanc separauit, uir et arte et facundia insignis.<sup>55</sup>*

Celsus' explanation of the link between philosophy and medicine, and the role of Hippocrates in detaching both disciplines, is certainly a fantasy. On the other hand, the link between medicine and philosophy does exist and should not be ignored. In my opinion, writing was applied to the transmission of medical knowledge and natural philosophy roughly at the same time, at the end of the sixth and the beginning of the fifth century BC. It might be argued that it is around this time that small collections of recipes were first written down.

### **3.4 The disappearance of the *Pharmakitis***

The Hippocratic gynaecological treatises were transmitted together with their catalogues of recipes. On the other hand, a book on drugs, entitled *Pharmakitis*, that was attached to *Affections*, is now lost. The references to this drug book in *Affections* are of the following type: Διδόναι δὲ τοῖσι τὰ τοιαῦτα ἀλγῆματα ἀλγέουσι καὶ τῶν φαρμάκων ἃ γέγραπται τῆς ὀδύνης παύοντα ἐν τῇ

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<sup>55</sup> Celsus, *Proemium* 7-8. Translation: 'At first, the science of healing was considered as part of philosophy, so that the treatment of diseases and the contemplation of the nature of things originated under the same authorities, undoubtedly because treatment was required most by those whose bodily strength had been weakened by restless thinking and nocturnal wakefulness. For that reason we find that many among the professors of philosophy were experts in medicine, the most famous among them being Pythagoras, Empedocles and Democritus. But it was, as some believe, a disciple of the last, Hippocrates of Cos, the first among all to be worthy of remembrance, a man remarkable both for his skill and eloquence, who separated this discipline from the study of philosophy.'

Φαρμακίτιδι.<sup>56</sup> From this reference, we can infer that the remedies included in the *Pharmakitis* were classified according to their action.<sup>57</sup> The references to the *Pharmakitis* always mention medications (*pharmaka*) in the plural. It therefore seems that the *Pharmakitis* included lists of alternative recipes, such as the one found at *Diseases* 3.17.<sup>58</sup>

The *Pharmakitis* also included information on diet, as can be seen from the following reference: Δυσεντερὴ ὅταν ἔχη (...) τὰ δὲ πόματα καὶ ῥυφήματα καὶ τὰ σιτία προσφέρειν κατὰ τὰ γεγραμμένα ἐν τῇ Φαρμακίτιδι.<sup>59</sup>

There are no traces of a treatise entitled *Pharmakitis* in the manuscript tradition of the Hippocratic Corpus, nor is there any mention of a *Pharmakitis* in relation to Hippocrates in the works of Galen or any other important medical writer of late antiquity. One may wonder whether this work was completely lost in antiquity or whether it circulated under a different title.

Hermann Schöne (1924) associated the *Pharmakitis* with a short fragment entitled ἐκ τοῦ περὶ φαρμάκων Ἱπποκράτου (*Peri Pharmakōn*), transmitted to us by a single Greek manuscript dating of the tenth or eleventh century: MS Urbinas gr. 64. For Schöne, this short fragment – which does not give any recipe – could have been the introduction to the lost *Pharmakitis*. His main argument in favour of this interpretation is the correspondence between a passage of *Affections* 36 and the fragment.<sup>60</sup>

<sup>56</sup> *Aff.* 15 (Potter 28.3-5; L6.224.6-8). Translation: ‘To those suffering these pains, give also among the remedies those which are prescribed in the *Pharmakitis* as stopping pain.’

<sup>57</sup> Goltz (1974): 140. This book contained, at the least, information on remedies against *pleuritis* (reference in *Aff.* 9), diseases caused by the bile (reference in *Aff.* 15), tertian and quartan fevers (references in *Aff.* 18), dysentery (reference in *Aff.* 23), strangury (reference in *Aff.* 28b), and sciatica (reference in *Aff.* 29).

<sup>58</sup> Ermerins (1862): LXIV interpreted *Diseases* 3.17 as a fragment of the *Pharmakitis*. Scholars disagree on whether this chapter was part of the original treatise *Diseases* III. See Jouanna (1974): 365, note 5 and 442-443 for bibliography. Jurk argued that, from a stylistic point of view, *Diseases* 3.17 is concordant with the rest of the treatise. The recipes are linked by τοῦτο μὲν... τοῦτο δέ, expressions which are characteristic of the style of *Diseases* III, and which are not generally used for linking recipes in the texts of the Hippocratic Corpus. Ilberg, on the other hand, argued that this chapter was part of *Sevens*, a treatise that recommends the use of cooling remedies in the treatment of *causus* (8.657 and 9.455).

<sup>59</sup> *Aff.* 23 (Potter 42.9 and 18-21; L6.234.15 and 21-23). Translation: ‘When there is dysentery... administer drinks (*pomata*), thick gruels (*rhuphemata*) and foods (*sitia*) according to what is written in the *Pharmakitis*.’

<sup>60</sup> Translation:

<i>Peri Pharmakōn</i> (Monfort [2002]: 706)	<i>Affections</i> 36 (L6.246.8-11; see also Potter 58.8-13)
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<i>Peri Pharmakōn</i>	<i>Affections</i> 36
Χρή οὖν πρῶτον διδόναι τοῖσι μὲν χολώδεσι ὅ τι χολήν καθαίρει, τοῖσι δὲ φλεγματούδεσιν ὅ τι φλέγμα, τοῖσι δὲ ὑδρωπιοειδέσι ὅ τι ὕδωρ, τοῖσι δὲ μελαγχολώδεσιν ὅ τι μέλαιναν χολήν.	Τουτοῖσι τοῖσι φαρμάκοισιν ἀποκαθαίροντα ὧδε χρῆσθαι· ὅσοι μὲν χολώδεές εἰσι, διδόναι τὰ ὑφ' ὧν χολή καθαίρεται· ὅσοι δὲ φλεγματούδεες τὰ ὑφ' ὧν φλέγμα· ὅσοι δὲ μελαγχολῶσι, τὰ ὑφ' ὧν μέλαινα χολή· τοῖσι δὲ ὑδρωπιῶσιν, τὰ ὑφ' ὧν ὕδωρ.

W. Artelt deleted the two last clauses from the text of *Affections* (ὅσοι δὲ μελαγχολῶσιν, τὰ ὑφ' ὧν μέλαινα χολή· τοῖσι δὲ ὑδρωπιῶσιν, τὰ ὑφ' ὧν ὕδωρ) because they refer to the humours dark bile and water, which are not mentioned anywhere else in the treatise.<sup>61</sup> However, although these two clauses were probably added after the first redaction of *Affections*, they are found in the manuscripts.

Dietlinde Goltz refused to see *Peri Pharmakōn* as an introduction to *Pharmakitis*, because, in her opinion the references to the *Pharmakitis* in *Affections* do not mention purgative remedies, which she sees as the object of *Peri Pharmakōn*.<sup>62</sup> However, very little can be inferred about the nature of the *pharmaka* included in the *Pharmakitis* from the references in *Affections*. In addition, Marie-Laure Monfort argued that *Peri Pharmakōn* is concerned with remedies in general, not with purgative remedies only.<sup>63</sup> It is therefore possible, although difficult to prove, that the *Peri Pharmakōn* was an introduction to the *Pharmakitis*.

First, it is necessary to give, to those who are full of bile, something that purges bile; to those who are full of phlegm, something that purges phlegm; to those who are full of water, something that purges water; and to those who are full of black bile, something that purges black bile.	Whilst cleansing, use remedies in the following manner: whenever they <sc. the patients> are bilious, give remedies that purge bile; whenever they are phlegmatic, give medications that purge phlegm; whenever they are melancholic, give medications that purge black bile; and to those who suffer from dropsy, give medications that purge water.
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<sup>61</sup> Artelt (1968): 87. See also Potter (1988): 58-59. *Affections* adopts a two-humour theory (phlegm and bile), expounded in chapter 1 and 37.

<sup>62</sup> Goltz (1974): 140-141. See also Harig (1980): 225.

<sup>63</sup> Monfort (2002): 698. On the modern history of this fragment, see also Monfort (2000).

According to Karl Deichgräber a fragment of the *Pharmakitis* can be identified in Aetius:<sup>64</sup> Ἴπποκράτης δὲ περὶ ὑπερκαθάρσεως οὕτω λέγει· ὅταν ὑπερκάθαρσις καταλάβῃ τὸν ἄνθρωπον, εὐθὺς εἰς βαλανεῖον ἐμβιβάσας αὐτόν, οἶνόν τε ἐπιπίνειν οἰκεῖον καὶ πρὸ τοῦ βαλανείου καὶ μετὰ τὸ βαλανεῖον κίρρον τὸ χρῶμα καὶ λευκὸν τῇ συστάσει.<sup>65</sup> This kind of dietetic recommendation could indeed have been found in the *Pharmakitis*. However, the word ὑπερκάθαρσις – a very rare word – does not appear in the Hippocratic Corpus: it is not a disease covered by any of the Hippocratic nosological treatises. In addition, the word βαλανεῖον (bath) appears only once in the Corpus.<sup>66</sup> It is therefore difficult to determine whether the prescription found in Aetius is really a fragment of the *Pharmakitis*, or indeed of any lost recipe book of the classical period.

I would argue that it is possible to identify fragments of the *Pharmakitis* in a treatise of the Hippocratic Collection: *Diseases II*. This suggestion is based on a comparison of the parallel redactions at *Diseases 2.42-43* and *Affections 18*:

<i>Diseases 2.42 and 43</i> (Jouanna 173.16-175.8; L7.58.22-60.24)	<i>Affections 18</i> (Potter 30.6-32.13; L6.226.4-228.5)
	Καὶ τριταῖοι δὲ καὶ τεταρταῖοι πυρετοὶ ἐκ τῶν αὐτῶν γίνεσθαι πεφύκασιν· αὕτη ἢ κατάστασις τῶν νοσημάτων μάλιστα μὲν τοῦ θέρους γίνεται· γίνεται δὲ ἐνίοισι καὶ τοῦ χειμῶνος.
Ἦν τριταῖος πυρετὸς ἔχη, ἦν μὲν μὴ παρὲς τρεῖς λήψιας τῇ τετάρτῃ λάβῃ, φάρμακον πῖσαι κάτω· ἦν δὲ σοι δοκῆ φαρμάκου μὴ δεῖσθαι, <u>τρίψας τοῦ πενταφύλλου τῶν ῥιζέων ὅσον ὀξύβαφον ἐν ὕδατι, δοῦναι πειν.</u> Ἦν δὲ μὴδὲ τοῦτω παύηται, λούσας αὐτόν πολλῶ θερμῶ, <u>πῖσαι τὸ τρίφυλλον καὶ ὀπὸν σιλφίου ἐν οἴνῳ ἰσοκρατεῖ καὶ κατακλίνας ἐπιβαλεῖν ἰμάτια πολλὰ ἕως ἰδρώση· ἐπὶν δ' ἐξιδρώση, δοῦναι πειν ἄλφιτον καὶ ὕδωρ· ἐς ἐσπέρην δὲ</u>	Τριταῖος δὲ πυρετὸς ὅταν ἔχη, ἦν μὲν σοι δοκῆ ἀκάθαρτος εἶναι, τετάρτη φάρμακον δοῦναι· ἦν δὲ μὴ σοι δοκῆ φαρμάκου δεῖσθαι, <u>διδόναι φάρμακα ποτά, οἷσι μεταστήσεται ὁ πυρετὸς ἢ ἀπολείψει· διδόναι δ' ὡσπερ γέγραπται ἐν τοῖς Φαρμάκοις· καὶ τῇ μὲν λήψει ῥυφήμασι καὶ ποτῶ διαιτῶν, ταῖς δὲ διὰ μέσου, σιτίοισι διαχωρητικοῖσι. Καὶ λαμβάνει δὲ ὡς ἐπὶ τὸ πολὺ οὐκ ἐπὶ πλείστον· ἦν δὲ μὴ θεραπεύηται, ἐθέλει μεθίστασθαι ἐς τεταρταῖον καὶ γίνεσθαι</u>

<sup>64</sup> Deichgräber *ap.* Olivieri (1935): 307.

<sup>65</sup> Aetius 3.118 (Olivieri 307.3-7). Translation: 'Hippocrates says the following concerning *hyperkatharsis*: when *hyperkatharsis* seizes a man, directly make him take a bath, and have him drink, both before and after the bath, a suitable wine, orange in colour (*kirron*), and transparent in consistency.'

<sup>66</sup> *Epid.* 7.45 (Jouanna 80.11-12; L5.414.10): 'Ἐν βαλανείῳ πρὸς πυρὶ χριόμενος ἐθερμάνθη. Translation 'While he was rubbing himself in his bath, next to the fire, he became feverish.'

<p>κέγχρον ἐψήσας λεπτόν ῥυφησάτω καὶ οἶνον ἐπιπέτω· ἕως δ' ἂν διαλείπη, σιτίοισιν ὡς μαλθακωτάτοισι χρῆσθω.</p>	<p>πολυχρόνιος.</p>
<p>43. Τεταρταῖος πυρετὸς ὅταν ἔχη, ἦν μὲν ἐξ ἄλλης νούσου λάβη ἀκάθαρτον, φάρμακον πῖσαι ἄνω, ἔπειτα τὴν κεφαλὴν καθῆραι, ἔπειτα φάρμακον πῖσαι κάτω· ἦν δὲ μὴδὲ ταῦτα ποιήσαντι παύηται, διαλείπων δύο λήψιας μετὰ τὴν κάτω κάθαρσιν, λούσας αὐτὸν πολλῶ θερμῶ, <u>πίσον τοῦ καρποῦ τοῦ ὑοσκυάμου ὅσον κέγχρον, καὶ μανδραγόρου ἴσον, καὶ ὀποῦ τρεῖς κυάμους, καὶ τριφύλλου ἴσον, ἐν οἴνῳ ἀκρήτῳ πείν.</u> Ἦν δ' ἐρρωμένος καὶ ὑγιαίνειν δοκέων, ἐκ κόπου ἢ ἐξ ὀδοπορίας πυρετήνας, καταστῆ ἐς τεταρταῖον, πυρήσας αὐτόν, <u>σκόροδα δοῦναι ἐς μέλι βάπτων· ἔπειτα ἐπιπνέτω φάκιον, μέλι καὶ ὄξος μίξας·</u> ἐπὴν δ' ἐμπλησθῆ, ἐμεσάτω· ἔπειτα λουσάμενος θερμῶ, ἐπὴν ψυχθῆ, ππέτω κυκεῶνα ἐφ' ὕδατι· ἐς ἐσπέρην δὲ σιτίοισι μαλθακοῖσι καὶ μὴ πολλοῖσι διαχρήσθω· τῇ δ' ἐτέρῃ λήψει λούσας θερμῶ καὶ πολλῶ, ἱμάτια ἐπιβαλὼν ἕως ἐξιδρώση, <u>πῖσαι παρχρήμα λευκοῦ ἔλλαβόρου τῶν ῥιζέων ὅσον τριῶν δακτύλων μῆκος, καὶ τοῦ τριφύλλου ὅσον δραχμὴν μέγεθος, καὶ ὀποῦ δύο κυάμους, ἐν οἴνῳ ἀκρήτῳ·</u> καὶ ἦν ἐμεσῖαι μιν ἔχωσιν, ἐμεσάτω· ἦν δὲ μὴ, ὁμοίως· μετὰ δὲ τὴν κεφαλὴν καθῆραι· σιτίοισι δὲ χρῆσθω ὡς μαλθακωτάτοισι καὶ δριμυτάτοισιν· ὅταν δὲ ἡ λήψις μιν ἔχη, μὴ νῆστις ἐὼν τὸ φάρμακον πινέτω.</p>	<p>Ἦν τεταρταῖος λαμβάνη, ἦν μὲν ἀκάθαρτος ἦ, καθαίρειν πρῶτον μὲν τὴν κεφαλὴν· καὶ διαλιπὼν τρεῖς ἢ τέσσαρας ἡμέρας, φάρμακον δοῦναι ἄνω αὐτῇ τῇ λήψει· διαλιπὼν δέ, ἕτερον κάτω αὐτῇ τῇ λήψει· ἦν δὲ μὴ πρὸς ταῦτα παύηται, διαλιπὼν, λούσας πολλῶ καὶ θερμῶ, <u>δοῦναι τῶν φαρμάκων ἃ γεγραπται·</u> ποτοῖσι δὲ καὶ ῥυφήμασι καὶ τῇ ἄλλῃ διαίτη χρῆσθαι, ὡς περ ἐπὶ τοῦ τριταίου. Λαμβάνει δὲ οὗτος ὁ πυρετὸς τοὺς μὲν πλείστους πολὺν χρόνον, τοὺς δὲ καὶ ὀλίγον.</p>
	<p>Καὶ γίνεται μὲν ὁ τριταῖος καὶ ὁ τεταρταῖος ὑπὸ χολῆς καὶ φλέγματος· διότι δὲ τριταῖος καὶ τεταρταῖος ἐτέρωθί μοι γέγραπται. <u>Δύναμιν ἔχει δὲ τούτων τῶν πυρετῶν τὰ φάρμακα πινόμενα, ὥστε τὰ σώματα κατὰ χώραν εἶναι ἐν τῇ ἐωθυίῃ θερμότητι καὶ ψυχρότητι, καὶ μήτε θερμαίνεσθαι παρὰ φύσιν μήτε ψύχεσθαι·</u> διδόναι δὲ, ὡς ἐν τῇ Φαρμακίτιδι γέγραπται.</p>

The chapters of *Diseases II* on tertian and quartan fevers are centred on the treatment of these diseases; whereas the parallel redaction at *Affections 18* is centred on their aetiology. Recipes and detailed dietetic prescriptions in *Diseases 2.42-43* are replaced by references to the *Pharmakitis* in *Affections 18*. One may suggest that the recipes at *Diseases 2.42-43* were also included in the *Pharmakitis*, as well as other recipes we find in *Diseases II* and the other nosological treatises (*Diseases III* and *Internal Affections*).

The chronology of the *Pharmakitis* is highly problematic. This recipe book could be anterior to both *Diseases II* and *Affections*.<sup>67</sup> In this case, one can suggest that the compilers of these two nosological treatises (and maybe also the compilers of other nosological treatises) exploited this recipe collection in different ways: the compiler of *Diseases II* selected a few recipes, whereas the compiler of *Affections* only referred to the recipe book. On the other hand, the *Pharmakitis* could be contemporary with *Affections*, but later than *Diseases II*; indeed, Jouanna considers *Affections* to be a late treatise. In this case, one may argue that the *Pharmakitis* absorbed the recipes included in *Diseases II*.

To sum up, the *Pharmakitis* included recipes and dietetic prescriptions, classified by efficacy and was maybe introduced by a theoretical passage. Some of its recipes can be read in the extant Hippocratic nosological treatises, and a possible fragment can be identified in the works of Aetius. However, this treatise is now lost in its original form, and was probably lost in antiquity. Recipe books tend to be ephemeral; changes in medical theory lead to changes in therapeutics, and therefore to the rewriting of recipe books. With the exception of Scribonius Largus' *Compositions*, none of the numerous medical recipe books written in the Hellenistic period and the early Roman Empire is preserved in its original form; we only know these books through quotations by authors such as Galen and the Byzantine encyclopaedists. Similarly, none of the cookbooks written in antiquity survives complete, as noted by John Wilkins and Shaun Hill:

Cookbooks can be influential in what they inspire, and ephemeral in themselves. They are a form of treatise that the author thinks worth

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<sup>67</sup> See Lonie (1968): 10.

writing, but that people do not keep in the long term. We should note that nearly all the cookery books cited by Athenaeus do not survive and had probably not survived to his day. Recipes in verse fared better.<sup>68</sup>

The *Pharmakitis* may have ceased to be copied in its entirety very early because it had been superseded by other recipe books.

### ***3.5 Conclusion: The ‘Hippocratic’ recipes are attributed to Hippocrates***

Some of the medicaments included in the Hippocratic treatises were familiar to writers active in the fourth century BC.

Diocles seemingly employed medicines similar to those found in the Hippocratic gynaecological treatises. Soranus reports that Diocles used a series of ingredients, including garlic, applied as pessaries to predict whether a woman could conceive or not.<sup>69</sup> The conception test through garlic is also recorded in *Barren Women*.<sup>70</sup> In addition, Aristotle mentions two means for testing whether a woman is barren or not:

Τὰς δὲ γυναῖκας βασανίζουσι τοῖς τε προσθέτοις, ἐὰν δικνῶνται αἱ ὄσμαι πρὸς τὸ πνεῦμα τὸ θύραζε κάτωθεν ἄνω, καὶ τοῖς ἐγγρίστοις εἰς τοὺς ὀφθαλμοὺς χρώμασιν, ἂν χρωματίζωσι τὸ ἐν τῷ στόματι πτύελον. Ταῦτα γὰρ οὐ συμβαίνοντα δηλοῖ τὸ σῶμα τοὺς πόρους δι’ ὧν ἀποκρίνεται τὸ περιττώμα συγκεχυμένους ἔχειν καὶ συμπεφυκότητας.<sup>71</sup>

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<sup>68</sup> Wilkins and Hill (1996): 147.

<sup>69</sup> Diocles fr. 172 (van der Eijk 276.9-13): Μάλιστα δὲ προσέχει σημειῶσει τῇ διὰ τῶν προσθέτων, οἷον ῥητίνης, πηγάνου, σκόρδου, καρδάμου, κοριάνδρου· εἰ μὲν γὰρ ἡ ποιότης προστεθέντων αὐτῶν μέχρι τοῦ στόματος ἀναφέροιτο, δύνασθαι φησιν συλλαμβάνειν αὐτάς, εἰ δὲ μή, τούναντίον. Translation: ‘He <sc. Diocles> particularly pays attention to an indication <that women can conceive> that make use of pessaries, such as resin, rue, garlic, cress, and coriander. For if the quality of the pessaries themselves is carried upward to the mouth, he says, these women can conceive; if not, the opposite.’ According to van der Eijk (2001): 315-317, this fragment is dubious.

<sup>70</sup> *Steril.* 214 (L8.416.2-5): Ἄλλο· μάλυζαν σκορόδου περικαθήραντα τὴν κεφαλὴν, ἀποκίσαντα, προθεῖναι πρὸς τὴν ὑστέριν, καὶ ὄρῃν τῇ ὑστεραίῃ, ἣν ὄζη διὰ στόματος· καὶ ἣν ὄζη, κηῖσει· ἣν δὲ μή, οὐ. Translation: ‘Another: Having washed and peeled a head of garlic, apply it to the womb, and see the next day whether she smells <of it> through the mouth; if she smells, she will be pregnant, if not, she will not.’ For more details on this recipe, see Chapter Five, Section Six.

<sup>71</sup> Aristotle, GA 747a.7-14. Translation: ‘They test women by means of pessaries <to see> whether the smell <of the pessary> penetrates upwards from below to the breath which goes out,

As already pointed out, the tests by means of pessaries are recommended in the Hippocratic gynaecological treatises. Furthermore, Simon Byl has recognised the test by means of colours at *Nature of Women* 99: Ἦν βούλη γυναικὸς ἐκπειρηθῆναι, εἰ ἔστι παιδιοῦσα εἴτε μή, τῇ ἐρυθρᾷ λίθῳ τοὺς ὀφθαλμοὺς ὑπαλεῖψαι, καὶ ἦν μὲν ἐσέλθη τὸ φάρμακον, παιδιοῦσα γίνεται· ἦν δὲ μή, οὐ<sup>72</sup> However, although the parallelism between the Hippocratic text and Aristotle is striking, it does not amount to a *verbatim* quotation.

The fragment of Diocles and the text of Aristotle indicate that these authors shared pharmacological knowledge with the compilers of the Hippocratic gynaecological treatises. On the other hand, these texts do not prove that these authors had access to our written collections of ‘Hippocratic’ recipes. The prescription at *Nature of Women* 99 is an aphorism that could easily be remembered and transmitted orally; the same goes for the indication to use smelling ingredients to test women’s fertility. Admittedly, Aristotle might have read some of the Hippocratic gynaecological and/or embryological works: there are many other examples of parallelisms between Aristotle’s biological works and some Hippocratic treatises, especially *Generation, Nature of the Child* and *Diseases IV*.<sup>73</sup> However, as noted by Byl, Aristotle never names Hippocrates, nor does he attribute the opinions that have parallels in our Hippocratic Corpus to any other medical authority. There are two possible explanations for this silence.

First, Aristotle might not have thought it necessary to name the sources of ideas he himself accepted.<sup>74</sup> It cannot be completely excluded that the ‘Hippocratic’ treatises were transmitted under other authorial names in the classical period. For instance, as seen earlier, parts of the gynaecological treatises and their recipes could have been circulated under the name of Euryphon (even though Euryphon probably did not compose any of our gynaecological treatises).

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and by means of colours rubbed onto the eyes <to see> whether they colour the saliva in the mouth. For if these <effects> do not occur, it is clear that, in the body, the passages through which the residues is secreted are mixed up and obliterated.’

<sup>72</sup> *Nat. Mul.* 99 (Trapp 122.1-3; L7.416.1-3). Translation: ‘If you want to test whether a woman is fertile or not, rub her eyes with the red stone: if the drug penetrates, she will become pregnant; if not, she will not.’ See Byl (1980): 40.

<sup>73</sup> See Byl (1980); Oser-Grote (2004).

<sup>74</sup> See Coles (1995). Coles’ article is criticised by Mc Gowan Tress (1999).



Second, Aristotle might have been quoting anonymous treatises and/or reporting ideas that he had heard. There is a strong probability that medical treatises including recipes were transmitted anonymously before being ascribed to Hippocrates. According to Rosalind Thomas, there may be a link between the number of anonymous treatises in the classical period and the fact that the *epideixis* (display of knowledge) was a favoured style of delivery in this period:

Even if an *epideixis* were written down, it might have a perilous chance of survival... One begins to wonder if the large number of anonymous texts we have from this period is partly a by-product of this situation: there is an explosion in the number of texts, as it were, but not of authors. The texts collected in the Hippocratic Corpus are of varied authorship, and though there has been debate since antiquity about which were genuinely by Hippocrates, many are effectively anonymous... The best chance of survival for a floating text was to be attached to the corpus of a well-known author... The very form of a written text of a display piece meant for oral delivery might contribute to later anonymity. An *epideixis*, after all, does not need to name the author of the piece, because the author is there proclaiming it.<sup>75</sup>

Several treatises of the Hippocratic Corpus clearly are epideictic texts that could have originated as oral display, such as *Airs, Waters and Places*, *The Sacred Disease*, *Fractures*, and *The Art*; other treatises (or parts of treatises) could have originated as oral didactic lectures.<sup>76</sup> Parts of the gynaecological treatises could have been delivered orally as lectures, which might have included aphorisms such as those indicating how to determine whether a woman is pregnant. But I have argued earlier that most of the recipes of the gynaecological treatises were not originally delivered as part of oral lectures; pharmacological knowledge was most probably transmitted through apprenticeship, not through lectures.<sup>77</sup> Recipes are not the exact reflection of this apprenticeship; they are a written genre. Rosalind Thomas' explanation cannot be applied to all the Hippocratic treatises.

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<sup>75</sup> Thomas (2003): 182-183.

<sup>76</sup> See Jouanna (1984).

<sup>77</sup> See Chapter Two, Section Three.

Another possible explanation for the anonymity of some of the Hippocratic treatises is that they were originally designed for circulation among a small group of people. Collections of recipes on papyrus do not bear authorial names because they were most probably written down for the personal use of their compilers, and maybe of their family-members and/or apprentices. In a small group, the author of a text would be known to everyone; he would therefore not feel the need to ‘put his name’ on his work. When these texts eventually came into public knowledge (it is difficult to control the circulation of a written text), they remained anonymous. However, again, this explanation cannot be applied to all the treatises of the Corpus: the author of *Affections*, for instance, claims to write for a broad audience of laymen.<sup>78</sup>

Whether the medical works to which Aristotle had access were anonymous or not, it is only in the Hellenistic period that, for entirely obscure reasons, the name of Hippocrates became central in the transmission of medical texts. But even so the attribution of some of the medical treatises to the Coan physician was debated. When the authorship of a Hippocratic book was disputed in antiquity, it was often attributed to one of Hippocrates’ family members or one of his pupils. For instance, Galen reports that *Diseases II* was thought by some to be the work of Hippocrates Junior, the grandson of Hippocrates and son of Thessalus.<sup>79</sup> In doing so, ancient scholars had found a way of explaining the heterogeneity of the Hippocratic Corpus, whilst recognising the authority of Hippocrates.

As will be argued in Chapter Seven, the gynaecological recipes benefited from their attribution to Hippocrates in a series of ways: they were commented upon, glossed and quoted by medical authors throughout antiquity. The authority of the name ‘Hippocrates’ allowed these recipes to be preserved despite numerous changes in medical theory. On the other hand, the *Pharmakitis* may never have been attributed to Hippocrates. If it had been, would Galen and other medical commentators have ignored it?

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<sup>78</sup> See Chapter Six, Section Three for more details.

<sup>79</sup> See Langholf (2004): 248.

**Appendix: Translations**

A = <i>Nat.Mul.</i> 109 (Trapp 125.23-126.11; L7.422.23-424.11)	B = <i>Mul.</i> 1.78 (L8.174.16-176.8)
1. Feminine purgatives if the purgation does not come. Take the inside of a bottle gourd, in the amount of three <i>oboloi</i> , the herb wormwood ( <i>artemisia</i> ), and one <i>obolos</i> of frankincense; crush, mix with honey. Wrap in wool; apply to the mouth of the womb once a day. Do this for five days.	1. If the lochial purgation does not occur. Take the inside of a bottle gourd, in the amount of three <i>oboloi</i> , the herb wormwood ( <i>artemisia</i> ), and frankincense, one <i>obolos</i> ; crush, mix with honey. Wrap in wool; apply to the mouth of the womb, day and night. Do this until five days have elapsed.
2. Another. Grind fresh vine in honey. Wrap in wool and apply in the same way.	2. Or grind fresh vine; mix with honey. Wrap in wool; apply in the same way.
3. Another. Crush together seed of cypress and frankincense; soak with rose perfume and honey. Wrap in wool; apply.	3. Or crush seed of cypress and frankincense together; soak with rose <oil or perfume> and honey. Wrap in wool; let her apply it.
4. Another. Crush wormwood ( <i>abrotonon</i> ), in the amount of three <i>oboloi</i> , in honey. Wrap in wool; apply.	4. Or wormwood ( <i>abrotonon</i> ), one <i>drachma</i> , the inside of the bottle gourd, one <i>obolos</i> ; crush in honey. Wrap in wool; apply.
5. Another. One <i>obolos</i> of squirting cucumber and one <i>obolos</i> of myrrh; crush in honey. Wrap in wool; apply.	5. Or one <i>obolos</i> of squirting cucumber and myrrh; crush in honey. Wrap in wool; let her apply it.
6. Another. Seed of cypress, inside of a bottle gourd and frankincense; crush together in honey. Wrap in wool; apply in the same way.	6. Or seed of cypress, inside of a bottle gourd and frankincense; mix with honey. Let her apply it in wool.

C = <i>Nat.Mul.</i> 95, 96 and 97 (Trapp 120.16-121.9; L7.412.15-414.9)	D = <i>Mul.</i> 1.78 (L8.178.12-180.1)
1. Expelling. The juice of squirting cucumber, in the amount of a potion; sprinkle into a dough. Apply having fasted for two days.	1. Expelling from the womb. The juice of squirting cucumber, enough to make as it were a little cake; apply as a plaster, having fasted for two days. You will not find anything better.
2. Test. Boil a head of garlic, apply to the womb. The next day, let her examine herself with her finger, and <see> if the mouth smells; if not, apply again.	2. Test. Boil a head of garlic; apply.
3. Test. Wrap a little oil of bitter almonds in wool, and see whether the mouth smells.	3. Another test. Wrap a little oil of bitter almond; wrap in wool. Apply and see if it smells through the mouth.

4. Pessaries. Wrap the bile of sea-scorpion in wool. Dry in the shade; apply.	4. Pessaries. Place the bile of sea-scorpion in wool. Dry in the shade; apply.
5. Another. Crush well dry pennyroyal, soak with honey; apply in wool.	5. Or dry pennyroyal; crush well. Soak with honey; apply in wool.
	6. Or flower of copper in honey; bind in a cloth. Apply.
6. Another. Seed of cucumber and burnt potsherd; soak with wine. Apply in hare hair and in wool.	7. Or seed of cucumber and burnt potsherd; soak with wine. Apply in hare hair or in wool.
7. Another Wrap Egyptian alum in wool; apply.	8. Another pessary. Wrap Egyptian alum in wool; apply.

E = <i>Nat. Mul.</i> 33 (Trapp 97.17-98.6 ; L7.366.16-368.6)	F = <i>Mul.</i> 1.78 (L8.192.16-194.4)	G = <i>Mul.</i> 2.209 (L8.404.7-404.19)
1. Another. Boil leeks in water, elderberry, anise, frankincense, myrrh, and wine; inject their juice.		1. Another injection, if there is excessive pain and strangury. Juice of leek, elderberry, hartwort, anise, frankincense, myrrh and wine; express their juice, mix and inject.
2. Another. Boil cabbage in water. In the juice of the cabbage boil mercury; add a little linseed. Then filter off and inject.	1. Injections against old ulcerations: inject the juice of boiled cabbage. And similarly with mercury. And add a little red soda.	
3. Another. Myrrh, an <i>oxybaphon</i> , frankincense, hartwort, anise, linseed, oil of bitter almonds, resin, honey, goose oil, white vinegar, the Egyptian <perfume?>; of each crush the same amount. Soak with two <i>kotylai</i> of white wine; then inject lukewarm.	2. An <i>oxybaphon</i> of myrrh, frankincense, hartwort, anise, celery seed, oil of bitter almonds, resin, honey, goose fat, white vinegar, white Egyptian perfume; crush well together the same amount of each. Then soak with two <i>kotylai</i> of white wine; inject lukewarm.	2. Or an <i>oxybaphon</i> of myrrh, the same amount of frankincense, the same amount of love-in-a-mist and cyperus, hartwort, anise, linseed, oil of bitter almonds, honey, resin, goose fat, white vinegar, Egyptian perfume, of each the same amount; soak with sweet white wine and inject.
4. Another. Boil mercury in water; filter off. <Add> an <i>oxybaphon</i> of myrrh, frankincense, oil of bitter almonds, of each the same amount; inject	3. Or boil mercury in water and filter off. Or an <i>oxybaphon</i> of myrrh, frankincense, hartwort, oil of bitter almonds, of each the	3. Or boil down water of mercury; <inject> with myrrh, frankincense and oil of bitter almonds.

lukewarm.	same amount; inject lukewarm.	
5. Another. Boil salvia and St John's wort in water; inject the water.	4. Or boil salvia and St John's wort in water; inject the water.	4. Or boil salvia and St John's wort in water and inject.
		5. Or linseed, anise, love-in-a-mist, hartwort, myrrh, seed of cassia; boil in wine and inject.
6. Another. Elderberry, bayberries, of each the same amount; boil in wine. Then inject the wine.	5. Or elderberry and bayberries; boil the same amount of each in wine. Then inject the wine.	6. Another injection, if a violent pain takes hold <of her> after the purgation: boil elderberry and bayberries in black wine and inject.

H = <i>Mul.</i> 2.158 (L336.12-21)	J = <i>Mul.</i> 2.205 (L392.17-394.5)
1. With softening pessaries... Excellent: egg yolk, goat suet, honey, rose oil, mix these, warm slightly over a fire, and collect the drops onto wool; apply.	1. Softening <remedies> for the womb. Sheep suet, egg whites, honey, rose oil; mix these with flour. Heat up on a slow fire; soften thoroughly the drops onto wool and apply.
2. Or seasoned red goose suet, rose perfume; mix these. Having soaked wool <with these>, apply.	2. Or seasoned red suet, goose oil, rose oil; melt these together and mix onto wool; apply.
3. Better: goose oil, or sheep suet, white wax, resin, oil of bitter almonds, rose oil; melt these together and mix. Having bathed herself, let her apply these lukewarm inside, to the mouth of the womb.	3. Goose oil or pork suet, white wax, oil of bitter almonds, rose oil, all of these as good as possible; mix well. Shred strips of cloths finely. Immediately after having bathed herself, let her apply these lukewarm to the mouth <of the womb>.
4. Or melt deer marrow and goose suet; mix with rose or iris oil. Apply very soft wool.	4. Or melt deer marrow and suet, mix well with rose oil; let her apply it in soft wool.

K = P. Ryl 531, col. II	L = <i>Mul.</i> 2.200 and 201
1. Provokes a purgation: seed of fennel, bark of samphire; give to drink in wine.	1. When there is pain and suffocation: root of mallow, or <i>oxymelon</i> , or bark of fennel and samphire; give to drink in water. It is excellent to vomit and to sit up.
2. Against suffocations from the womb: give dried otter kidneys, as much as can be taken with three fingers <i.e. a pinch>; take in sweet-smelling wine. It also helps against pains in the testicles and is a clyster for the womb.	2. When she is suffocated by the womb: castoreum and fleabane; let her drink these separately or together.

<p>3. Another if there is cough with the suffocation: realgar, unfired sulphur, an equal amount, five or four almonds; cleanse and mix well. Then &lt;give&gt; these in wine.</p>	<p>3. When &lt;the womb&gt; causes suffocation together with coughing: realgar, one <i>obolos</i>, unfired sulphur, the same amount; add three or four cleansed bitter almonds; give in sweet-smelling wine.</p>
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<p><i>Diseases</i> 2.42 and 43 (Jouanna 173-175; L7.58-60)</p>	<p><i>Affections</i> 18 (Potter 30-32; L6.226-228)</p>
<p>If there is a tertian fever, if not having slackened three attacks it attacks with the fourth; give to drink a medication acting downwards. If &lt;the patient&gt; does not seem to you to need a medication, <u>crush an oxybaphon of roots of cinquefoil in water; give to drink.</u> If &lt;the pain&gt; does not stop after this, wash him with a lot of warm water, <u>give to drink clover and juice of silphium in wine mixed with equal quantity of water,</u> put him to bed and cover him with many blankets so that he sweats. When he has sweat thoroughly, <u>give him barley groats and water to drink. Towards the evening, boil thin millet and let him drink it as a gruel, and let him drink wine afterwards.</u> Until the fever has discontinued, let him use the most emollient foods.</p>	<p>Both tertian and quartan fevers are disposed by nature to arise from the same causes. This kind of diseases occurs usually during the summer. However some &lt;diseases of this kind&gt; occur also in the winter.</p> <p>When &lt;the patient&gt; has a tertian fever, if he seems to you not to be purified, give him a medication on the fourth day. If, on the other hand, he does not seem to you to need a medication, give him medicinal drinks (<i>pharmaka pota</i>) that will make the fever change or cease. <u>Give these as it is written in the Remedies.</u></p> <p>During the attack prescribe gruels and drinks, on the days in between, laxative foods. In general, this disease does not attack with severity, but, if it is not treated, it is likely to change into a quartan fever and to become chronic.</p>
<p>43. When there is quartan fever, if it attacks a patient who has not been purified after another disease, give him a medication acting upwards to drink. Then purge his head and then give him a medication acting downwards to drink. If the fever does not stop when the patient does these things, leaving an interval of two attacks after the downwards purge, wash him with a lot of warm water, <u>have him drink henbane seed, in the amount of a millet grain, and the same amount of</u></p>	<p>If a quartan fever seizes &lt;a patient&gt; when he is not purified, first purge his head. And leaving an interval of three or four days, give a medication acting upwards during the attack. Leaving another interval, give a medication acting downwards during the next attack. If with these &lt;remedies&gt; the fever does not end, leaving an interval, cleanse him with a lot of warm water, and <u>give one of the remedies which are written.</u> Use the drinks, gruels and the rest of the diet, as in the case of the</p>

<p><u>mandrake, and three beans of &lt;mandrake&gt; juice, and the same amount of clover; give to drink in pure wine.</u> If, on the other hand, a patient who seems strong and healthy falls ill with fever as a <u>result</u> of fatigue or travelling, and his fever changes into a quartan fever, <u>give him heads of garlic dipped in honey. Then let him drink a decoction of lentils, mixed with honey and vinegar.</u> After he has filled himself, let him vomit. Then let him wash himself with warm water. When he has cooled down, let him drink a <i>kykeon</i> with water. Towards the evening, let him use emollient foods, but not in large amounts. During the next attack, wash him with a lot of warm water, cover him with blankets so that he sweats thoroughly, <u>and let him drink immediately roots of white hellebores, three fingers in length, a drachma of clover and two beans of juice, in pure wine.</u> And if &lt;the patient&gt; shows disposition to vomit, let him vomit. If not, &lt;let him vomit&gt; similarly, and afterwards purge his head. Let him use foods as emollient and as sharp as possible. When there is an attack, he should drink the medication while not fasting.</p>	<p>tertian fever. This fever attacks most patients for a long time, but others for a short time.</p>
	<p>The tertian and quartan fevers also occur because of bile and phlegm. This is why I have written about the tertian and quartan fever elsewhere. <u>Remedies drunk for these fevers have a power (<i>dynamis</i>) such as to leave the bodies undisturbed in their usual heat or cold, neither heated nor chilled against nature. Give them as written in the <i>Pharmakitis</i>.</u></p>

## 4 Hippocratic recipes between home remedies and *Haute Médecine*

### 4.1 Introduction

The recipes of the gynaecological treatises represent the vast majority (almost 85%) of the recipes recorded in the Hippocratic Corpus.<sup>1</sup> For most scholars this discrepancy between the gynaecological and ‘non-gynaecological’ treatises of the Corpus in their number of recipes is not a mere coincidence, as argued for instance by Iain Lonie:

If we exclude diet, therapy in Hippocratic texts reduces to a few simple formulae for purges and emetics. The one exception to this generalization is offered by the gynaecological texts. This apparent contrast between the gynaecological texts and other texts dealing with internal diseases may **not be accidental**. The gynaecological texts deal with a **social distinct group**, which may originally have been serviced by a **distinct medical personnel**, the midwives. Other, less tangible, considerations are consistent with the possibility that **before the application of literacy to medicine internal medicine hardly existed in Greece**.<sup>2</sup>

Lonie’s explanation in terms of a distinct social group with its own healers has been influential; since 1980, the recipes of the Hippocratic gynaecological treatises have been frequently interpreted as ‘home remedies’, transmitted orally by mothers to daughters for generations before assuming written form. However attractive this idea may seem, there is very little evidence to substantiate it: nowhere is it said in the Hippocratic gynaecological treatises that the recipes there included are ‘from women’. One of the most salient characteristics of the Hippocratic treatises is that, by contrast with later medical texts, they never mention their informants for pharmacological

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<sup>1</sup> There are 226 recipes in non-gynaecological treatises and 1436 recipes in total: that is, 15.73% of the recipes are non-gynaecological.

<sup>2</sup> Lonie (1983): 153-154. My emphasis.



knowledge; their recipes are always anonymous.<sup>3</sup> In this chapter, I argue that a polarization into female and male traditions is not helpful to understanding the gynaecological recipes: pharmacological knowledge, even when pertaining to female ailments, or rather especially when pertaining to female ailments, was diffused throughout Greek society. Conception of healthy babies was crucial for the functioning of Greek cities, and men certainly took an interest in gynaecological issues. When a woman's problems could not be solved within her household, experts – whether midwives, root-cutters, physicians or priests – made their entry; they possessed special powers, used chants and incantations, or had knowledge of dangerous and/or exotic plants.

The presence of exotic, expensive, flamboyant ingredients is particularly conspicuous in the Hippocratic collections of recipes. I argue that these types of ingredients might have acted as a way to transform traditional medicine into *Haute Médecine*. Another way for the medical writers to mark themselves off from traditional medicine was to regiment every aspect of their clients' lives through regimen; pharmacology was only one aspect of *Haute Médecine*.

In the final part of this chapter, I reconsider the contrast between the gynaecological and 'non-gynaecological' treatises of the Corpus. I argue that the relative lack of recipes in the 'non-gynaecological' treatises might be due more to the use of different 'literary' conventions than to a difference in actual practice; the nosological treatises often recommend *pharmaka*, but do not give recipes for the preparation of these drugs. Although the nosological treatises preserve fewer pharmacological recipes than the gynaecologies, they partake of the same *Haute Médecine*: a dietetic medicine geared towards the elite.

#### **4.2 Gender studies and the Hippocratic gynaecological recipes**

In 1980, two groundbreaking gender studies on the Hippocratic gynaecological treatises (the studies of Paola Manuli and Aline Rousselle) reached diametrically opposite conclusions on the role played by women in the composition of the gynaecological writings. For Manuli, Hippocratic gynaecology was a male science in which the relationship between male doctor and female patient reflected the links of

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<sup>3</sup> In Chapter Three, I discussed the only possible exception to this rule: the *philistion* drug. On 'naming' drugs in later times, see Chapter Seven, Section One.

subordination between female and male in Greek society. This male science reduced midwives to the role of assistants to male physicians.<sup>4</sup>

For Rousselle, on the other hand, the role of the male doctor in the Hippocratic gynaecological treatises was only to 'write down' an oral female tradition that had been transmitted from mother to daughter for generations. This medical knowledge was based on women's accurate observations of their own bodies.<sup>5</sup> With regards to recipes, Rousselle imagined the Greek woman as a '*cuisinière à son fourneau*, preparing in her kitchen, potions, infusions, pessaries, and injections according to the recipes given by the midwife, the physician or tradition.'<sup>6</sup> The French scholar therefore raised the possibility that some of the recipes originated outside of the female tradition and that a certain level of interaction between men and women was possible in the field of pharmacology.

Several scholars followed Rousselle in considering the Hippocratic gynaecological recipes as female knowledge written down by male doctors. Angus McLaren (1990) qualified the contraceptive practices described in the gynaecological treatises as 'female knowledge of which male writers were often simply the chroniclers'.<sup>7</sup> John M. Riddle, in a study of contraceptive and abortive remedies (1992), went even further in arguing that: 'The authors of these works probably did not understand the data and merely recorded it without assimilating and reformulating the material.'<sup>8</sup> Riddle also pointed out the similarities between ancient Greek and Egyptian remedies used for abortion, implying that the Greeks had 'imported' Egyptian knowledge.<sup>9</sup> Riddle's and McLaren's interpretations of ancient contraceptive medicaments, however, differ in an important respect: whereas for McLaren ancient contraceptives did not work, for Riddle they were efficacious – this efficacy was the result of empirical testing by generations of women.<sup>10</sup>

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<sup>4</sup> See also Manuli (1983): 154-162.

<sup>5</sup> See also Rousselle (1983): 38-40.

<sup>6</sup> Rousselle (1980): 1098. See also (1983): 53 (treatments for amenorrhea); 62 (abortive recipes).

<sup>7</sup> McLaren (1990): 28.

<sup>8</sup> Riddle (1992): 81.

<sup>9</sup> Riddle (1992): 82. For more details on Egyptian gynaecology and its possible influence on Greek gynaecology, see Chapter Five, Section Six.

<sup>10</sup> King (1995a): 139; (1995b): 207-208; (1998): Chapter Seven, 'Reading the past through the present. Drugs and contraception in Hippocratic medicine', argues, against Riddle, that the efficacy of ancient remedies should not be measured in bio-chemical terms; instead their cultural value should be assessed. See also Demand (1999); Hanson (1998): 74.

Most scholars, however, adopted a more nuanced picture of the respective roles of men and women in the creation of the Hippocratic gynaecologies. The treatises absorbed female knowledge; but male physicians did not merely write it down – they transformed it in the process. Ann Hanson is the most important exponent of this view. In her doctoral thesis (1971), she argued that the recipes of the gynaecological treatises were midwives' lore, although she accepted this assertion was difficult to prove: 'Our knowledge of midwives in fifth-century Greece is not extensive and sheds little light on the relation which midwifery may have had to our treatises.'<sup>11</sup> She also pointed out similarities between Egyptian, Hippocratic and twentieth-century Greek prognoses and therapies, and argued that, in these different contexts, 'prognostic procedures and therapies were the responses of midwives to essentially the same circumstance'.<sup>12</sup>

In later articles, Hanson suggested that the Hippocratic gynaecological treatises contained 'home remedies' and traditional anatomical and physiological concepts that were familiar to Greek women.<sup>13</sup> She noted that the authors of the gynaecological treatises, on two occasions, qualified their recipes as *gynaikeia* (women's things), 'for these recipes were the possession of women and they medicated women's diseases'.<sup>14</sup> The role of the Hippocratic male physicians was to organise these home remedies and traditional concepts into 'a coherent anatomy, physiology, and pathology'.<sup>15</sup> She writes:

In one sense, these medicaments, now incorporated in Hippocratic treatises, looked backward to earlier medical traditions, and they sometimes offer us a glimpse of pre-Hippocratic medical practices. The therapies also looked forward, for they show Hippocratics manipulating and adjusting earlier

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<sup>11</sup> Hanson (1971): 318.

<sup>12</sup> Hanson (1971): 320. For examples of twentieth-century remedies from the Greek islands, see Mills (1948). In her later work, Hanson is more critical of comparisons between remedies over such a large chronological and geographical span: see Hanson (1991): 78 and note 32.

<sup>13</sup> Hanson (1990); (1991); (1992a); (1992b). Hanson has since changed her position and given up the notion of 'home remedies'. See below.

<sup>14</sup> Hanson (1990): 310; (1992b): 235. See *Mul.* 1.64 (L8.132.23-24): Καὶ τῶν γυναικείων ὅ τι ἂν μάλιστα προσδέχεται πίσισκεν. Translation: 'And among the <remedies> for women give to drink those which are best accepted.' *Mul.* 2.113 (L8.244.4-5): Καὶ τῶν γυναικείων πειρώμενος, ὅ τι ἂν μᾶλλον προσίηται πίσισκεν. Translation: 'And among the <remedies> for women, try to give to drink those which are best accepted.'

<sup>15</sup> Hanson (1990): 310.

material to make it fit their own more self-conscious and more professional styles of medical narrative.<sup>16</sup>

Similar views have been held by Lesley Dean-Jones, Nancy Demand and Valeria Andò.<sup>17</sup> Dean-Jones argued that women in classical Greece were serviced by midwives and not by physicians. Her argument is based on the fact that there are only half as many female as male case studies in the *Epidemics*. Dean-Jones, however, suggest that the Hippocratic physicians attempted to ‘co-opt some aspects of traditional female healing’, by borrowing their recipes.<sup>18</sup>

Demand considered that ‘the bulk of the material in the gynaecological treatises consists of midwives’ or women’s lore, but the doctors perceived that lore through the conceptual lenses of the Greek male.’<sup>19</sup> She also suggested that the composition of the gynaecological writings might have led to the professionalisation of midwifery.<sup>20</sup> In fifth-century writings, midwifery does not appear as a well-defined medical profession, and it seems that any experienced female member of a community could act as a midwife when necessary. On the other hand, during the fourth century BC, the connection between midwifery and medicine is spelled out more clearly in literature – there may be a reference to a female physician in Plato’s *Republic* – and on funerary monuments.<sup>21</sup> Demand concludes that: ‘The increasing concern of men to control female reproductivity thus inadvertently also gave some women at least semi-professional status as doctors’ assistants.’<sup>22</sup>

Andò noted that perfumes, such as narcissus perfume, rose perfume, or lily perfume, were used exclusively in the treatment of female ailments in the Hippocratic Corpus. Now, these plants were traditionally associated with the female cultural space in the Greek world: they were offered to female Goddesses. Andò suggested reading

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<sup>16</sup> Hanson (1992b): 236.

<sup>17</sup> Demand (1994); (1998); Andò (1999); (2000).

<sup>18</sup> Dean-Jones (1995): 47.

<sup>19</sup> Demand (1994): 65. See also Demand (1998): 73.

<sup>20</sup> Demand (1995): 287.

<sup>21</sup> Plato, *Republica* 454d2 (Hermann): Οἷον ἰατρικὸν μὲν καὶ ἰατρικὴν τὴν ψυχὴν ὄντας τὴν αὐτὴν φύσιν ἔχειν ἐλέγομεν. Translation: ‘We meant, for instance, that a man and a woman who have a medical mind have the same nature.’ See Pomeroy (1978) for a discussion of this controversial passage. The stele of Phanostrate (IG 2<sup>2</sup>.6873), dated to the second half of the fourth century BC, (Athens) reads as follows: Μαῖα καὶ ἰατρὸς Φανοστράτη ἐνθάδε κείται [ο]ὔθενι λυπη<ρ>ά, πᾶσιν δὲ θανοῦσα ποθεινὴ. Translation: ‘Phanostrate, midwife (*maia*) and physician (*iatros*), lies here at rest. She caused pain to none, and her death was lamented by all.’

<sup>22</sup> Demand (1995): 287.

the presence of these perfumes in the Hippocratic gynaecological recipes as ‘elements of knowledge and practice not yet re-elaborated’ to be discovered ‘between the lines of the medical discourse’.<sup>23</sup>

Helen King has pointed out two major issues with these various attempts to ‘find female voices’ in the gynaecological recipes.<sup>24</sup> Firstly, although drug administration is often associated with women in Greek culture, nowhere is it explicitly said that these gynaecological recipes are the creation of women: scholars have assumed that this is the type of information mothers would transmit to their daughters. The fact that the recipes are called *gynaikeia* is not conclusive since this word is also used to designate women’s genitalia, the menses and women’s diseases in general.<sup>25</sup> Secondly, King considers that three types of ingredients used in the gynaecological recipes may cast doubts on this assumption. For instance, we may wonder if recipes including ingredients from the *Dreckapotheke* (ingredients which appear only in gynaecological recipes, as pointed out by the studies of Heinrich von Staden) are the reflection of women’s lore or whether they are the expression of men’s conception of female impurity.<sup>26</sup> In addition, ‘there are some recipes which, by their flamboyant and exceptional nature, may owe more to the competitive social climate of Hippocratic medicine, putting pressure on its practitioners to innovate.’<sup>27</sup> Finally, rare, expensive, imported ingredients, such as myrrh or frankincense, are not likely to feature in women’s home remedies, but seem to be used by Hippocratic physicians ‘to impress’. The ‘impressive’ character of many Hippocratic gynaecological recipes had previously been pointed out by Geoffrey Lloyd, who linked it to the organisation of medicine in ancient Greece. In a society where there was no medical licence, healers resorted to a variety of methods to convince potential clients of their powers: rhetoric, elaborate bandaging, impressive medicaments, etc.<sup>28</sup>

Despite these issues, King does not reject the possibility that some recipes might have stemmed from female self-help practices. She finds Hanson’s interpretation of the recipes as ‘home remedies’ that physicians integrated in a

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<sup>23</sup> Andò (1999): 256.

<sup>24</sup> King (1995a): 138-139; (1995b): 207; (1998): Chapter Seven, especially 132-133.

<sup>25</sup> King (1995a): 138.

<sup>26</sup> On the use of ingredients from the *Dreckapotheke* in Hippocratic gynaecology, see von Staden (1991); (1992a).

<sup>27</sup> King (1995b): 207.

<sup>28</sup> Lloyd (1983): 82.

coherent theoretical framework a ‘valuable compromise’.<sup>29</sup> King disagrees most with scholars who interpret recipes as a ‘transparent’ source for the history of ancient Greek women, and the physicians who wrote them down as mere ‘reporters’. She reminds us that the Hippocratic gynaecological treatises, together with their recipes, are texts; as with any other texts, we should try to understand the motivations of their authors.<sup>30</sup>

When they compiled their collections of recipes, the Hippocratic authors, in contrast to later medical compilers or to botanical writers such as Theophrastus, did not mention their sources for pharmacological knowledge. In the following sections of this chapter, building upon King’s work, I will investigate whether a polarization into female and male knowledge is helpful to understanding the Hippocratic recipes.

### ***4.3 The sources of the compilers of gynaecological recipes***

As noted by Hanson, the authors of the Hippocratic gynaecological treatises distinguish between two types of woman: the woman of experience (i.e. ‘the intelligent layperson who works with the doctor to maintain health or to combat illness’) and the shy and modest woman who lacks experience.<sup>31</sup>

Inexperienced women are difficult patients to treat, according to this passage of *Diseases of Women I*, because they are ashamed of their illnesses:

Καὶ ἔσθ’ ὅτε οὐδ’ αὐταὶ ἴσασι τί νοσέουσιν, πρὶν ἢ ἔμπειροι νούσων γένωνται ἀπὸ καταμηνίων καὶ ἔωσι γεραίτεραι· τότε δὲ σφέας ἢ τε ἀνάγκη καὶ ὁ χρόνος διδάσκει τὸ αἴτιον τῶν νούσων, καὶ ἔστιν ὅτε τῆσι μὴ γινωσκούσησι ὕφ’ ὅτε νοσεῦσι φθάνει τὰ νοσήματα ἀνίητα γινόμενα, πρὶν ἂν διδαχθῆναι τὸν ἰητρὸν ὀρθῶς ὑπὸ τῆς νοσεούσης ὕφ’ ὅτου νοσέει· καὶ γὰρ αἰδέονται φράζειν, κῆν εἰδῶσι, καὶ σφιν δοκέουσιν αἰσχρὸν εἶναι ὑπὸ ἀπειρίας καὶ ἀνεπιστημοσύνης.<sup>32</sup>

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<sup>29</sup> King (1995b): 208.

<sup>30</sup> King: (1995b): 202.

<sup>31</sup> Hanson (1990); quote p. 310.

<sup>32</sup> *Mul.* 1.62 (L8.126.7-14). Translation: ‘And sometimes they do not know themselves what they are suffering from, before they have experienced the diseases occurring because of the menses and are older. Then necessity and time teach them the cause of their diseases. Often for those women who do not know the origin of their suffering, diseases have become incurable before the doctor has been told by the sick woman of the origin of her disease. Indeed, they are ashamed of talking, even if they know.’

By contrast, women of experience know their body; a body that men could not really understand, because they were men.<sup>33</sup> Women of experience talk among themselves about their reproductive system and know the exact time when they have conceived, as in this anecdote narrated by the author of *Nature of the Child*:

Ὡς δὲ εἶδον τὴν γονὴν ἐκταίην ἐοῦσαν ἐγὼ διηγήσομαι. Γυναικὸς οἰκείης μουσοεργὸς ἦν πολύτιμος, παρ' ἄνδρα φοιτέουσα, ἣν οὐκ ἔδει λαβεῖν ἐν γαστρὶ, ὅπως μὴ ἀτιμωτέρη ἦ· ἠκηκόει δὲ ἡ μουσοεργὸς ὁκοῖα γυναῖκες λέγουσι πρὸς ἀλλήλας· ἐπὶ γυνὴ μέλλη λήψασθαι ἐν γαστρὶ, οὐκ ἐξέρχεται ἡ γονή, ἀλλ' ἔνδον μένει. Ταῦτα ἀκούσασα συνήκε καὶ ἐφύλασσε αἰεὶ, καὶ ὡς ἦσθετο οὐκ ἐξιούσαν τὴν γονήν, ἔφρασε τῇ δεσποίνῃ, καὶ ὁ λόγος ἦλθεν ὡς ἐμέ· καὶ ἐγὼ ἀκούσας ἐκελευσάμην πρὸς πυγὴν πηδῆσαι, καὶ ἐπτάκις ἦδη ἐπεπήδητο, καὶ ἡ γονὴ κατερρύνη ἐπὶ τὴν γῆν, καὶ ψόφος ἐγένετο, κακείνη ἰδοῦσα ἐθεήτο καὶ ἐθαύμασεν.<sup>34</sup>

The author of this anecdote readily believes the claims of the flute-girl regarding the age of her foetus, or at least he sees no problem in creating a fictional female character uttering such claims. However, whenever it suits them best, the physicians of the Hippocratic Corpus do not hesitate to contest women's calculations of the time of conception.<sup>35</sup> One Hippocratic author even refuses to believe that women can tell

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And, because of their inexperience and ignorance, their <diseases> seem to them to be shameful.' On the interview of the female patient, see Lloyd (1983): 76-79. On women as untrustworthy patients, see also Dean-Jones (1995): 48-49.

<sup>33</sup> See Dean-Jones (1995): 55 and 58.

<sup>34</sup> *Nat.Puer.* 13 (Joly 55.7-18; L7.490.2-12). Translation: 'I will describe how I came to see six-days old seed. There was, <in the house> of a woman related to me, a musician of high value who frequented men and who could not become pregnant lest she lost her value. This musician had heard what women say among themselves, namely that, when a woman has conceived, the seed does not come out, but stays inside. Having heard these things, she understood and remembered them forever. And when she realised that the seed had not come out, she told her mistress, and the story came to my ears. Having heard it, I ordered her to jump up and down, <touching> her buttocks <at each jump>. After she had jumped no more than seven times, the seed fell out, there was a noise, and she looked at it in great surprise.' On this story, see Lonie (1977b); (1981): 54. *Carn.* 19 (Joly 200-201; L8.608-610) has a similar story which seems to be modelled upon *Nat.Puer.* 13.

<sup>35</sup> See *Epid.* 4.20 (Smith 114.1-5; L5.160.6-8): abortion of a thirty-day foetus; 4.22 (Smith 112.3-5; L5.162.4-7): abortion of a sixty-day foetus. See Lloyd (1983): 68.

when they have conceived by interpreting bodily signs: Γνώσεται δὲ, ἣν ὁ μὲν ἀνήρ φῆ ἀφιέναι, ἡ δὲ γυνὴ ἀγνοῆ ὑπὸ ξηρότητος.<sup>36</sup>

If the Hippocratic writers admit that women have some knowledge of their bodies, they are silent about women's knowledge of how to heal their diseases. The use of feminine participles in some recipes seems to indicate that women were expected to prepare remedies.<sup>37</sup> However, it is often difficult to tell whether these feminine participles refer to the patient herself or to a doctor's attendant. In addition, these feminine participles do not imply that the recipes are the 'invention' of women; only that women are involved in the preparation of medicines. There is, in the entire Hippocratic Corpus, only one – extremely vague – reference to a woman's initiative to medicate herself: Τῆ Σίμου τὸ τριηκοσταῖον ἀπόφθαρμα· πιούση τι ἢ αὐτόματον τοῦτο ξυνέβη.<sup>38</sup>

One might expect midwives – be they 'professional' midwives or only experienced women acting as female healers – to have administered drugs in classical Greece. According to Plato, μαῖαι (a term frequently translated as 'midwives') were able to provoke labour and cause abortions by means of drugs and chants.<sup>39</sup> However, as pointed above, midwives are almost invisible in the Hippocratic Corpus; the word μαῖα does not appear in the Corpus,<sup>40</sup> and there are only three occurrences of words that can be translated as 'the midwife': ἡ ὀμφαλητόμος (the cutter of the umbilical cord), ἡ ἀκεστρίς (the female healer), and ἡ ἰητρεύουσα (the healing woman).<sup>41</sup>

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<sup>36</sup> *Steril.* 220 (L8.424.18-19). Translation: 'She will know <that she has conceived> if her husband tells her he has ejaculated; the woman will not know it through the dryness <of her vagina>.' This paragraph has a parallel at *Superf.* 26 (Lienau 82.15-16; L8.490.6-7). See Hanson (1999): 244.

<sup>37</sup> See Chapter Six, Section Four for an analysis of these feminine participles.

<sup>38</sup> *Epid.* 5.53 (Jouanna 24.11-12; L5.238.4-5). Translation: 'The wife of Simos, abortion on the thirtieth day; it happened after she drank something or spontaneously.' This paragraph has a parallel at *Epid.* 7.74 (Jouanna 93.4-5; L5.432.2-21).

<sup>39</sup> Plato, *Theaetetus* 149c: Καὶ μὴν καὶ διδοῦσαί γε αἱ μαῖαι φαρμάκια καὶ ἐπάδουσαι δύνανται ἐγείρειν τε τὰς ὠδῖνας καὶ μαλθακωτέρας, ἂν βούλωνται, ποιεῖν, καὶ τίκτειν τε δὴ τὰς δυστοκούσας, καὶ ἐὰν νέον ὄν δόξη ἀμβλίσκειν, ἀμβλίσκουσιν; Translation: 'Moreover, midwives can indeed, by means of drugs and incantations, provoke the pains <of labour> or make them milder whenever they want? And they can deliver babies in difficult labours? And, if it seems good to them to cause an abortion when the embryo is young, they cause an abortion?'

<sup>40</sup> See Hanson (1996b): 168; Manuli (1983): 186-187 and the bibliography there given.

<sup>41</sup> The word ἡ ὀμφαλητόμος (the cutter of the umbilical cord) appears at *Mul.* 1.46 (L8.106.5-8): Ἦν δὲ γυναικὶ τὸ χορίον ἐλλειφθῆ ἐν τῆσι μήτρῃσι, τοῦτο δὲ γίνεται, ἣν ῥαγῆ βίη ὁ ὀμφαλὸς ἢ ἀμαθίη ὑποτάμη ἢ ὀμφαλητόμος τὸν ὀμφαλὸν τοῦ παιδίου πρόσθεν ἢ τὸ χορίον ἐξιέναι ἐκ τῶν μητρῶων... Translation: 'If the afterbirth remains in the womb. This happens when the navel breaks because of a violent <birth> or when, by ignorance, the cutter of the umbilical cord cuts the baby's umbilical cord before the afterbirth has come out of the womb.' On the fact that the cutter of the umbilical cord is faulted for cutting too early, see Hanson (1996b): 173. The word ἡ ἀκεστρίς (the female healer) appears at *Carn.* 19 (July 202.22-203.1; L8.614.8-12): Θαυμάσειε δ' ἂν τις καὶ τοῦτο ὅστις ἄπειρος



However, these ‘midwives’ are mentioned in relation to childbirth, especially in relation to cutting the umbilical cord; women do not provide drugs in the Hippocratic writings.<sup>42</sup>

In contrast to the picture emerging from the Hippocratic gynaecological treatises, women are frequently presented as possessing pharmacological knowledge in other Greek texts. It is not rare for women in Greek myths and legends to be skilful in the preparation of drugs: witness Helen, Medea and Circe, to mention only a few.<sup>43</sup> In tragedies and comedies, ‘real women’ are often represented concocting love philtres and poisons – Greek women, it seems, only use their pharmacological knowledge to negative ends, whereas men are pictured preparing healing medicines.<sup>44</sup> However, this portrayal of women as poisoners and enchantresses might be the result, to use the expression of John J. Winkler, of ‘fictitious denial and transfer’; the reading of the Greek magical papyri suggests, on the contrary, that men – and not women – prepared philtres and charms.<sup>45</sup> This is not to say that women did not possess any pharmacological knowledge in ancient Greece; rather, it seems that our written sources are biased when picturing this knowledge.

In these circumstances, should we polarize pharmacological knowledge in classical Greece into female and male traditions? It is important to note that, if the authors of the Hippocratic gynaecologies do not mention women as a source for their

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εἴη, εἰ ἐπτάμηνον γίνεται παιδίον· ἐγὼ μὲν οὖν αὐτὸς ὄπωπα καὶ συχνά· εἰ δέ τις βούλεται καὶ τοῦτο ἐλέγξει, ῥηίδιον· πρὸς τὰς ἀκεστρίδας αἱ πάρεισι τῆσι τικτούσησιν ἐλθὼν πυθέσθω. Translation: ‘Whoever is ignorant in this matter will be surprised that a child may be born at seven months. And if someone wants to check this, it is easy: let him inquire about this from the female healers who assist women in labour.’ The word ἡ ἰητρεύουσα (the healing woman) appears at *Mul.* 1.68 (L8.144.22-24): Τὴν δὲ ἰητρεύουσαν τὰ στόματα μαλθακῶς ἐξανοίγειν, καὶ ἡρέμα τοῦτο δρᾶν, ὀμφαλὸν δὲ ζυνοφέλκεσθαι τῷ ἐμβρύῳ. Translation: ‘The healing woman should open the mouth <of the womb> softly and draw the umbilical cord out together with the child.’

<sup>42</sup> Littré’s edition at *Mul.* 1.67 (L8.140.14-16) may lead us to believe that there is one reference to women administering drugs in the Corpus: Ἦν δὲ γυνὴ ἐκ τρωσμοῦ τρῶμα λάβη μέγα, ἢ προσθέτοισι δρμῆσιν ἐλκωθῆ τὰς μήτρας, οἷα πολλὰ γυναικες ἀεὶ δρῶσί τε καὶ ἰητρεύουσι... Translation: ‘If a woman receives a large lesion after an abortion, or wounds her uterus by harsh pessaries such as women always do when they treat.’ However, the main manuscripts have the passive ἰητρεύονται (when they are healed) instead of the active ἰητρεύουσι. See Hanson (1995): 300; Grensemann (1982): 138 and 171.

<sup>43</sup> Helen: see for instance *Od.* 4.219 sqq. See Chapter Five, Section Three for a discussion of this passage. Medea: see for instance the tragedy of Sophocles entitled *Rhizotomoi* (*The Root-cutters*) (frs. 491-493 Nauck) in which Medea is presented as gathering poisonous herbs. Circe: see for instance *Od.* 10.213.

<sup>44</sup> Women preparing love philtres: see for instance Euripides, *Hipp.* 479 and 509. Women preparing love philtres: see for instance Aristophanes, *Thesm.* 561. See also references in Ehrenberg (1951): 152; 198 and 262; Just (1989): 265-268. On men preparing healing drugs, see for instance Aristophanes, *Thesm.* 486. See also references in Ehrenberg (1951): 198, note 9.

<sup>45</sup> Winkler (1990): 90. See also Demand (2002): 38.

recipes, they do not mention men either. Is it possible to suggest that, in some cases, pharmacological knowledge was shared by men and women alike in classical Greece, even when this knowledge pertained to gynaecological ailments? I would argue that, in many cases, men would have understood the rationale behind the use of particular ingredients in the Hippocratic gynaecological recipes. A few examples will show that, when the Hippocratics included ingredients in their recipes, they could not free themselves from the cultural implications attached to these products.

Deer's marrow appears in a series of recipes for emollient pessaries, as in the following example:

Προσθέτοισι μαλθακοῖσι... Ἡ ἐκλέψας κόκκους πεντεκαίδεκα, ἕστω δὲ καὶ ἰνδικοῦ ποσὸν, ἣν δοκέη δεῖν, ἐν γάλακτι δὲ γυναικὸς κουροτρόφου τρίβειν, καὶ παραμίσειν ἐλάφου μυελὸν καὶ τὰλλα ὀκόσα εἴρηται, καὶ μέλιτι ὀλιγῶ μίσειν· τὸ δὲ εἴριον μαλθακὸν καθαρὸν ἕστω, καὶ προστίθεσθαι τὴν ἡμέρην.<sup>46</sup>

Now, in the *Physiognomics*, Pseudo-Aristotle reports that the deer, together with the hare and the sheep, are the most cowardly of animals.<sup>47</sup> The deer is a 'soft' animal, and the use of its marrow in an emollient pessary, alongside woman's milk and soft wool, does not come as a surprise. Besides its cowardice, the deer was known in antiquity for its vigorous sexual life, as described by Aristotle in his *History of Animals*.<sup>48</sup> Powder of deer penis appears in a Hippocratic therapy for conception:

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<sup>46</sup> *Mul.* 2.158 (L8.336.2 and 7-11). Translation: 'With emollient pessaries... Or fifteen shelled grains <of Cnidus>, let there also be, if it seems necessary, a portion of Indian <remedy; i.e. pepper>; crush in the milk of a woman who has borne a boy. Add deer marrow and all the other <ingredients> as it was said; mix with a little honey. Let the wool be soft and clean; apply for the day.'

<sup>47</sup> [Aristot.], *Physiognomica* 2 (806b8): Δειλότατον μὲν γὰρ ἐστὶν ἔλαφος λαγῶδες πρόβατα. Translation: 'For the deer, the hare and sheep are the most cowardly <of all animals>.' See Sassi (2001): 48.

<sup>48</sup> Aristotle, *HA* 6.29 (578b6-8). 'Ἡ δ' ἔλαφος τὴν μὲν ὀχείαν ποιεῖται, καθάπερ ἐλέχθη πρότερον, τὰ πλείστα μὲν ἐξ ὑπαγωγῆς (οὐ γὰρ ὑπομένει ἢ θήλεια τὸν ἄρρενα πολλακίς διὰ τὴν συντονίαν). Translation: 'The hind, as I have already said, breeds mostly to purge herself (for the female often cannot endure the male because of the intensity).'

Μετὰ δὲ ταύτην τὴν πυρήσιν καὶ ἐλάφου αἰδοίου ὑποθυμῆσαι, καὶ ὅταν ἴδῃς ἔχειν αὔον, τούτου ἐπ' οἶνον λευκὸν κεκρημένον ἐπιξύων, ἐπὶ τρεῖς ἡμέρας διδόναι πίνειν, καὶ ὅταν ὠδίνῃ, διδόναι πίνειν, καὶ γὰρ ὠκυτόκιόν ἐστι τοῦτο.<sup>49</sup>

The function of the penis is clearly to prepare the woman for a fruitful intercourse with her husband: this recipe is one of the many manifestations taken by sexual therapy in the gynaecological treatises.<sup>50</sup> However, sexual therapy usually takes a less explicit form in the Hippocratic recipes. Instead of the penis of a deer, the powder made from deer horn is often recommended in the recipes, as in the following example: Ἦν μετακινήθεισαι προσπέσωσί που αἰ ὑστέραι, κριθᾶς πτίσας, σὺν τοῖς ἀχύροις, καὶ πρόμαλον, καὶ ἐλάφου κέρας, οἶνω δεύσας, ὑποθυμῆν.<sup>51</sup>

The horn is an obvious phallic symbol, and the word κέρας is sometimes used in the Attic comedies as double-entendre for the phallus;<sup>52</sup> the Hippocratics are not entirely original in their use of deer horn.

When they use figs too, Hippocratics reflect the cultural connotations attached to this fruit in Greek society. In one passage of *Diseases of Women II*, the mouth of the womb hardened by a disease is compared to a hard wild fig (ἐρινέον).<sup>53</sup> Cures for a hardened vagina usually involve fresh or dried figs – *similia similibus* – as in the following example: Προσθετὸν καθαρτικὸν μαλθακόν· ἰσχάδα λαβὼν δῖεφθον ποιέειν, καὶ ἀποπέσας τρίβειν ὡς λειοτάτην, εἶτα πρόσθεσ ἐν εἰρίῳ καὶ ῥοδίῳ μύρω.<sup>54</sup>

Now the comparison between vagina and fig is not unique to the authors of the gynaecologies. The iambic poet Hipponax (sixth century BC) uses the word ἰσχάς to

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<sup>49</sup> *Steril.* 224 (L8.434.10-14). Translation: 'After this fomentation, fumigate the penis of a deer. And when you see it is dry, scrape some of it in mixed white wine; give to drink for three days. Also give to drink when she is in labour because it speeds up the birth.' On this recipe see Barras (2004): 101 and Gourevitch (1999): 210 who is surprised that such a 'witch's ingredient' could have found its way into the Hippocratic Corpus.

<sup>50</sup> On the use of sexual therapy in the Hippocratic gynaecological treatises, see Dean-Jones (1992); King (1994).

<sup>51</sup> *Nat. Mul.* 75 (Trapp 116.17-19; L7.404.17-19). Translation: 'If the displaced womb falls upon some part, crush winnowed barley, together with its chaff, *promalos*, and deer horn; soak with wine. Fumigate.'

<sup>52</sup> See Henderson (1991): 127 for references.

<sup>53</sup> *Mul.* 2.163 (L8.342.12-13): Ἦν δὲ τὸ στόμα τῶν μηρέων ξυμμύση, γίνεται ἰσχυρὸν ὡς ἐρινέον. Translation: 'If the mouth of the womb is closed, it becomes hard like a wild fig.' This paragraph has a parallel redaction at *Nat. Mul.* 39 (Trapp 105.15; L7.382.15).

<sup>54</sup> *Mul.* 1.74 (L8.156.5-7). Translation: 'Softening purgative pessary: take a dry fig and boil it well. Squeeze the juice out and crush as well as possible. Then apply in wool and rose oil.' See also *Mul.* 2.155 (L8.330.15). The use of figs to cure hardened vaginas was noted by Craik (1998): 226.

designate the vagina;<sup>55</sup> and there is a prostitute called Ischas in Menander's *Colax*.<sup>56</sup> The fig (σῦκον) is used in the comedies as a metaphor for both the penis and the vagina, as in the nuptial hymn of Aristophanes' *Peace*:

ΤΡ. Οἰκήσετε γοῦν καλῶς  
οὐ πράγματ' ἔχοντες, ἀλ-  
λὰ συκολογοῦντες.  
'Υνὴν, 'Υμέναι, ὦ.  
'Υμὴν, 'Υμέναι, ὦ.  
Χο. Τοῦ μὲν μέγα καὶ παχύ,  
τῆς δ' ἠδὺ τὸ σῦκον.<sup>57</sup>

The symbolism attached to the fig has roots in cult practices. Figs were often associated with fertility and procreation cults.<sup>58</sup> For instance, young women wore necklaces made of dried figs at the processions of the Plynteria (the Athenian festival in which the clothes of Athena's statues were washed).

When men attended one of Aristophanes' comedies, they most probably understood the fig-jokes because, as pointed out, the symbolism of the fig had roots in cult practices. Similarly, they most probably understood why an ingredient such as the fig was used in gynaecological recipes. Women might have been in charge of preparing remedies for gynaecological ailments, they might have been more skilled than men in this matter, but they were not necessarily more knowledgeable. I believe it is unhelpful to consider the Hippocratic recipes as the product of a 'female' tradition, or as the product of a 'male' tradition for that matter. Female fertility, contraception and abortion were of the uttermost importance for the functioning of the city, and it is doubtful that men would have left these matters entirely in the hands of

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<sup>55</sup> Hipponax fr. 124 (West): Μηδὲ μοιμύλλειν Λεβεδίην ἰσχάδ' ἐκ Καμανδωλοῦ. Translation: 'And not to press the lips upon a Lebedos dried fig from Kamandolos.'

<sup>56</sup> Menander fr. 4.1 (Sandbach): Μένανδρος δ' ἐν Κόλακι τάσδε καταλέγει ἑταίρας· Χρυσίδα, Κορώνην, Ἀντίκυραν, Ἰσχάδα... Translation: 'Menander in his *Colax* lists the following hetairai: Chrysis, Korona, Antikyra, Ischas...' On the symbolism of the fig in Attic comedies, see Henderson (1991): 134.

<sup>57</sup> Aristophanes, *Pax* 1346-1352. Translation: 'Trygaios: Yes you will live happily without any trouble and gathering figs. Hymen, Hymenai, Oh! Hymen, Hymenai, Oh! – Choregos: His <fig> is big and thick; her fig is sweet.'

<sup>58</sup> See Deubner (1932): 19ff.

women.<sup>59</sup> Women might have shared some secrets, at times they might have aborted ‘behind the backs’ of their husbands; but it is likely that in most cases, gynaecological interventions and therapies were discussed by all members of the household. Modern anthropological research in Greece has shown that issues such as conception and abortions are discussed between husband and wife.<sup>60</sup>

The presence of medical topics or technical medical vocabulary in comedies – but also in tragedies, historical and philosophical writings – is often interpreted in terms of influences from medical writings onto these texts.<sup>61</sup> Although playwrights, historians and philosophers might have read medical treatises, I believe too much emphasis has been put on the idea that these authors were influenced by Hippocratic texts. Not all medical texts from the classical period are preserved; and texts are not the only mean by which medical theories and vocabulary were circulated in the classical world.<sup>62</sup> I would argue that medical themes were discussed extensively in the Greek world; writers would not have introduced medical themes in their works if these had not been important to their publics. For instance, the fact that Sophocles wrote a tragedy entitled *Root-cutters* could be read as a sign that drugs mattered to his audience. This interest in medicine also took concrete forms: laypeople knew how to prepare some drugs and, as suggested by the author of *Affections*, could play a role in the elaboration of pharmacological knowledge:

Τὰ φάρμακα, ὅσα ποτὰ καὶ ὅσα πρὸς τὰ τραύματα προσφέρεται, μανθάνειν ἄξιον παρὰ παντός· οὐ γὰρ ἀπὸ γνώμης ταῦτα εὐρίσκουσιν οἱ ἄνθρωποι, ἀλλὰ μᾶλλον ἀπὸ τύχης, οὐδέ τι οἱ χειροτέχναι μᾶλλον ἢ οἱ ἰδιῶται. Ὅσα δὲ ἐν τῇ τέχνῃ τῇ ἱητρικῇ γνώμῃ εὐρίσκεται ἢ περὶ σίτων ἢ περὶ φαρμάκων, παρὰ τῶν οἴων τε διαγινώσκειν τὰ ἐν τῇ τέχνῃ μανθάνειν χρή, ἣν τι θέλης μανθάνειν.<sup>63</sup>

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<sup>59</sup> See Barras (2004): 102.

<sup>60</sup> See Blum and Blum (1965): 74-77.

<sup>61</sup> For comedies, see Byl (1990); Miller (1945) and Zimmermann (1992). For tragedies, see Dumortier (1975). For historical writings, see the review of literature in Thomas (2000b): Chapter 2.

<sup>62</sup> See Jouanna (2000): 178.

<sup>63</sup> *Aff.* 45 (Potter 68.14-22 [slightly modified]; L6.254.9-14). Translation: ‘It is worth learning from everyone about medications that are drunk or applied to wounds. Indeed men do not discover these by reasoning, but rather by chance, and not more by experts (*cheirotechnai*) than by laymen (*idiotai*). But whatever is discovered in the art of medicine by reasoning, whether about foods or about drugs, must be learnt from those who have discernment in the art <of medicine>, if you want to learn anything.’

Although experts in the art of pharmacology existed in classical Greece, pharmacological knowledge – knowledge of *materia medica* and therapeutical practices – belonged to society in general.

The author of *Affections* does not define his categories ‘laymen’ and ‘experts’; admittedly, his ‘experts’ category might have included only himself and a few physicians sharing his views on therapies. There were in classical Greece, from our point of view, numerous types of ‘experts’ who could be consulted on pharmacological matters: the midwives, the *rhizotomoi* (root-cutters), *rhizopolai* (root-sellers) and *pharmakopolai* (drug-sellers), and some priests.<sup>64</sup> All these experts are possible sources for the recipes of the gynaecological treatises: scholars have found important overlaps between, on the one hand, the Hippocratic recipes, and on the other hand religious healing and the lore of the *rhizotomoi*.

The *rhizotomoi* are acknowledged as an important source on medicinal plants by Theophrastus in the ninth book of his *History of Plants*, although he is sometimes careful to distance himself from their lore through the use of expressions such as ‘they say’.<sup>65</sup> Now there is some overlap between the lore of the *rhizotomoi* and the recipes of the Hippocratic Corpus. For instance, Theophrastus recommends cyclamen as a pessary for women, adding that some use it as an amulet for speeding up childbirth.<sup>66</sup> Cyclamen appears frequently in pessary recipes in the Hippocratic collection; on the other hand, it does not appear in the amulet recipes preserved in the Corpus.<sup>67</sup>

Large areas of overlap have also been discovered between ‘Hippocratic’ medicine and temple medicine.<sup>68</sup> These similarities pertain both to the vocabulary used and the ingredients involved. For instance, the word κάθαρσις (purification) and its cognates are used in both medical and religious contexts.<sup>69</sup> With regards to

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<sup>64</sup> The first attestation of the word *rhizotomoi* is in Sophocles’ play entitled *Rhizotomoi* (now lost); the first occurrences of *rhizopolai* and *pharmakopolai* are in Critias (460-403 BC) DK88fr.70.

<sup>65</sup> See Lloyd (1983); Scarborough (1978); (1991). Theophrastus even gives the name of some of the *rhizotomoi* – they are all men. See Scarborough (1991): 166, note 38.

<sup>66</sup> Theophrastus *Hist. Plant.* 9.9.3: Τοῦ δὲ κυλαμίνου ἢ μὲν ῥίζα πρὸς τε τὰς ἐκπυήσεις τῶν φλεγμονῶν καὶ πρόσθετον γυναιξὶ καὶ πρὸς τὰ ἔλκη ἐν μέλιτι... Ἀγαθὴν δὲ τὴν ῥίζαν καὶ ὠκυτόκιοι περιάττον καὶ εἰς φίλτρα. Translation: ‘The root of cyclamen is used for suppurating boils, and as a pessary for women, and for wounds, mixed with honey... And <they say> its root is good as an amulet for speeding up childbirth and as a love potion.’ See Lloyd (1983): 129.

<sup>67</sup> See for instance *Nat. Mul.* 9 (Trapp 76.10 and 15; L7.324.10 and 15): Ἦν ἐκ τόκου μὴ καθαρθῆ... προσθεῖναι τὴν κυκλάμινον. Translation: ‘If the purgation does not occur after childbirth... Apply cyclamen.’

<sup>68</sup> See for instance Edelstein (1937); Kudlien (1967); (1968); Laskaris (1999); Lloyd (1983); Lloyd (2003b): Chapter Three ‘Secularization and sacralization’; von Staden (1991); (1992a).

<sup>69</sup> See Lloyd (1983): 132; von Staden (1992b): 15.

ingredients, the studies of Heinrich von Staden have shown how ingredients such as sulphur, bitumen, squill and laurel were used both in ritual purifications and in the Hippocratic gynaecological recipe.<sup>70</sup> In addition, Julie Laskaris has noted that many exotic ingredients listed in the gynaecological recipes were also used in the cult of healing divinities. For instance, she pointed out that frankincense, cassia and myrrh – all ingredients occurring in the Hippocratic recipes – were offered to Apollo Paion, i.e. Apollo Healer.<sup>71</sup> She concluded that ‘the cults of healing divinities provided a context for the transmission of medical knowledge... The medicinal properties, real or imagined, of plants sacred to an archaic healing deity were known by the archaic period and their sacred status was, at least in part, owed to these properties.’<sup>72</sup>

Although there is a significant overlap between the medicine of the ‘Hippocratic’ writers, on the one hand, and the medicine practiced by the *rhizotomoi* and priests, on the other, scholars – most prominently Lloyd – have stressed one important difference: there are no references to special rites, chants or prayers in relation to the application of drugs in the Hippocratic collections of recipes. Lloyd argues:

The omission of references to special rites or prayers when using particular plants is, to be sure, in line with the **rationalist tendencies** that are prominent in a number of Hippocratic works and there are made explicit in the polemic against superstitious beliefs and practices in *On the Sacred Disease*. Consciously or otherwise, many Hippocratic writers often adopted a stance on these issues that was in certain respects at least in marked contrast to the practice of temple-medicine, let alone to that of itinerant sellers of charms and purifications... No doubt some of the clients in view in the Hippocratic

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<sup>70</sup> Staden (1992b): 19ff.

<sup>71</sup> Sappho, fr. 44 (Lobel and Page), lines 30-34:

Μύρρα καὶ κασία λίβανός τ' ὄνεμείχυντο·  
 γυναῖκες δ' ἐλέλυσδον ὄσαι προγενέστερα[ι  
 πάντες δ' ἄνδρες ἐπήρατον ἴαχον ὄρθιον  
 Πάον' ὄνκαλέοντες ἐκάβωλον εὐλύραν  
 ὕμνην δ' Ἔκτορα κ' Ἀνδρομάχαν θεοεικέλο[ις.

Translation (Page): ‘Myrrh and cassia and frankincense were mingled. The elder women all raised a joyous shout, and all the men cried a loud lovely song, calling on Paeon, the Great Archer, the Fine Harper; and they sang of Hector and Andromache like to the gods.’ See Laskaris (1999): 5. See below and Chapter Five for the use of exotic ingredients in the Hippocratic recipes.

<sup>72</sup> Laskaris (1999): 1. See also Laskaris (2002): 6.

pharmacological writings would expect their authors to maintain the **hard-headed rationalist stance** that some of the polemical treatises adopt. At the same time when we ask why it is that some of these plant substances are used at all, or why used in the particular way recommended, in some cases a full answer will have to include reference to the folklore surrounding them.<sup>73</sup>

This opinion is shared by Hanson, who, in her latest articles on recipes, has given up the expression ‘home remedies’; she now sees the recipes as offering glimpses of a ‘less sophisticated past’. By this expression, she seems to mean a time when the efficacy of the remedies was linked to religious or magical systems of explanation.<sup>74</sup>

If some polemical treatises of the Hippocratic Corpus reject superstitious beliefs, I believe the ‘rationalism’ of the gynaecological treatises should not be exaggerated.<sup>75</sup> True, chants or prayers never accompany the recipes of the Hippocratic Corpus, but gestures that evoke religious practice appear frequently. Fasting, bathing and abstinence from sexual activity – all acts that were loaded with religious symbolism in the ancient world – often accompany the administration of the medicaments recommended in the gynaecological treatises; we are far from the hard-headed rationalist stance described by Lloyd.

In addition, as pointed out by Hanson herself, examples of amulets (a form of medications favoured by the *rhizotomoi*) can be identified in the Hippocratic gynaecological treatises, through the material used, the means of application and the expected efficacy, as in the following examples:<sup>76</sup>

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<sup>73</sup> Lloyd (1983): 131-132. My emphasis.

<sup>74</sup> See Hanson (1996b); (1997); (1998); (1999).

<sup>75</sup> Laskaris (2002): 1 believes the rational character of treatises such as *On the Sacred Disease* has been misinterpreted: ‘The treatise has often been interpreted as having easily banished from medicine magical and religious elements, and as having done so with the aim of providing it with the rational premise upon which modern biochemical medicine rests, or as having aided medicine’s progress in becoming scientific. But such interpretations are anachronistic; positivist; and beg the questions of how science and rational premises are defined, what relationship they bear to each other, and whether modern medicine can indeed be considered entirely scientific or to function solely on a rational basis. More importantly, such interpretations overlook the true motivation for the polemic: the competitive tensions with the healers who come under attack.’

<sup>76</sup> See Hanson (1995); (2004). Amulets are criticised by Theophrastus at *Hist. Plant.* 9.19.2: Ἄλλὰ τὰδε εὐηθέστερα καὶ ἀπιθανώτερα τὰ τε τῶν περιάπτων καὶ ὄλως τῶν ἀλεξιφαρμάκων λεγομένων τοῖς τε σώματι καὶ ταῖς οἰκίαις. Translation: ‘On the other hand the things said about amulets and charms for the body or the house are silly and incredible.’



1. Ἐτερον ὠκυτόκιον· τοῦ σικύου τοῦ ἀγρίου, ὅστις ἂν ἤδη λευκὸς ᾖ, τὸν καρπὸν ἐμπλάσας κηρῷ, εἶτα εἰρίῳ ἐνελίξας φοινικέῳ, περιάψον περὶ τὴν ὀσφύν.
2. Ἄλλο προσθετόν· χάριεν τὸ ἐπονομαζόμενον, τούτου ῥίζαν πρὸς τὸν ὀμφαλὸν πρόσθες μὴ πουλὸν χρόνον...
3. Ἄλλο ἐπιδετόν· ῥητίνην καὶ στέαρ ὄρνιθος τρίψασα ἅμα καὶ μίξασα ἐπιδησάσθω ἐπὶ τὸν ὀμφαλὸν καὶ τὴν γαστέρα.<sup>77</sup>

Here again, these recipes are not accompanied by chants or prayers, but they clearly are recipes for amulets.

Turning to temple medicine, it should be noted that when Aristophanes describes a drug administered by the god Asclepius to Neokleides, he does not mention any prayers or special ritual either:

Πρῶτον δὲ πάντων τῷ Νεοκλείδῃ φάρμακον  
 Καταπλαστὸν ἐνεχείρησε τρίβειν, ἐμβαλὼν  
 σκοροδῶν κεφαλὰς τρεῖς Τηνίων. Ἐπειτ' ἔφλα  
 ἐν τῇ θυεῖᾳ συμπαραμιγνύων ὀπὸν  
 καὶ σχῖνον· εἶτ' ὄξει διέμενος Σφηττίῳ,  
 κατέπλασεν αὐτοῦ τὰ βλέφαρ' ἐκστρέψας, ἵνα  
 ὀδυνῶτο μάλλον.<sup>78</sup>

Although one can doubt such painful (all the ingredients would have irritated the eyes of Neokleides) and inefficacious drugs were administered in Asclepius' temple, it is reasonable to trust Aristophanes' description of how the drug was administered, that is without chants and prayers.

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<sup>77</sup> Recipe one: *Mul.* 1.77 (L8.172.2-4). Translation: 'Another means to speed up the birth: plaster the fruit of wild gourd, already white, on wax. Then wrap it in purple wool; tie around the <woman's> hip.' This recipe is discussed by Hanson (2004a): 276-277. Recipes 2 and 3: *Mul.* 1.78 (L8.186.9-10 and 12-13). Translation: 'Another application. The plant called 'gracious': apply its root to the navel for a short time... Another application: crush resin and poultry suet together; mix. Let her tie this to her navel and belly.'

<sup>78</sup> Aristophanes, *Plutus* 716-721. Translation: 'First of all, for Neokleides, he <sc. Asclepius> set himself to knead a plaster, throwing in three cloves of Tenian garlic. Then, he crushed them in the mortar, mixing them together with verjuice and squill. Then, he soaked <the mixture> with Sphettian vinegar. And turning out the eyelids of the man, he plastered them to make him suffer more.' See Chapter Five, Section Five for more details on this recipe.

Interestingly, it was believed in later antiquity that Hippocratic medicine had its origins in temple medicine. In the twenty-ninth book of his *Natural History*, Pliny reports a story about Hippocrates he has read in Varro:

*Tum eam reuocauit in lucem Hippocrat es, genitus in insula Coo in primis clara ac ualida et Aesculapio dicata. Is cum fuisset mos liberatos morbis scribere in templo eius dei quid auxiliatum esset ut postea similitudo proficeret, exscripsisse ea traditur atque, ut Varro apud nos credit, templo cremato iis instituisse medicinam hanc, quae clinice uocatur.*<sup>79</sup>

This story represents a hostile tradition towards Hippocrates: Hippocrates is a thief who established clinical medicine through sacrilege. However, beyond its improbability, this story shows that some ancient writers considered ‘Hippocratic’ medicine and temple medicine to be close enough for one to derive from the other; to these writers the source of Hippocratic medicine was clearly in temple medicine.<sup>80</sup>

The differences between, on the one hand, religious, ‘magical’ and ‘folkloric’ healing, and on the other, ‘Hippocratic’ medicine might have been exaggerated in the past. In practice, ‘secular’ healers could not easily distinguish themselves from other healers in the field of pharmacology.<sup>81</sup> The rationality of the ‘Hippocratic’ texts has been overstated; it is important to stress that there is no such thing as a homogeneous ‘Hippocratic’ medicine: the ‘Hippocratic Corpus’ is a collection of heterogeneous texts. Some of these texts adopt what appears to us to be a rationalist stance; others, such as the gynaecological treatises, are, to use the expression of von Staden, ‘replete with the “otherness” of Greek science’.<sup>82</sup>

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<sup>79</sup> Pliny, *H.N.* 29.1.4 (Edelstein T 795). Translation: ‘Then <sc. during the Peloponnesian war>, Hippocrates called it <sc. medicine> back to light. He was born on the island of Cos which was particularly renowned, wealthy and dedicated to Asclepius. As it had been the custom for those freed from disease to write in the temple of that god what had helped them so that thereafter it could be beneficial to a similar <case>, he is reported to have copied them, and, as Varro among us believed, having burnt the temple, made use of them in instituting that medicine which is called clinical medicine.’ Other versions of this story exist: see Strabo 14.19.657: Φασὶ δ’ Ἱπποκράτην μάλιστα ἐκ τῶν ἐνθαῦθα ἀνακειμένων θεραπειῶν γυμνάσασθαι τὰ περὶ τὰς διαίτας. Translation: They say that Hippocrates practised dietetics mostly from the cures recorded there <sc. in Asclepius’ temple on Cos>.’ Other versions mention an archive or a library instead of the temple: see Chapter One, Section One. On this story, see Pigeaud (1988): 326.

<sup>80</sup> This story also accounts for the fact that people in later antiquity knew no medical writings anterior to Hippocrates, and in particular no medical writings including cures. See Pinault (1992): 11-12.

<sup>81</sup> See Laskaris (2002): 13.

<sup>82</sup> Von Staden (1992c): 584. See also van der Eijk (2004).

To sum up, I have identified various possible sources for the Hippocratic collections of gynaecological recipes: midwives, *rhizotomoi* and *rhizopolai*, priest-healers, magicians, and laypeople. Laypeople – that is laymen and laywomen – had a certain pharmacological knowledge; they could even at times prepare their own drugs, their home remedies. However, laypeople probably did not deal with all pharmacological ingredients, as pointed out by Anthony Preus:

The mystique surrounding the *pharmakon* does help preserve the monopoly of the root digger or drug seller: if gathering the plant requires a complicated ritual to avoid coming to harm, the layman is the more likely to keep away from it.<sup>83</sup>

‘Experts’ in pharmacology knew how to handle ‘dangerous’ ingredients. They also knew how to exploit the powers of exotic and rare *materia medica*.

#### 4.4 *The High and the Low*

The use of exotic, rare ingredients is particularly conspicuous in the Hippocratic collections of gynaecological recipes, as in the following example:

1. Ἦν περιωδυνή ἔχη ἐκ προσθέτων καθαιρομένην, σμύρνης ἐμβάφιον, λιβανωτὸν ἴσον, μελάνθιον, κύπειρον, σέσελι, ἄνησον, λίνον, νέτωπον, μέλι, ῥητίνην, χηνὸς στέαρ, ὄξος λευκὸν, μύρον Αἰγύπτιον, ἴσον ἐκάστου, τρίβειν ἐν οἴνῳ λευκῷ γλυκεῖ, δύο κοτύλησι, καὶ κλύζειν γλιεροῖσι κλυσμοῖσιν.
2. Ἦν ὀδύνη ἔχη μετὰ κάθαρσιν, κύπειρος, κάλαμος, σχοίνος καὶ ἴρις, ταῦτα ἐν οἴνῳ μέλανι ἐψῶν χρέο.
3. Ἔτερος κλυσμὸς, ἦν περιωδυνή καὶ στραγγουρή ἔχη· πράσου χυλὸν, ἀκτῆς καρπὸν, σέσελι, ἄνησον, λιβανωτὸν, σμύρναν, οἶνον, χύλωσον καὶ μίξον καὶ κλύσαι.
4. Ἦ σμύρνης ὀξύβαφον, λιβανωτοῦ ἴσον, μελανθίου καὶ κυπεύρου ἴσον, σέσελι, ἄνησον, σελίνου σπέρμα, νέτωπον, μέλι, ῥητίνην, χηνὸς στέαρ, ὄξος

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<sup>83</sup> Preus (1988): 79.

λευκόν, μύρον Αἰγύπτιον, τούτων ἴσον ἐκάστου διεῖναι οἴνω λευκῷ γλυκεῖ καὶ κλύζειν.

5. Ἡ λινοζώστιος ὕδωρ ἀφεψήσας ξὺν σμύρνῃ, λιβανωτῷ, νετόπω.

6. Ἡ ἐλελίσφακον, ὑπερικόν, ἐψεῖν ἐν ὕδατι καὶ κλύζειν.

7. Ἡ λίνου καρπὸν, ἄννησον, μελάνθιον, σέσελι, σμύρναν, κασσίης καρπὸν ἐν οἴνω ἐψεῖν καὶ κλύζειν.

8. Ἐτερος κλυσμὸς, ἦν ὀδύνη ἴσχη σφοδρῇ μετὰ κάθαρσιν· ἀκτῆς καρπὸν καὶ δαφνίδας ἐψεῖν ἐν οἴνω μέλανι καὶ κλύσαι.

9. Ἡ ἀκτὴν ἐψήσας ἐν ὕδατι ἀποχέειν τὸ ὕδωρ, οἶνον δὲ γλυκὺν παραχέας κλύσαι·

10. Κῆν μετὰ κλυσμὸν ὀδύνη ἐγγένηται, ἐψεῖν τὰ θυώματα ἃ ἐς μύρον ἐμβάλλεται, καὶ ἀποχέαι τοῦ ὕδατος δύο κοτύλας, μῖζαι δὲ ἔλαιον χηνὸς καὶ ῥόδιον, καὶ κλύζειν χλιαρῷ.<sup>84</sup>

Out of these ten recipes, seven at least include imported ingredients: myrrh and frankincense were products of Arabia, cassia originated from South-East Asia; Egyptian perfume was not necessarily produced in Egypt, but included imported ingredients such as myrrh. Because of their price and the way they were valued, exotic and luxury ingredients were unlikely to figure in ‘home remedies’. Or more correctly, these ingredients were unlikely to figure in the remedies of many Greek households; they were affordable only to the rich. Perfume in particular was a status symbol in the ancient world.<sup>85</sup>

However, other recipes in this example are composed of very affordable and widely available ingredients in Greece, such as elderberries, bayberries and St Johns’

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<sup>84</sup> *Mul.* 2.209 (L8.404). For translation, see Appendix One. Recipe one and recipe four are parallel redactions of the same recipe. In one of her first articles on the recipes, Hanson gave recipe 1 as an example of a home remedy. Hanson (1991): 79-81. King (1995a): 144 also accepts this recipe may derive from self-help.

<sup>85</sup> See for instance Aristophanes, *Nub.* 46-52:  
Ἐπειτ’ ἔγημα Μεγακλέους τοῦ Μεγακλέους  
ἀδελφιδῆν ἄγροικος ὦν ἐξ ἄστεως,  
σεμνὴν τρυφῶσαν ἐγκεκουσυρωμένην.  
Ταύτην ὅτ’ ἐγάμουν, συγκατεκλινομένη ἐγὼ  
ὄζων τρυγὸς τρασιάς ἐρίων περιουσίας,  
ἢ δ’ αὖ μύρου κρόκου καταγλωτισμάτων,  
δαπάνης λαφυγμοῦ

Translation: ‘Then I marry the niece of Megakles, son of Megakles, boorish as I am, her a city-lady, pompous, delicate, covered in *cesyra* <sc. a type of cosmetic>. When we got married, lying at the table next to her, I was smelling of new wine, crates on which figs are dried, and abundant wools; she was smelling of perfume, saffron, wanton kisses, extravagance, and of greed.’

wort.<sup>86</sup> These simple recipes are presented as alternatives to ‘expensive’ recipes: the users of the gynaecological treatises could choose the recipes suited to their needs and financial means. In total around 40 to 45% of the Hippocratic recipes include exotic or luxury ingredients; the remaining 55 to 60% are made of ingredients readily available in most parts of Greece, and indeed in many other parts of the Mediterranean.<sup>87</sup>

Moreover, if we examine further one of the ‘expensive’ recipes of our example (recipe 1 and its parallel, recipe 4) we understand that the ‘author’ has attempted to accumulate as many emollient ingredients as possible in order to soothe the irritated vagina. The idea of using an emollient enema in this situation may have come from a ‘home’ tradition. In addition, many of the ingredients of this recipe – honey, resin, goose suet, white vinegar and sweet wine – were readily available ingredients that could have been used in what we would expect from a ‘home remedy’. In short, this recipe looks like a recipe that could have been designed in a ‘self-help’ environment, to which a number of expensive, imported ingredients were added. There are many other cases of this kind in our collections of Hippocratic gynaecological recipes. For instance, Egyptian perfume may have been added to the following recipe in order to make it more luxurious: Ἐτερον τῆς γλυκουσίδης μέλιτι δεύσας καὶ μύρω ῥοδίνῳ καὶ Αἰγυπτίῳ, ἐν εἰρίῳ προσθεῖναι.<sup>88</sup> Since this pessary had to be dipped in honey and rose perfume, to dip it also in Egyptian perfume was not strictly necessary; but it certainly added to the cost of the recipe.

I suggest considering the Hippocratic recipes, with their combination of, on the one hand, cheap, readily available ingredients, and on the other, highly expensive, exotic products, as the product of *Haute Médecine*, an expression modelled on Jack Goody’s notion of *Haute Cuisine*.

Goody, in his *Cooking, Cuisine, and Class* (1982) links the emergence of an *Haute Cuisine* in ancient societies (Mesopotamia, Egypt, India, China and the Persian Empire) to the growth of temple and royal hierarchies in these societies: ‘units of food

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<sup>86</sup> See in particular recipes 6 and 8.

<sup>87</sup> 40 to 45% of the Hippocratic recipes (that is 575 to 645 recipes) include one or more of the exotic or luxury ingredients presented in Chapter Five. The uncertainty in the numbers is due to the fact that some Greek names could designate several different species of plants.

<sup>88</sup> *Nat.Mul.* 32 (Trapp 90.17-18; L7.352.17-18). Translation: ‘Soak peony in honey, rose perfume and Egyptian perfume; apply in wool.’ This recipe has a parallel at *Mul.* 1.78 (L8.176.16-17).

preparation' were created in the temples and palaces that were the centres of power of these civilizations.<sup>89</sup> In these units, cooks invented recipes based on new exotic ingredients, but they also incorporated recipes for daily cooking and transformed them into an *Haute Cuisine* suitable for the courts or temples in which they worked. Thus, *Haute Cuisine* depends on two elements: 'traditional' recipes and new recipes based on ingredients coming 'from outside'.<sup>90</sup> Goody also noted that the organisation of *Haute Cuisine* is accompanied by a 'sexual transposition of domestic tasks',<sup>91</sup> that is, male cooks were in charge in the 'food units' of the ancient temples and palaces, whereas in traditional societies women do the daily cooking.

Goody did not study the cuisine of ancient Greece, but classicists have shown that, there too, food served as a status symbol, and that the division between High and Low Cuisine was observable.<sup>92</sup> In the words of Peter Garnsey, '*Haute cuisine* Greek and Roman style was marked by variety of foods (home-produced and imported), elaboration, novelty, professionalism and luxury. The diet of the poor and lowly was basic and repetitive, built around the staples of cereals and dry legumes, with simple and cheap additions.'<sup>93</sup> In addition, *Haute Cuisine* in Greece and Rome was in the hands of male cooks, whereas women did the daily cooking.

Along the same lines, we could imagine that rich Greeks had access to *Haute Médecine*, characterized by variety, novelty, and luxury. If we consider the Hippocratic catalogues of recipes as a type of *Haute Médecine*, immediately their eclectic nature becomes less puzzling; *Haute Médecine* is characterised by variety, by the mingling of expensive, 'fashionable' remedies with re-interpreted folk-remedies of all kinds. Like Chefs, Hippocratic physicians created their *répertoires* of recipes by picking up from a variety of traditional sources, but above all by creating new recipes based on 'exotic', luxury and flamboyant ingredients.

We could also suggest that, as it is the case with *Haute Cuisine*, *Haute Médecine* experienced a sexual transposition of tasks: it was in the hands of male physicians; whereas folk medicine in Greek society could be practised by both men and women. As noted by Monica Green, in the Middle Ages, male and female healers

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<sup>89</sup> Goody (1982): Chapter Four: 'The high and the low: culinary culture in Asia and Europe'. On Mesopotamian *Haute Cuisine*, see also Bottéro (1985); (1987); van der Steen (1995).

<sup>90</sup> Goody (1982): 105.

<sup>91</sup> Goody (1982): 101.

<sup>92</sup> See for instance Garnsey (1999): Chapter Eight: 'Haves and havenots'; Mazzini (1994); Nenci (1989); Purcell (1996).

<sup>93</sup> Garnsey (1999): 113.

were sometimes using very similar remedies but, ‘whereas women used everyday ingredients, men deliberately chose costly alternatives in order to distance their remedies from those of women.’<sup>94</sup> In Greek society, men probably had an easier access to the places where luxury products were sold. It seems that shopping generally was a man’s job, and this must particularly <sup>have</sup> been the case in wealthy families.<sup>95</sup> On the other hand, women were in charge of the storeroom, in which exotic products were sometimes kept.<sup>96</sup> As pointed out above, the presence of feminine participles in some recipes of the Hippocratic Corpus suggests that women sometimes prepared recipes including this kind of ingredients. For instance:

Τὸν δὲ χρόνον τοῦτον ἐψοῦσα ἐν οἴνῳ λευκῷ ὡς ἡδίστω γλυκεῖ δαΐδα πινέτω  
 πιότατην κατασχίσασα λεπτὰ, καὶ σελίνου καρπὸν κόψασα, καὶ κυμίνου  
Αἰθιοπικοῦ καρπὸν, καὶ λιβανωτὸν ὡς κάλλιστον· τούτου πινέτω νῆστις  
 ὀκόσον δοκέει μέτριον εἶναι πλῆθος, ἡμέρας ὀκόσας ἂν δοκέῃ καλῶς ἔχειν.<sup>97</sup>

Although this recipe includes two exotic ingredients (Ethiopian cumin and frankincense), the presence of feminine participles suggests that a woman is expected to prepare the remedy.<sup>98</sup> Admittedly, the woman preparing the drug could be a female attendant to the doctor. However, if this woman is the patient herself, the implications

<sup>94</sup> Green (1989): 63.

<sup>95</sup> See for instance Aristophanes, *Vespae* 789; *Ranae* 1068; *Ecclesiazusae* 502; Theophrastus, *Characteres* 9.4. See Dalby (1993); Davidson (1998): 78; Ehrenberg (1951): 200-201.

<sup>96</sup> See Xenophon, *Eco.* 7.25: ‘Ἐπεὶ δὲ καὶ τὸ φυλάττειν τὰ εἰσνεχθέντα τῇ γυναικὶ προσέταξε, γινώσκων ὁ θεὸς ὅτι πρὸς τὸ φυλάττειν οὐ κάκιον ἔστι φοβερὰν εἶναι τὴν ψυχὴν πλεον μέρος καὶ τοῦ φόβου ἐδάσατο τῇ γυναικὶ ἢ τῷ ἀνδρὶ. Translation: ‘Since the god has charged women to keep the provisions, understanding that it is good to have a timid nature to keep <things>, he gave a larger portion of fear to women than to men.’ Exotic goods in the storeroom: see Euripides, *Melanippe* fr. 14 (Jouan and Van Looy):

Μάτην ἄρ’ εἰς γυναῖκας ἐξ] ἀνδρῶν ψ[όγος  
 ψάλλει κενὸν τόξευμα καὶ λέγει κα[κ]ῶς·  
 αἱ δ’ εἶσ’ ἀμείνους] ἀ[ρσ]θένων. Δεῖξ[ω δ’ ἐγ]ώ...  
 Νέμουσι δ’ οἴκους καὶ τὰ ναυστολούμενα  
 ἔ[σω] δόμων σῶζουσιν, οὐδ’ ἐρημία  
 γυναικὸς οἶκος εὐπινῆς οὐδ’ ὄλβιος.

Translation: ‘It is thus in vain that the blame of men shoots against women idle arrows of scandalmongering. They are better than men, and I will demonstrate it. They manage estates and keep inside their houses goods that have been carried by sea, and without a woman an estate is neither neat nor prosperous.’

<sup>97</sup> *Steril.* 217 (L8.420.6-10). The feminine participles are underlined twice; the exotic products are underlined once. Translation: ‘During this time, let her cut in little pieces oily pine twigs and boil them in white wine, as pleasant as possible; let her drink it. And chop seed of celery, seed of Ethiopian cumin and excellent frankincense. Let her drink this while fasting, in a amount that seems sufficient, and for a number of days that seems sufficient.’ See also *Superf.* 29 (L8.496.12-16).

<sup>98</sup> See Chapter Six, Section Four for a more detailed discussion of these feminine participles.

are important. Indeed, if a doctor asked his female client to prepare herself one of his recipes, it meant that this recipe was not secret, but rather became part of a pool of recipes accessible to everyone. Once a woman had learnt a recipe from a Hippocratic doctor, she could circulate it. The creation of *Haute Médecine* did not preclude a continuing dialogue between Hippocratic physicians and women; this was a dialogue in the proper sense of the term, not an appropriation of female knowledge by male physicians.

Two qualifications have to be brought to this notion of *Haute Médecine*. First, *Haute Médecine* is culturally determined. To be *Haute*, medicine has to make use of exotic and luxury ingredients; now the content of the categories ‘*exotica*’ and ‘luxuries’ may vary with time and place, economical and political changes. As shown by the studies of Arjun Appadurai and Christopher Berry, luxury is not an intrinsic quality of goods; almost any good can potentially be a luxury.<sup>99</sup> Each society defines which products are luxuries, and this definition is part of the ‘social grammar’ of the society. Chapter Five will examine in more details which ingredients of the Hippocratic recipes were considered luxuries in the classical period.

Second, as it is the case with foods, it is probable that no drug – whether simple or compound – was completely monopolized by the rich.<sup>100</sup> However, the rich could make use of expensive remedies on a regular basis; they could afford long treatments involving various medical interventions and remedies. For instance, only a wealthy Greek woman could have afforded the following fertility treatment:

Ἄλλη θεραπείη· πυρήσας τὸ σῶμα ὅλον, πῖσαι, καθῆραι ἄνω καὶ κάτω, εἶτα ὄνειον γάλα μεταπίσαντα πυρήνην τὰς μήτρας δι’ αὐλοῦ, δύο μὲν ἡμέρας οὖρω γυναικείῳ σαπρῶ καὶ λίτρον ἐμβάλλειν, τῇ δὲ τρίτῃ βοεῖῳ οὖρω· τῇ δὲ τετάρτῃ καὶ πέμπτῃ τρίψας μαράθρου σπέρμα καὶ ἀκτῆς φύλλα καὶ δάφνην καὶ κυπαρίσσου πρίσματα, ταῦτα ἐψησαι ὕδωρ ἐπιχέαντα· δεῖ δὲ μετὰ τὴν πυρήσιν λουσαμένην πολλῶ θερμῶ προστιθέναι στέαρ ἡδυντὸν ἐκ τῆς πυρήσιν εὐθὺς καὶ ἐς νύκτα· μετὰ δὲ σκευάζειν, ξυμμειγνὺς σμύρναν στακτὴν καὶ βούτυρον καὶ χηνὸς ἄλειφα καὶ ἐλάφου μυελὸν καὶ ῥητίνην καὶ νέτωπον·

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<sup>99</sup> Appadurai (1986); Berry (1994).

<sup>100</sup> For foods, see Garnsey (1999): 127.



τουτέων ἴσον ἑκάστου ξυμμίξαντα, διατήξαντα, προστιθέναι ἐν εἰρίῳ Μιλησίῳ μαλθακῷ ὡς εὐειροτάτω· μετὰ δὲ ἀναστομοῦν τὴν μήτηρην μολιβδίοισιν ἐληλασμένοις ὀκτωδακτύλοισι πέντε· τὸ πρῶτον ἔστω λεπτόν, τὸ δὲ δευτέρον παχύτερον, καὶ τᾶλλα θάτερον θατέρου παχύτερον· ἀναστομοῦν δὲ πέντε ἡμέρας· ἐπὴν δὲ ἀναστομῶση, προσθεῖναι καθαρτικόν, τρίψας κανθαρίδας πέντε καὶ σικυῶνης μακρῆς σπόγγον καὶ σμύρναν· ταῦτα μέλιτι ἐφθῶ φορύξαντα καὶ φυρήσαντα βαλάνιον εἰρίῳ κατελίξαι πλὴν τοῦ ἄκρου· ἔπειτα εἰς ἄλειφα βάψαντα ὡς ἥδιστον, προσθεῖναι· χρῆσθαι δὲ καθαρτικῷ καὶ τούτῳ τῇ χολῇ τοῦ ταύρου, καὶ ἄνθει ὀπτῶ καὶ λίτρῳ καὶ σμύρνη, μέλιτι ὀλίγῳ διέντα, ὀθόνιον λεπτόν ἀποδήσαντα, καὶ ἄνω τὸ ὀθόνιον περιελίξαντα τῷ φαρμάκῳ, προστιθέναι· χρῆσθαι δὲ καὶ βουπρήστει ζὺν τῇ σμύρνη, καὶ ἐλατηρίῳ ζὺν τῷ μέλιτι ἐφθῶ, καὶ τῆσι κανθαρίσι ζὺν τῷ ἐλατηρίῳ τε καὶ τῇ σμύρνη. Ἐπὴν δὲ καθαρθῆ, τῇ ὑστεραίῃ λούσαντα κλύσαι τὴν μήτηρην· κύμινον Αἰθιοπικόν τρίψας καὶ μελάνθιον καὶ ῥητίνην καὶ ἄλειφα καὶ μέλι καὶ οἶνον γλυκύν· ταῦτα μίξας καὶ ἀναχλιήνας κλύσαι· ἐπὴν δὲ κλύσης, ἀναστήσας, περιέναι κελεύειν, ὅπως τὸ κλύσμα διασειῆται. Προσθεῖναι δὲ κρόκον καὶ σμύρναν καὶ λιβανωτὸν ἐν ῥάκει λιναίῳ ἀποδέοντα ξηρὸν ἴσον ἑκάστου, ξυμμίσγοντα χηνὸς ἄλειφα, περιχρίοντα τὸ ῥάκος· τοῦτο δὲ προστιθέναι ἐπτὰ ἡμέρας· τῇ δὲ ὀγδόῃ θυμιῆσαι σμύρνη καὶ ἀσφάλτῳ καὶ κριθῇ, εὐώδει ἀλείφατι πεφυρημένα ἐπὶ μαλθακὸν πῦρ ἐπιβαλὼν, θυμῆν δι' αὐλοῦ. Ἐπὴν δὲ θυμῆσης, τῇ ὑστεραίῃ τρῖψαι κάστορος ὄρχιν, οἶνον λευκὸν παραχέων, καὶ αὐτὸν μήλη ἀμφιπλάσας καὶ εἰρίῳ κατελίξας προσθεῖναι ἐς νύκτα· ὄρθρου δὲ ἀνελομένη καὶ διαμαλαξαμένη ἴτω παρὰ τὸν ἄνδρα, καὶ ξυγκοιμηθεῖσα ἀτρεμείτω· καὶ ἂν μὴ ἐπὶ τοῦ πρώτου κυήση, αὐθις προσθεμένη αὐτὸ τοῦτο, παρὰ τὸν ἄνδρα ἐλθέτω. Ἄρχεσθαι δὲ χρῆ φαρμακεύοντα, ἐπειδὴν ἔλθῃ τὰ καταμήνια· ληγόντων δὲ χρῆ τὸ κυητήριον προσθεμένην ξυγκοιμᾶσθαι· τοῦ δὲ πρόσθεν χρόνου μήτε ἢ γυνὴ ἴτω ἄσσον τοῦ ἄνδρος, μήθ' ὁ ἀνὴρ παρὰ τὴν γυναῖκα.<sup>101</sup>

This fertility treatment lasts for an entire menstrual cycle and involves purgations, fumigations, applications of pessaries, baths, applications of leaden tubes to open the mouth of the womb, and sexual encounters. Long treatments of this kind abound in

<sup>101</sup> *Steril.* 221 (L8.424.22-428.14). For translation, see Appendix One.

the Hippocratic gynaecological treatises; pharmacology is only one aspect of such cures that regiment every aspect of the patient's life: diet, bathing, exercising, sexual intercourse, etc. This type of dietetic *Haute Médecine* – and I use the word 'dietetic' in the widest acceptance of the term – was only available to an elite concerned with preserving their good health through all possible means.

Studies on the notions of luxury have stressed how the consumption of luxury goods can act as a status symbol. Arjun Appadurai, for instance, gives the following definition: 'I propose that we regard luxury goods not so much in contrast to necessities (a contrast filled with problems), but as goods whose principal use is *rhetorical* and *social*, goods that are simply *incarnated signs*'.<sup>102</sup> In the classical world, conspicuously consuming expensive drugs may have been a strategy to be seen as part of the elite. Patients requested from their physicians to design impressive medicaments; and physicians and healers competed against each other to answer their demand.

#### ***4.5 Are the gynaecological recipes an exception? – Dietetics and pharmacology in the Hippocratic treatises***

In the previous parts of this chapter, I argued that one could not explain the abundance of pharmacological recipes in the Hippocratic gynaecological treatises by suggesting that these recipes were the reflection of women's lore. Women – including midwives – might have contributed a certain amount of recipes to the compilers of the gynaecological writings, but they are only one of their sources. The compilers of the Hippocratic gynaecological writings gathered recipes from a variety of sources in order to create their brand of *Haute Médecine*.

I also noted that pharmacology was only one component of the *Haute Médecine* described in the gynaecological treatises – a medicine that regimented every aspect of women's life, whether in disease or in health. The gynaecological treatises can be listed among the dietetic treatises of the Hippocratic Corpus, as was done by the lexicographer Erotian (first century AD): Εἰς δίαίταν· Περὶ νόσων α' β',

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<sup>102</sup> Appadurai (1986) : 38.

Περὶ πτισάνης, Περὶ τόπων τῶν κατὰ ἄνθρωπον, Γυναικείων α' β', Περὶ τροφῆς, Περὶ ἀφόρων, Περὶ ὑδάτων.<sup>103</sup>

Dietetic treatises represent an important part of the Hippocratic Corpus, but they probably only represent a portion of the dietetic treatises written in the classical period. The genre of the dietetic treatise was already well developed at the end of the fifth century BC, if we may believe the author of *Regimen* who tells us that the topic of dietetics had already been treated by authors of the past, although not in a satisfactory manner.<sup>104</sup> At approximately the same period, the playwright Aristophanes compared dietetic medicine to tragedy, accusing it of being pedantic and bookish:

Ἄλλ' ὡς παρέλαβον τὴν τέχνην παρὰ σοῦ τὸ πρῶτον εὐθὺς  
οἰδοῦσαν ὑπὸ κομπασμάτων καὶ ῥημάτων ἐπαχθῶν,  
ἴσχανα μὲν πρώτιστον αὐτὴν καὶ τὸ βάρος ἀφεῖλον  
ἐπυλλίοις καὶ περιπάτοις καὶ τευτλίοισι λευκοῖς,  
χυλὸν διδοὺς στωμυλμάτων ἀπὸ βιβλίων ἀπηθῶν.<sup>105</sup>

Dietetics provides Aristophanes with an opportunity to joke by playing on words: the word περιπάτοις means both 'digressions' and 'walks'; and the word ῥημάτων (ponderous words) is similar in form to the word ῥευμάτων (fluxes).

More seriously, Plato in the *Republic* accuses dietetics of having dangerous effects on the functioning of society:

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<sup>103</sup> Erotianus, *Lexicon* (Nachmanson 9.15-17). Translation: 'On dietetics: *Diseases I and II, Ptisane, Places in Man, Diseases of Women I and II, Food, Barren Women, Waters.*' *Ptisane* was probably an alternative title for *Regimen in Acute Diseases*, a treatise which opens on a discussion of *ptisane* (i.e. barley-gruel).

<sup>104</sup> *Vict.* 1.1 (Joly 1.1-8; L6.466.1-7): Εἰ μὲν μοί τις ἐδόκει τῶν προτέρων συγγραψάντων περὶ δαίτης ἀνθρωπίνης τῆς πρὸς ὑγίειν ὀρθῶς ἐγνωκῶς συγγεγραφέναι πάντα διὰ παντὸς ὅσα δυνατὸν ἀνθρωπίνῃ γνώμῃ περιληφθῆναι, ἱκανῶς εἶχεν ἄν μοι, ἄλλων ἐκπονησάντων, γνόντα τὰ ὀρθῶς ἔχοντα, τούτοισι χρῆσθαι, καθότι ἕκαστον αὐτῶν ἐδόκει χρήσιμον εἶναι. Νῦν δὲ πολλοὶ μὲν ἤδη συνέγραψαν, οὐδεὶς δὲ πω ἔγνω ὀρθῶς καθότι ἦν αὐτοῖσι συγγραπτέον. Translation: 'If it seemed to me that one of my predecessors writing on the topic of human diet in order to <preserve> good health had written with accurate knowledge absolutely everything that is possible to embrace with the human mind, it would be sufficient for me – others having done the work, and exact knowledge having been obtained – to use these <results> in whichever manner each of them seems to be useful. However, although many have already written <on this topic>, nobody has known how to treat it in a correct manner.'

<sup>105</sup> Aristophanes, *Ranae* 939-943. Translation: 'Immediately when I <sc. Euripides> first took over the art <sc. tragedy> from you <sc. Aeschylus>, swollen by boasts and ponderous words, I first of all reduced the swelling and made her lighter by means of versicles, digressions and white beet. And I gave her nonsense-juice extracted from books.' On the imagery of this recipe, see Rodríguez Alfageme (1999): 375; Jouanna (2000): 192-193; Taillardat (1965): 452.

Τέκτων μὲν, ἦν δ' ἐγώ, κάμων ἀξιοὶ παρὰ τοῦ ἱατροῦ φάρμακον πῶν ἐξεμέσαι τὸ νόσημα, ἢ κάτω καθαρθεῖς ἢ καύσει ἢ τομῇ χρησάμενος ἀπηλλάχθαι· ἐὰν δέ τις αὐτῷ μακρὰν δίαιταν προστάτῃ, πλίδιά τε περὶ τὴν κεφαλὴν περιτιθεῖς καὶ τὰ τούτοις ἐπόμενα, ταχὺ εἶπεν ὅτι οὐ σχολὴ κάμνειν οὐδὲ λυσιτελεῖ οὕτω ζῆν, νοσήματι τὸν νοῦν προσέχοντα, τῆς δὲ προκειμένης ἐργασίας ἀμελοῦντα. Καὶ μετὰ ταῦτα χαίρειν εἰπὼν τῷ τοιούτῳ ἱατρῷ, εἰς τὴν εἰωθυῖαν δίαιταν ἐμβάς, ὑγιῆς γενόμενος ζῆ τὰ ἑαυτοῦ πράττων· ἐὰν δὲ μὴ ἱκανὸν ᾖ τὸ σῶμα ὑπενεγκεῖν, τελευτήσας πραγμάτων ἀπηλλάγη.<sup>106</sup>

Dietetics is a medicine only affordable to the wealthy; a carpenter could not afford the time to embark on a long treatment, he had to use a *pharmakon* to get rid of the *materia pecans* as fast as possible.

Although dietetics appeared to be well developed at the end of the fifth century BC, the ancients commonly held it as a sixth- or fifth-century BC invention. The ancients had noted the absence of regimen in Homer, where only surgery and application of (external) medicaments are described, and concluded that dietetics did not exist at the time of the epic poet, but had been invented later.<sup>107</sup> There was, however, considerable debate on who was the inventor: some considered Pythagoras of Samos deserved the title, for some it was Herodicus of Selymbria, and for others it was the physician Hippocrates of Cos.<sup>108</sup>

However, not all ancient authors regarded dietetics as a late invention. For instance, the author of *Ancient Medicine* considers the invention of dietetics to be contemporary with the birth of medicine.<sup>109</sup> Most modern scholars reconcile these

<sup>106</sup> Plato, *Respublica* 3.15 (406d-e). Translation: 'When a carpenter, I said, is sick, he expects his physician to give him a drug in order to vomit the disease out, or get rid of it by purging downwards or using cautery or the knife. But if someone prescribes him a long diet, wrapping his head with compresses and their accompaniments, soon he says he has no leisure to be sick and that there is no advantage in living such a life, paying heed to his disease and neglecting the work at hand. And thereupon, saying good-bye to this type of doctor and entering upon his usual diet, he becomes healthy and lives practising his own affairs. Or if his body is not strong enough to resist, death frees him of all his troubles.' In the *Timaeus* (89b-d) Plato has a more positive attitude towards dietetics.

<sup>107</sup> The sources are conveniently collected in Longrigg (1988): 146-147.

<sup>108</sup> See sources in Longrigg (1998): 147-148.

<sup>109</sup> *Prisc. Med.* 3 (Jouanna 120.6-121.5; L1.574.12-576.1): Τὴν γὰρ ἀρχὴν οὐτ' ἂν εὐρέθη ἡ τέχνη ἢ ἱητρικὴ οὐτ' ἂν ἐζητήθη – οὐδὲν γὰρ αὐτῆς ἔδει – εἰ τοῖσι κάμνουσι τῶν ἀνθρώπων τὰ αὐτὰ διαιωμένοι τε καὶ προσφερομένοις ἄπερ οἱ ὑγιαίνοντες ἐσθίουσιν τε καὶ πίνουσι καὶ ἄλλα διαιτέονται συνέφερον καὶ μὴ ἦν ἕτερα τούτων βελτίω. Νῶν δὲ αὐτῆ ἡ ἀνάγκη ἱητρικὴν ἐποίησεν ζητητῆναί τε καὶ εὐρεθῆναι ἀνθρώποισιν, ὅτι τοῖσι κάμνουσι ταῦτα προσφερομένοισιν ἄπερ οἱ

divergent views by arguing that a ‘primitive’ dietetics, an attention to food, had always existed in Greece. In the fifth century, this ‘primitive’ dietetics dramatically changed and came to embrace most aspects of daily life: diet, obviously, but also exercises, baths, down to sexual intercourse – whether in illness or in health.<sup>110</sup> Lonie, followed by James Longrigg, linked the developments in fifth-century dietetics to the cosmological and physiological speculations of the pre-Socratic philosophers, who postulated a series of affinities between man and his environment.<sup>111</sup> Wesley D. Smith, on the other hand, believes it is not necessary to imagine such an influence from natural philosophy upon dietetics.<sup>112</sup> In addition, several modern scholars suggest the historical Hippocrates contributed to the development of dietetics, although they do not agree on the exact form of this influence. For instance, Smith argues that Hippocrates composed the treatise *Regimen*, whereas Antoine Thivel suggests Hippocrates wrote *Regimen in Acute Diseases*.<sup>113</sup>

Whether they regard dietetics as a late invention or the culmination of a long development, most scholars would agree with Owsei Temkin in regarding dietetics as ‘the great dynamic element within Greek medicine’, the element that induced the leech to become a physician’.<sup>114</sup> Dietetics, it is often suggested, is the epitome of ‘rational’ medicine. In contrast, modern students of ancient medicine consider ancient pharmacology to have developed very little in the classical period. For instance, Maria M. Sassi writes:

Greek medicine focused on the causes of a given illness, refining its methods of investigating and describing a patient’s condition. Within this framework,

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ὕγιαίνοντες οὐ συνέφερον, ὡς οὐδὲ νῦν συμφέροι. Translation (Schiefsky): ‘For the art of medicine would never have been discovered to begin with, nor would anyone have sought for it – for there would have been no need for it – if it were beneficial for the sick to follow the same regimen and diet as the healthy, taking the same foods and drinks and following the same regimen in other respects, and if there were nor other things better than these. But in fact necessity itself caused medicine to be sought for and discovered by human beings, for it was not beneficial for the sick to take the same foods as the healthy, just as it is not beneficial for them to do so today.’

<sup>110</sup> See for instance Lonie (1977a); Nutton (2004): 97. Longrigg (1998): 155; on the other hand, dismisses the views of the author of *Ancient Medicine*: ‘Although the author of *Ancient medicine* regards the administration of diet as virtually conterminous with the art of medicine and this view has been widely accepted by modern scholars, it is difficult to determine precisely at what time he conceived the inception of the art of medicine to have taken place, and allowance here must be made for polemical exaggeration.’ See also Longrigg (1999).

<sup>111</sup> Lonie (1977a); Longrigg (1999).

<sup>112</sup> Smith (1980): 446.

<sup>113</sup> Smith (1980): 440; Thivel (1999). See also Craik (1995a); (1995b).

<sup>114</sup> Temkin (1953): 147-148.

developments in etiology also gave rise to the search for remedies connected with the cause of the disease itself and intended as acting directly on the organism. Yet such research continued to be pursued in one area only – diet – while the overall situation was one of **therapeutical stasis**.<sup>115</sup>

This therapeutical stasis, it is argued, particularly affected internal pharmacology – external pharmacology is well represented in the Hippocratic treatises *Ulcers*, *Haemorrhoids* and *Fistulas*, and the gynaecological treatises. As noted at the beginning of this chapter, Lonie observed that most plants are ‘used dietetically’ in the Hippocratic texts and concluded that ‘If we exclude diet, therapy in Hippocratic texts reduces to a few simple formulae for purges and emetics.’ Is it possible to argue that, instead of developing a curative medicine based on *pharmaka*, physicians in the classical period concentrated their efforts on a preventive medicine based on regimen? Can we conclude that there was a pharmacological stasis from the extent writings of the Hippocratic Corpus? Before answering this question, it is important to take into considerations three remarks.

First, it is unclear whether a distinction between food and drug (or in the words of Lonie between, on the one hand, substances ‘used dietetically’ and, on the other, ‘purges and emetics’) is clearly drawn in any of the Hippocratic writings. Some substances, such as hellebore or henbane (which have a strong purgative effect), must have been considered as *pharmaka*, and others, such as lentils or chickpeas, must have been considered as foods; but there were cases in which the distinction was more difficult to draw. For instance myrrh was extensively used in the ancient world in cult practices, but it was also used in perfumery, to spice wine, and in medical practice; clearly myrrh does not fall in any of the categories drawn by Lonie: it was both a drug and a food.<sup>116</sup> The treatise *Places in Man* (which probably dates from the fifth century BC)<sup>117</sup> shows that medical writers were attempting to define the notion of *pharmakon* in opposition to food: Πάντα φάρμακα εἰσι τὰ μετακινέοντα τὸ παρέον· πάντα δὲ τὰ ἰσχυρότερα μετακινέουσιν· ἕξεστι δέ, ἣν μὲν βούλη, φαρμάκῳ μετακινεῖν· ἣν δὲ μὴ

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<sup>115</sup> Sassi (2001): 142. My emphasis.

<sup>116</sup> See Chapter Five, Section Three for more details on myrrh.

<sup>117</sup> Craik (1998): 29 argues this treatise was written in the first half of the fifth century BC; Jouanna (1999): 405 believes the treatise dates from the fourth century BC.

βούλη, σιτίω.<sup>118</sup> Although the author of *Places in Man* manages to define the notion of *pharmakon* (something rather strong that causes changes in the present state), he is not successful at defining the notion of food, and the difference between a food and a drug.

Second, contrasting the gynaecological treatises to other treatises of the Hippocratic Corpus can be dangerous because many medical texts composed in the classical period might be lost. For instance, the recipe book *Pharmakitis* mentioned in *Affections* is now lost. In addition, other recipe books of which no traces are preserved might have been written in the classical period; as argued in Chapter Three, recipe books tend to be ephemeral. We should also remember that ‘gynaecological’ writers did not always include recipes in their writings: the author of parts of *Diseases of Women* (Author C in Grensemann’s terminology) probably also wrote *Generation/Nature of the Child*, a treatise which included no recipes.<sup>119</sup>

Third, mentions of *pharmaka* are extremely frequent in the Hippocratic Corpus: there are 643 occurrences of the noun φάρμακον and cognate words (φαρμακεύω, φαρμακεία, or φαρμακοποσία) – most of them referring to internal administration of drugs – distributed over various treatises of the Corpus, with a concentration in the gynaecological treatises, *Diseases I-III*, *Affections*, *Internal Affections*, *Places in Man* and *Nature of Man*.<sup>120</sup> However, in most cases, these *pharmaka* simply consist of one ingredient or their composition is not specified. For instance, *Places in Man* has numerous mentions of *pharmakon* administration, but not a single recipe. Recipes for *pharmaka* administered internally, outside of the gynaecological treatises, are concentrated in *Diseases II and III*, *Internal Affections* and *Regimen in Acute Diseases* and amount to a rather small number.<sup>121</sup> In other words, there are very few formulae, very few recipes for *pharmaka* outside of the gynaecological treatises.

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<sup>118</sup> *Loc.Hom.* 45 (Craik 82.20-24; L6.340.3-5). Translation: ‘All things that cause change in the present state <of the patient> are *pharmaka*, and all <substances> that are rather strong cause change. It is possible, if you want, to bring about change by means of a drug, or, if you do not want <to use a drug>, by means of foods.’

<sup>119</sup> See Hanson (1992b): 33-34.

<sup>120</sup> The other treatises in which the word appears are: *Airs, Waters and Places*; *Ancient Medicine*; *Aphorisms*; *Breaths*; *Coan Prenotions*; *Decorum*; *Epidemics*; *Fistulas/Haemorrhoids*; *Fractures*; *Generation/Nature of the Child*; *Humours*; *Joints, Letters*; *Nutriments*; *Oath*; *Physician*; *Prognostic*; *Precepts*; *Prorrhetic*; *Regimen*; *Regimen in Acute Diseases*; *On the Sacred Disease*; *Sevens*; *Sight*; *The Art*; *Ulcers*; *Use of Liquids*; *Wounds in the Head*.

<sup>121</sup> See introduction to this chapter.

The compilers of medical treatises might have chosen not to include recipes, because they wanted to keep their pharmacological knowledge secret. Alternatively, these compilers could also have decided to leave the administration of drugs to the appreciation of the reader. According to the author of *Regimen in Acute Diseases*, physicians often disagreed on what to prescribe in the case of acute diseases:

Μάλα μὲν οὖν οὐδὲ προβάλλεσθαι τὰ τοιαῦτα ζητήματα εἰθίδαται οἱ ἰητροί· ἴσως δὲ οὐδὲ προβαλλόμενα γινώσκεται· καίτοι διαβολὴν γε ἔχει ὅλη ἡ τέχνη πρὸς τῶν δημοτέων μεγάλην, ὡς μηδὲ δοκεῖν ὅλως ἰητρικὴν εἶναι· ὥστ' εἰ ἔν γε τοῖσιν ὀξυτάτοισι τῶν νοσημάτων τοσόνδε διοίσουσιν ἀλλήλων οἱ χειρωνάκτες, ὥστε ἂν ὁ ἕτερος προσφέρει ἡγεύμενος ἄριστα εἶναι, ταῦτα νομίζειν τὸν ἕτερον κακὰ εἶναι, σχεδὸν ἂν κατὰ γε τῶν τοιούτων τὴν τέχνην φαίεν ὁμοιωσθαι μαντικῇ, ὅτι καὶ οἱ μάντιες τὸν αὐτὸν ὄρνιθα, εἰ μὲν ἀριστερὸς εἴη, ἀγαθὸν νομίζουσιν εἶναι, εἰ δὲ δεξιὸς, κακόν..., ἔνιοι δὲ τῶν μαντίων τὰ ἐναντία τούτων.<sup>122</sup>

According to this author, physicians differed so much from each other in their prescriptions that the art resembled divination; by not including exact recipes for medicaments in nosological descriptions, medical writers avoided to take position. These writers knew that recipe books existed to which their readers could refer themselves.

I would argue that the contrast between the gynaecological and 'non-gynaecological' treatises could be explained by the use of two different literary conventions, two different writing policies: whereas the gynaecological treatises clearly specify which medicaments to use in which circumstances, the 'non-gynaecological' treatises leave it to their readers to chose which remedies to administer. The relative absence of recipes in the 'non-gynaecological' treatises of the

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<sup>122</sup> *Acut.* 8 (Joly 39.8-20; L2.240-242). Translation: 'Physicians are not accustomed to propose such questions <whether barley-gruel should be administered in acute diseases>. And even if they were discussed, they would probably not be solved. And yet, the art suffers from a very bad reputation among laymen, to the point that there does not seem to be any medical <art>. Indeed if, with regards to the most acute diseases, experts differ from each other to the point that <the remedies> prescribed by one, because he believes them to be the best, are considered by another to be bad, then laymen may indeed argue that the art resembles divination. For seers consider the same bird to be a good sign, if it is on the left, and a bad one if it is on the right, while other seers argue the opposite.'



Corpus need not be read as a sign of a pharmacological stasis in the classical period. In practice, physicians certainly administered drugs for both internal and external treatments. In addition, they did not hesitate to write down recipes for external treatments. On the other hand, the preserved Hippocratic treatises include very few recipes for internal diseases, with one main exception: gynaecological diseases. These diseases, which affect mostly the vagina and the womb, might have assumed a special status in the classical period: they might have been considered to be neither entirely internal nor entirely external. Gynaecology, in this respect, was a privileged area for experimentation with recipe writing: the organs it took into account could be treated by *pharmaka* applied both externally and internally.

#### **4.6 Conclusions**

The large number of recipes in the gynaecological treatises has often been explained by a gender argument: the gynaecological recipes are the reflection of a tradition of home remedies transmitted by women. If many of the recipes recorded in the Hippocratic gynaecological treatises could indeed have been prepared within the household, it is doubtful that they were women's secrets. 'Household medicine', however, is only one possible source for the Hippocratic collections of recipes; other sources included the lore of the *rhizotomoi*, magicians and other priests. The Hippocratics collected recipes from a variety of traditional sources, transformed them – by adding exotic, rare or extraordinary ingredients – and integrated them to their system of *Haute Médecine*.

Although the nosological treatises preserve fewer pharmacological recipes than the gynaecologies, they partake of the same *Haute Médecine*: a dietetic medicine that controlled all aspects of their patients' lives. Instead of opposing dietetics (the epitome of 'rational' medicine) to pharmacology (the domain of women and other charlatans), I suggest regarding pharmacology as part of dietetics. Dietetics and pharmacology do not appear as distinct branches of medicine in the early treatises of the Hippocratic Corpus. However, the 'boom' in dietetic medicine in the fifth century BC might have led to reflections on what exactly a drug – a *pharmakon* – is and how it differs from a food. The culmination of the reflection is found in the Aristotelian *Problems*:

Τῷ ἐναντίον εἶναι τῇ τροφῇ τὸ φάρμακον. Τὸ μὲν γὰρ πεφθὲν ὑπὸ τῆς φύσεως, τοῦτο προσφύεται τοῖς σώμασι καὶ καλεῖται τροφή· τὸ δὲ μὴ πεφυκὸς κρατεῖσθαι, εἰσιὼν δὲ εἰς τὰς φλέβας καὶ δι' ὑπερβολὴν θερμότητος ἢ ψυχρότητος ταραττον, αὕτη δὲ φαρμάκου φύσις ἐστίν.<sup>123</sup>

In the fifth century, the line of demarcation might not have been between pharmacology and dietetics, but rather between internal and external medicine, with gynaecology falling in neither category, or rather in both categories.

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<sup>123</sup> Aristotle, *Problemata* 1.42 (864b7-11). Translation (Touwaide): 'A drug is the opposite of a food. What undergoes coction by natural forces is assimilated into the body and we call it food. The nature of a drug, on the other hand, is that it is not naturally disposed to be overcome and penetrates into the vessels, where it causes disturbance due to an excess of heat or cold.' See Scarborough (1983); Touwaide (1996).

## ***Appendix: Translations***

### *Diseases of Women 2.209 (L8.404)*

1. If there is excessive pain because of the purgation by means of pessaries: a cup of myrrh, the same amount of frankincense, love-in-a-mist, cyperus, hartwort, anise, linseed, oil of bitter almonds, honey, resin, goose suet, white vinegar, Egyptian perfume, of each the same amount: crush in sweet white wine. Inject two *kotylai* lukewarm.
2. If there is pain after the purgation: cyperus, sweet flag, ginger-grass and iris; boil these in black wine and use.
3. Another injection, if there is excessive pain and strangury. Juice of leek, elderberry, hartwort, anise, frankincense, myrrh and wine; express their juice, mix and inject.
4. Or an *oxybaphon* of myrrh, the same amount of frankincense, the same amount of love-in-a-mist and cyperus, hartwort, anise, linseed, oil of bitter almonds, honey, resin, goose suet, white vinegar, Egyptian perfume, of each the same amount; soak with sweet white wine and inject.
5. Or boil down water of mercury; <inject> with myrrh, frankincense and oil of bitter almonds.
6. Or boil salvia and St John's wort in water and inject.
7. Or linseed, anise, love-in-a-mist, hartwort, myrrh, seed of cassia; boil in wine and inject.
8. Another injection, if a violent pain takes hold <of her> after the purgation: boil elderberry and bayberries in black wine and inject.
9. Or boil elderberry in water; filter off the water. Add sweet wine and inject.
10. If pain occurs after an injection: boil the spices that are used in perfume; pour off two *kotylai* of the water. Add goose oil and rose oil; inject lukewarm.

### *Barren Women 221 (L8.424.22-428.14)*

Another therapy <to make the woman fertile>: Administer a vapour-bath to the entire body; give to drink a purgative acting upwards and a purgative acting downwards. Then having administered ass' milk, fumigate the womb by means of a pipe, for two days, adding putrid woman's-urine and soda. On the third day, <fumigate> with

cow's urine. On the fourth and fifth days, crush seeds of fennel, leaves of elder-tree, sweet-bay, and sawdust of cypress; pour water over these <ingredients> and boil. It is necessary, after the fumigation, to wash with a lot of warm water, and to apply perfumed suet, immediately after the fumigation and for the night. Afterwards, prepare the following: mix together oil of myrrh, butter, goose oil, deer's marrow, resin and oil of bitter almonds. Mix an equal amount of each, melt and apply in soft Milesian wool, as fleecy as possible. Then open the womb with five leaden tubes, eight fingers in length, prepared as follows: let the first be thin, the second thicker, each thicker than the other. Open the mouth for five days. After having opened <the womb>, apply a purgative pessary: crush five cantharides, the spongy part of a large cucumber and myrrh. Mix these with boiled honey and knead into a pessary, wrapping it into wool, apart from the extremity. Then dip it in oil as perfumed as possible, and apply. Also use the following purgative: bull bile, roasted <copper> flower, soda and myrrh. Soak with a little honey, bind fast a thin cloth, smear the top of the cloth with the remedy and apply. Also use bouprestitis with myrrh; squirting cucumber with boiled honey; and cantharides with squirting cucumber and myrrh. After the purgation, the next day, after a bath, make an injection to the womb: crush Ethiopian cumin, love-in-a-mist, resin, ointment, honey and sweet wine. Mix these, leave it to cool down and inject. After the injection, urge her to get up and walk around so that the injection is shaken about. Apply also saffron, myrrh, frankincense, tied up in a thin strip of cloth. <Use these> dry, of each the same amount; add goose oil, anoint the strip of cloth. Apply this for seven days. On the eighth day, fumigate with myrrh, asphalt and barley. Mix with sweet-smelling oil, place on a mild fire; fumigate through a tube. After the fumigation, on the next day, triturate a beaver testis, add white wine, spread this around a probe, wrap with wool and apply for the night. In the morning, having removed it and softened <her vagina>, let her go to her husband. And after having slept with her husband, let her keep still. If she does not become pregnant after the first time, having applied this pessary again, let her go to her husband. One must start the treatment when the menses start. When they have stopped, she must apply the pessary aiding conception and sleep with her husband. But before this time, the woman must not approach her husband; nor the husband <approach> his wife.

## 5 Imports, geographical determinism and influences: The use of exotic and luxury ingredients in the Hippocratic catalogues of recipes

Αἱ δ' ἐσχατιαί κως τῆς οἰκεομένης τὰ κάλλιστα ἔλαχον

Herodotus 3.106<sup>1</sup>

### 5.1 Introduction

In Chapter Four, I argued that the exotic, luxury and flamboyant ingredients included in the Hippocratic recipes transformed traditional medicine into *Haute Médecine*. In this chapter, I will attempt to determine with more precision which exotic and luxury products were exploited in the Hippocratic recipes and dietetic prescriptions. This, in turn, will help us understand the socio-economic context in which these prescriptions were created. Also, it will offer precious insights into how Hippocratic compilers valued different regions of the world.

Following a note on the naming of plants in ancient Greece, in the second part of this chapter, I systematically <sup>list</sup> the imported ingredients listed in the Hippocratic recipes, that is, the products that, for ecological reasons, could not grow in Greece or in Asia Minor.<sup>2</sup> I have also included ingredients, which, although they could be produced in Greece, are accompanied by an epithet of foreign geographical origin. I present these imported ingredients in four sub-categories according to their geographical origin.<sup>3</sup> In order to determine the origin of each exotic ingredient, and the routes they followed to reach Greece, I have drawn upon the studies of scholars working in a variety of disciplines: historians, linguists, botanists and archaeologists.<sup>4</sup>

I start with ingredients coming from the East, i.e. from the Levant (Syria, Lebanon, and Palestine), Arabia, and from 'Further East' (India, China, etc). Then, I consider ingredients coming from the South, i.e. from Egypt, Ethiopia and Libya. In most accounts of the contacts between Greeks and overseas, Egypt and Ethiopia are

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<sup>1</sup> Translation: 'Somehow the outer parts of the inhabited world were allotted the most beautiful features.'

<sup>2</sup> Byl (1995) lists many of these exotic ingredients.

<sup>3</sup> This approach is similar to Dalby's in his book *Empire of Pleasures* (2000), where he maps the 'pleasures' of the Roman Empire.

<sup>4</sup> Archaeological evidence is unfortunately rather slim. Exotic organic goods, such as spices and gums, leave very few traces in archaeological contexts for the simple reason that they were consumed; we are left with the containers. There is however one archaeological context in which luxury organic goods are preserved: shipwrecks. See Haldane (1993): 349.

presented together with the regions of the Near East, even though John Boardman pointed out that this can lead to confusion.<sup>5</sup> In the case of our recipes, it is particularly important to dissociate imports from Egypt and Ethiopia from imports from the Near East. Indeed, these two sub-categories of *exotica* are presented in a very different way in the recipes. Moreover, scholars have generally considered that Greek medicine, and particularly Hippocratic gynaecology, was influenced more by Egyptian medicine than by Mesopotamian medicine or any other medicine from the Near East. My fourth sub-category includes *exotica* from the North, i.e. regions around the Black Sea. Finally, I consider ingredients imported from the Western Mediterranean.

The exotic products listed in the Hippocratic treatises could have been divided into different sub-categories; for instance, these products could have been divided amongst the ancient continents. However, the number and boundaries of the continents were much disputed in fifth-century Greece. Some ancient authors, criticised by Herodotus, divided the world into three continents: Europe, Asia and Libya.<sup>6</sup> Others, like the author of *Airs, Waters and Places* divided the world into two parts: Europe and Asia (which included Ionia, Egypt and Ethiopia). Herodotus himself, it seems, rejected the notion of continent altogether.<sup>7</sup> In view of this confusion, I have chosen a more arbitrary repartition following the four cardinal points.

The Greeks could learn about, or discover, the medicinal qualities of exotic drugs in a variety of ways. In some cases, Greek physicians themselves may have learnt the medicinal properties of exotic drugs from foreigners. Indeed, physicians constituted, from at least Homeric times, a mobile part of Greek society, together with craftsmen, seers, and singers.<sup>8</sup> The Hippocratic *Epidemics* tell us of the travels of

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<sup>5</sup> Boardman (1999): 111. See also Gulranick (1997) who differentiates between ‘orientalizing’ art and ‘egyptianizing’ art.

<sup>6</sup> See Herodotus 2.16.

<sup>7</sup> See the discussion by Thomas (2000b): Chapter 3: ‘Dividing the world: Europe, Asia, Greeks and barbarians.’

<sup>8</sup> *Od.* 17.383-386:

Τίς γὰρ δὴ ξεῖνον καλεῖ ἄλλοθεν αὐτὸς ἐπελθὼν  
 ἄλλον γ’, εἰ μὴ τῶν οἱ δημοεργοὶ ἕασι,  
 μάντιν ἢ ἰητρῆρα κακῶν ἢ τέκτονα δούρων,  
 ἢ καὶ θέσπιν ἀοιδόν, ὃ κεν τέρπησιν ἀείδων;  
 Οὗτοι γὰρ κλητοὶ γε βροτῶν ἐπ’ ἀπειρονα γαῖαν·

Translation: ‘Who indeed of himself ever calls and invites a stranger from abroad, unless it is one of those who are skilled workmen, a seer, or a healer of ills, or a builder of houses, or perhaps a singer inspired by God who gives pleasure with his songs? For these men are summoned all over the

physicians within Greece. In addition, several Greek physicians <sup>exercised</sup> their art at the Persian court. In the sixth century BC, the Crotoniate physician Democedes was made prisoner by Darius.<sup>9</sup> Other Greek physicians entered the services of the Persian King of their own accord: Apollonides of Cos was doctor to Artaxerxes I, and Ctesias of Cnidus to Artaxerxes II.<sup>10</sup> Late *vitae* report that Hippocrates travelled far and wide. Although this probably only reflects the attempts of these biographical authors ‘to make the Corpus yield historical information’,<sup>11</sup> travels to far-away countries may have been a reality for some of Hippocrates’ contemporaries. During their trips, these physicians may have learnt of the properties of indigenous plants.

The medicinal qualities of exotic drugs could be transmitted from one culture to another in many other ways, which are listed by Julie Laskaris as follows: ‘trade, gift exchange, the spread of empire, contact with foreign slaves and the advent of immigrant free populations, intermarriage of Greeks with foreigners.’<sup>12</sup> In addition, we should not exclude the possibility that the Greek themselves discovered the medicinal properties of some products initially used in a different context, for instance in cooking, perfumery or religious practice. We will indeed notice that most exotic products listed in the Hippocratic treatises were exploited outside medicine.

In the third part of this chapter, I examine the mundane goods coming from Greece – Greece is here defined as Mainland Greece, the Ionian and Aegean islands, the Greek cities of Asia Minor, Crete, Rhodes and Cyprus – which are distinguished in our recipes by the use of geographical epithets. In many cases, these epithets are used as a means to distinguish a commodity from its luxurious equivalent.

After a final discussion of the exotic and luxury products listed in the recipes, I conclude this chapter on a discussion of the question of influences of Egyptian and Mesopotamian pharmacology upon Greek medicine, stressing the historiographical problems related to this important issue.

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boundless earth.’ See Burkert (1983); (1992): Chapter One ‘Who are public workers? The migrant craftsmen’; Zaccagnini (1983).

<sup>9</sup> The story of Democedes is reported by Herodotus 3.130-138. On this story, see Griffiths (1987).

<sup>10</sup> On Apollonides of Cos, see Ctesias fr. 14.44 (Lenfant). On Ctesias, see references in Högermann (1999).

<sup>11</sup> Hanson (1996b): 161.

<sup>12</sup> Laskaris (1999): 7.

## 5.2 A note on naming *materia medica* in ancient Greece

When the Greeks borrowed a drug from a foreign country, they could either adopt its foreign name or give it a Greek name. Both methods are illustrated in the Hippocratic treatises.

Many ingredients in the Hippocratic treatises bear a name borrowed from a foreign language.<sup>13</sup> A foreign name, however, is not necessarily a sign that the *materia medica* was any longer imported into Greece. For instance, the Greek name for cumin (*Cuminum cyminum* L.) – *kyminon* – is borrowed from a Semitic language;<sup>14</sup> but cumin was part of Greek agriculture probably as early as the second millennium BC.<sup>15</sup>

Native sodium carbonate is another case in point: the Greek words used to designate this product – *litron* or *nitron* – are derived from the Egyptian *ntr*.<sup>16</sup> However, in the Hippocratic Corpus, these words seem to designate any native sodium carbonate, not only the Egyptian variety. The authors of *Airs, Waters and Places* advises his readers to look for presence of *nitron* in the waters of any city: Δεύτερα δὲ ὄσων εἶεν αἱ πηγαὶ ἐκ πετρώων – σκληρὰ γὰρ ἀνάγκη εἶναι – ἢ ἐκ γῆς, ὄκου θερμὰ ὕδατά ἐστιν ἢ σίδηρος γίνεται ἢ χαλκὸς ἢ ἄργυρος ἢ χρυσοῦς ἢ θεῖον ἢ στυπτηρίη ἢ ἄσφαλτον ἢ νίτρον.<sup>17</sup> In order to differentiate the Egyptian variety from any other variety of *nitron*, the Hippocratic compilers of recipes used the epithet ‘Egyptian’.

On the other hand, some ingredients bearing a foreign name could not grow in Greece for ecological reasons: this is the case, for instance, of myrrh and frankincense, the geographical distribution of which is extremely limited and which bore names borrowed from a Semitic language.

The Greeks could also give a Greek name to a foreign *materia medica*, naming it by analogy with a product from Greece. For instance, the name *Aithiopikon kyminon* was given to our *Nigella sativa* L. by analogy with the cumin grown in Greece; the epithet ‘*Aithiopikon*’ (‘Ethiopian’) allowed differentiation between these two species.

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<sup>13</sup> For the etymology of Greek plant names, see Carnoy (1959).

<sup>14</sup> See Carnoy (1959): 100.

<sup>15</sup> See Zohary and Hopf (1988): 172-173.

<sup>16</sup> See Fournet (1989): 64.

<sup>17</sup> *Aër.* 7.9 (Jouanna 201.15-202.1; L2.28.22-30.2). Translation: ‘The second <worst> would be those <waters> whose springs <come> out of rocks – these are necessarily hard – or which come from a land where the waters are warm, or in which there is iron, or copper, or silver, or gold, or brimstone, or alum, or bitumen or sodium carbonate.’



As already pointed out, geographical epithets were attached to other products than plants: for instance we find mention of ‘Chian wine’ or ‘Milesian wool’ in our recipes, as we do in other classical texts, mainly in comedies. However, as students of Aristophanes have noticed, such epithets may be misleading in determining the geographical origin of ingredients. For instance, the ‘Syracusan cheese’ of the Aristophanic plays might be made in Athens, while the ‘Persian bird’ was the commonplace cock fowl.<sup>18</sup> On the other hand, ‘Chian wine’, for instance, was produced only on the island of Chios. In consequence, one cannot regard this use of geographical epithets as a strict system of ‘*appellations contrôlées*’, but it seems that when the ancient consumer bought geographically labelled products, he was expecting a certain standard of quality.<sup>19</sup>

### 5.3 *Exotic ingredients*<sup>20</sup>

#### 5.3.1 *The East*

Most of the *exotica* listed in the Hippocratic recipes were imported from the East – a huge territory which I will subdivide into three parts: the Levant, Arabia and ‘Further East’.

Reference is made in *Nature of Women* to *phoinikikous kokkous*, which could be interpreted either as ‘Phoenician grains’ or ‘red grains’. Translators have favoured the latter interpretation: the adjective ‘*phoinikikos*’ is probably here referring to the colour of the grains rather than to their geographical origin.<sup>21</sup> Anuce Foes tentatively identified these grains with the Cnidian grains frequently listed in the Hippocratic recipes and which, according to Theophrastus, were red.<sup>22</sup>

Although the *phoinikikous kokkous* did not come from Phoenicia, a series of products listed in the Hippocratic recipes originated in the Levant and might have

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<sup>18</sup> See Braund (1994): 42; Ehrenberg (1951): 137-137.

<sup>19</sup> See Brun (1997) on the absence of *appellations contrôlées* in antiquity.

<sup>20</sup> These ingredients are recapitulated on Tables One and Two, found at the end of this chapter.

<sup>21</sup> *Nat. Mul.* 32 (Trapp 90.4-5; L7.352.4). Ἐπιμήνια κινεῖν: φοινικικοὺς κόκκους ἐν οἴνῳ νήστιδι διδόναι πίνειν. Translation: ‘To provoke the menses: give to drink “Phoenician” grains in wine whilst fasting.’

<sup>22</sup> Foes *ap. Littré* (1851): 352, note 3. See Theophrastus, *Hist. Plant.* 9.20.2: Ὁ δὲ Κνίδιος κόκκος στρογγύλον ἐρυθρὸν τῇ χροίᾳ μείζον δὲ τοῦ πεπέριος. Translation: ‘The Cnidian grain is round, red in colour and bigger than that of pepper.’ See also Andò (2000): 280, note 287. See below for more details on the ‘Cnidian grain’.

been traded by the Phoenicians: terebinth resin (Gr. *terminthos* or *terminthinos retine*), the resin produced by *Pistacia terebinthus* L.;<sup>23</sup> galbanum (Gr. *chalbane*), the resin produced by *Ferula galbaniflua* Boiss. & Buhse;<sup>24</sup> styrax (Gr. *styrax*), the gum produced by *Storax officinalis* L.;<sup>25</sup> and sumach (Gr. *rhous*; *Rhus coriaria* L.).<sup>26</sup> In addition, some occurrences of the plants *schoinos* and *kalamos* in the Hippocratic Corpus might refer to plants from the Levant: both names designated a variety of marsh plants, many of which grew in Greece. However, according to Theophrastus species of these plants grew East of the Lebanon: 'Ο δὲ κάλαμος γίνεται καὶ ὁ σχοῖνος ὑπερβάλλοντι τὸν Λίβανον μεταξὺ τοῦ τε Λιβάνου καὶ ἄλλου τινὸς ὄρους μικροῦ ἐν τῷ ἀλωνίσκῳ τούτῳ.<sup>27</sup> These oriental plants have been identified with our sweet flag (*Acorus calamus* L.) and our ginger-grass (*Cymbopogon Schoenanthus* Spreng.), respectively.<sup>28</sup> It should be noted that two of these products' Greek names are Semitic in origin: *chalbane* and *styrax*.<sup>29</sup>

Some of the Levantine ingredients were perhaps imported to Greece as early as the Bronze Age. In 1984, a shipwreck containing large cargoes of organic goods was found at Uluburun, off the coast of Asia Minor. The ship was sailing probably to Greece or Egypt (or to both destinations, in a circular journey around the Eastern Mediterranean), and sank at the end of the fourteenth century BC, at the time of the Eighteenth Dynasty in Egypt, and Helladic IIIC in Greece.<sup>30</sup> Aboard the shipwreck, among other goods, remains of sumach seeds were found, as well as large quantities of resin (about a metric ton). At first, this resin was thought to be frankincense resin;<sup>31</sup> but further analysis showed that it should be identified with the resin from *Pistacia terebinthus*.<sup>32</sup> Now, it may be possible to recognise a reference to terebinth resin on Linear B documents from Knossos, where important amounts of a product named ki-

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<sup>23</sup> Identification: Dalby (2003): 323-324 (s.v. terebinth) and bibliography.

<sup>24</sup> Identification: Dalby (2003): 29 (s.v. asafoetida) and bibliography.

<sup>25</sup> Identification: Hort in Liddell-Scott-Jones.

<sup>26</sup> Identification: Dalby (2003): 315 (s.v. sumach) and bibliography.

<sup>27</sup> Theophrastus, *Hist. Plant.* 9.7.1. Translation: 'Kalamos and schoinos grow beyond the Lebanon-mountains, between the Lebanon-mountains and another small mountain-range, in the hollow thus formed.'

<sup>28</sup> Identification: Hort (1916): 454 and 480.

<sup>29</sup> *Chalbane*: Carnoy (1959): 74; Masson (1967): 60. *Styrax*: Carnoy (1959): 255.

<sup>30</sup> On this shipwreck, see Bass (1986); (1987); (1997); Pulak (1998). On the organic remains found on the site of the shipwreck, see Haldane (1990); (1991); (1993).

<sup>31</sup> Beck in Bass (1986): 277. See below for more details on frankincense.

<sup>32</sup> See Mills and Whites (1989); Hairfield and Hairfield (1990).

ta-no are mentioned.<sup>33</sup> The identification of ki-ta-no with the Greek τέρμινθος is based on a late gloss by Hesychius: κρίτανος· τέρμινθος.<sup>34</sup> If there was a Bronze Age trade in terebinth, sumach and other ingredients from the Levant, we cannot – in the current state of research – determine whether this trade was interrupted after the collapse of the Mycenaean civilization, and if it was interrupted, when it resumed.

In the archaic and classical periods, the use of these Levantine ingredients is well documented outside medicine. Terebinth resin, styrax and galbanum were scented gums employed in the production of perfumes; sweet flag and ginger-grass were scented herbs that were also used in perfumery;<sup>35</sup> and the use of sumach as a spice is documented in writing from the sixth century BC.<sup>36</sup>

The Hippocratic Corpus contains only one reference to a product originating from the Persian territory: sagapenum (Gr. *sagapenon*), the resin of *Ferula persica* Wild.<sup>37</sup> The use of this plant is not otherwise documented until the first century AD when Dioscorides described it.<sup>38</sup>

The two exotic ingredients listed the most in the Hippocratic treatises – myrrh (Gr. *smyrna* or *myrrha*),<sup>39</sup> the oleo-gum produced by *Commiphora Myrrha* Engl.<sup>40</sup> and frankincense (Gr. *libanotos*), the oleo-gum extracted from *Boswellia sacra* Flückiger and *Boswellia carterii* Birdwood<sup>41</sup> – have a very limited geographical distribution:

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<sup>33</sup> On ki-ta-no, see Melena (1974); (1975).

<sup>34</sup> See Melena (1975): 181.

<sup>35</sup> See for instance Theophrastus, *Hist.Plant.* 9.7.3 where terebinth, styrax, galbanum, sweet flag and ginger-grass are named. This text is quoted below.

<sup>36</sup> Solon fr. 41 (West): ῥοῦν· τὸ ἥδυσμα. Translation: ‘Sumach: the spice.’ Dalby (2003): 215 suggests that sumach is ‘one of the first exotic spices to find a use in Greek cuisine’. It is more correct to say that it is one of the first spices whose use is recorded in writing.

<sup>37</sup> Identification: Dalby (2003): 29 (s.v. *asafoetida*) and bibliography. Occurrence at *Mul.* 1.78 (L8.184.5-8): Ἐτερον· καστορίου ἢ σαγαπήνου ὀβολόν, ἀσφάλτου δραχμὴν μίαν, νίτρου δύο, πάντα τρίψας ἐν γλυκεῖ οἴνῳ καὶ ἐλαίῳ ὅσον ἡμικοτύλιον, δὸς πιεῖν νήσται ὀβολοὺς δύο. Translation: ‘Another: one *obolos* of castoreum or sagapenum, one *drachma* of bitumen, two of soda; crush all these in sweet wine and oil in the amount of half a *kotyle*. Give to drink whilst fasting in the amount of two *oboloi*.’

<sup>38</sup> Dioscorides, *Mat.Med.* 3.81.

<sup>39</sup> *Smyrna* is the form found in the Hippocratic Corpus.

<sup>40</sup> Identification: Dalby (2003): 226-227 (s.v. *myrrh*) and bibliography.

<sup>41</sup> Identification: Dalby (2003): 150-151 (s.v. *frankincense*) and bibliography, to which should be added Müller (1978). On both incenses, see also Détiéne (1972): Chapitre Deux: ‘Les parfums de l’Arabie’; and the collection of essays edited by Avanzini (1997): especially D’Agata, Liverani, Retsö, and Zacagnino.

both grow only in South Arabia and the Horn of Africa. The Greek names for both ingredients are borrowed from a Semitic language.<sup>42</sup>

We cannot find any trace of the use of frankincense in the Aegean before the archaic period. Myrrh, on the other hand, may have been used in the production of perfumed oil in Mycenaean Knossos, if Anna Sacconi's interpretation of the ideogram MU is correct.<sup>43</sup> It could be suggested that the myrrh employed at Knossos was imported from Somaliland, through the intervention of Egyptian merchants; I do not think the possible presence of myrrh in Bronze Age Crete can be interpreted as a sign of early trade in Arabian myrrh.<sup>44</sup>

In any case, after the collapse of the Mycenaean palace civilization, we completely lose track of both oleo-gums in Greece. No mention of them is made in either Homer or Hesiod, a fact of which the ancients were aware.<sup>45</sup> The imports seem to have (re)-started around 700 BC.<sup>46</sup> Outside medicine, frankincense and myrrh were used mainly in cult practices, which, according to Walter Burkert, expanded with the trade.<sup>47</sup> In addition, myrrh was used to spice wine and in the preparation of perfumes<sup>48</sup> – the Greek word for perfume (*myron*) was so similar to the word for myrrh (*smyrna* or *myrrha*) that the ancients believed the former to be derived from the latter: Τῷ δὲ τοῦ μύρου ὀνόματι πρῶτος Ἀρχίλοχος κέχρηται λέγων· ... μύρρα γὰρ ἢ σμύρνα παρ' Αἰολεῦσιν, ἐπειδὴ τὰ πολλὰ τῶν μύρων διὰ σμύρνης ἐσκευάζετο.<sup>49</sup>

In archaic and classical Greece, the main source of myrrh and frankincense was Arabia, although some early Greek authors believed these were products of Syria.<sup>50</sup> These plants do not grow in Syria, but it is probably from there that

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<sup>42</sup> See Carnoy (1959): 161 and 183; Masson (1967): 53-56.

<sup>43</sup> Sacconi (1969).

<sup>44</sup> D'Agata (1997): 89 advances this hypothesis, even though she finds it doubtful.

<sup>45</sup> See for instance Pliny *H.N.* 13.1.2: *Iliacis temporibus non erant, nec tunc supplicabatur*. Translation: 'At the time of the Trojan War, they <sc. perfumes> did not yet exist and incense was not used in worship.' See Burkert (1985): 62.

<sup>46</sup> The first written mention of the incenses are in Sappho: fr. 2 (frankincense) and fr. 44 (myrrh).

<sup>47</sup> See Burkert (1985): 62.

<sup>48</sup> Wine spicing: see for instance Theophrastus, *Odor.* 7.32: Διὸ καὶ τῶν οἴνων τισὶ τὰ τοιαῦτα μιγνύντες ὡσπερ κέντρον ἐμποιοῦσιν. Ἔστι δὲ ἡ μὲν σμύρνη θερμὴ καὶ δηκτικὴ μετὰ στόψεως, ἔχει δὲ καὶ πικρίαν. Translation: 'This is the reason why these <perfumes> are mixed with certain wines to produce a sharp edge. Thus myrrh is hot and biting as well as astringent and it also has a bitterness of taste.' Perfumery: see for instance the list of *aromata* in Theophrastus, *Hist.Plant.* 9.7.3 (text quoted below) and numerous mentions in *On Odours*.

<sup>49</sup> Athenaeus 15.37 (688c). Translation: 'Archilochus was the first to use the word *myron*... For myrrh (*smyrna*) is called *myrrha* by the Aeolians, since most perfumes are prepared with myrrh.' According to Carnoy (1959): 183, this etymology for *myron* is fanciful.

<sup>50</sup> See for instance Hermippus fr. 63.8 (Kassel and Austin): Ἀπὸ δ' αὖ Συρίας λιβανωτόν. Translation: 'From Syria comes frankincense.' See Zacagnino (1997): 102 for further references.

Phoenician merchants shipped them to Greece. Herodotus is the first preserved author to mention the Arabian origin of myrrh and frankincense; in his account, Arabia appears as a mysterious country, and its plants are surrounded by myths and legends:

Πρὸς δ' αὖ μεσαμβρίας ἐσχάτη Ἀραβίη τῶν οἰκεομένων χωρέων ἐστὶ, ἐν δὲ ταύτῃ λιβανωτός τέ ἐστὶ μόνυη χωρέων πασέων φυόμενος καὶ σμύρνη καὶ κασίη καὶ κινάμωνον καὶ λήδανον. Ταῦτα πάντα πλὴν τῆς σμύρνης δυσπετέως κτῶνται οἱ Ἀράβιοι. Τὸν μὲν γε λιβανωτὸν συλλέγουσι τὴν στύρακα θυμιῶντες, τὴν ἐς Ἑλληνας Φοίνικες ἐξάγουσι· ταύτην θυμιῶντες λαμβάνουσι· τὰ γὰρ δένδρεα ταῦτα τὰ λιβανωτοφόρα ὄφιες ὑπόπτεροι, σμικροὶ τὰ μεγάθεα, ποικίλοι τὰ εἶδεα, φυλάσσουσι πλήθει πολλοὶ περὶ δένδρον ἕκαστον, οὗτοι οἱ περ ἐπ' Αἴγυπτον ἐπιστρατεύονται. Οὐδενὶ δὲ ἄλλῳ ἀπελαύνονται ἀπὸ τῶν δενδρέων ἢ τῆς στύρακος τῷ καπνῷ.<sup>51</sup>

Herodotus then goes on to describe how the Arabians collected *kassia* and *kinamomon* – two products also listed in the Hippocratic recipes: the former from a shallow lake protected by winged animals similar to bats, and the latter from the nests of birds inhabiting high mountains.<sup>52</sup> Pliny deplored such stories, which he saw as a means to increase the price of these imports: *Cinnamomum et casias fabulose narravit antiquitas princepsque Herodotus... his commentis augentes rerum pretia.*<sup>53</sup>

Ancient writers situated the land producing *kassia* and *kinamonon* either in Arabia or in Eastern Africa.<sup>54</sup> The spices today called cinnamon (the bark of

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<sup>51</sup> Herodotus 3.107. Translation: 'Again, of all the inhabited lands, Arabia is the furthest to the south: and it is the only land that yields frankincense, myrrh, cassia, cinnamon and gum-ladanum. All of these, with the exception of myrrh, are difficult to get for the Arabians. They collect frankincense by burning styrax, which the Phoenicians bring to Greece. By burning it, they gather <the frankincense> because a large number of small, dappled, winged snakes guard the frankincense-bearing trees; many around each tree (they are the snakes that attack Egypt). Nothing drives them away from the trees, but the smoke of styrax.'

<sup>52</sup> Herodotus 3.110-111. See Détiéne (1972): 'Les parfums de l'Arabie' for a structuralist analysis of these stories.

<sup>53</sup> Pliny, *H.N.* 12.42.85-86. Translation: 'Regarding cinnamon and cassia, a fabulous story has been narrated by antiquity, led by Herodotus... They augment the price of these goods with these lies.'

<sup>54</sup> Arabian origin: see for instance Theophrastus, *Hist.Plant.* 9.4.2: Γίνεται μὲν οὖν ὁ λίβανος καὶ ἡ σμύρνα καὶ ἡ κασία καὶ ἔτι τὸ κινάμωνον ἐν τῇ τῶν Ἀράβων Χερρονήσῳ περὶ τε Σαβὰ καὶ Ἀδραμύτα καὶ Κιτίβαινα καὶ Μαμάλι. Translation: 'Now frankincense, myrrh, cassia and also cinnamon grow in the Arabian Peninsula, around Saba, Hadramyta, Kitibaina and Mamali.' East-African origin: see for instance Pliny, *H.N.* 12.42.86. *Omnia falsa, si quidem cinnamomum idemque cinnamum nascitur in*

*Cinnamomum zeilanicum* Nees) and cassia (the bark of *Cinnamomum cassia* Nees) do not come from Arabia but from South-Eastern Asia. In consequence, modern scholars are divided on whether the ancients knew the South-Eastern spices,<sup>55</sup> or whether they applied the names *kinamonon* and *kassia* to other plants, native to Arabia or the Horn of Africa.<sup>56</sup>

In any case, Phoenicians must have played a role in the trade of these spices: *kassia* and *kinamomon* are words of Semitic origin,<sup>57</sup> and Herodotus affirmed that the Greeks had learnt the word *kinamomon* from the Phoenicians: ταῦτα τὰ κάρφρα τὰ ἡμεῖς ἀπὸ Φοινίκων μαθόντες κινάμωμον καλέομεν.<sup>58</sup>

Basing herself on Herodotus' testimony, Sacconi has identified the monogram KAPO on Mycenaean tablets as the equivalent of the classical Greek word 'κάρφος', referring to *kinamomon* bark.<sup>59</sup> However, it seems to me that this identification is highly dubious. In the current state of research, it is wiser to argue that the trade in the spices called *kassia* and *kinamomon* started in the early archaic age, at the time of the Orientalizing Revolution.

Similarly to frankincense and myrrh, *kinamomon* and *kassia* were used as incenses in religious practices and in the production of perfumes.<sup>60</sup>

The geographical origin of other East-Asian products used in the Hippocratic recipes is less disputed by modern scholars: pepper (Gr. *peperi*, *Piper longum* L.) is a product from north-eastern India;<sup>61</sup> cardamom (Gr. *kardamomon*, *Elattaria cardomomum* Maton) originates in south-eastern India;<sup>62</sup> spikenard (Gr. *nardos*, *Nardostachys Jatamansi* D. Don);<sup>63</sup> and amomum (Gr. *amomon*, *Amomum subulatum*

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*Aethiopia*. Translation: 'All <these stories> are false, inasmuch as cinnamomum, which is the same as cinnamum, grows in Aethiopia.'

<sup>55</sup> See for instance Dalby (2003): 87-88 (s.v. cinnamon).

<sup>56</sup> See for instance Raschke (1978): 655.

<sup>57</sup> Carnoy (1959): 67 and 82; Masson (1967): 48-50.

<sup>58</sup> Herodotus 3.111. Translation: 'The barks that we have learnt from the Phoenicians to call *kinamomon*.'

<sup>59</sup> Sacconi (1972).

<sup>60</sup> Religious practice: see for instance Sappho fr. 44 (quoted in chapter Four). Perfumery: see for instance Theophrastus, *Hist. Plant.* 9.7.2 (text quoted below).

<sup>61</sup> Identification: Dalby (2003): 254-255 (s.v. pepper) and bibliography.

<sup>62</sup> Identification: Dalby (2003): 74 (s.v. cardamom) and bibliography. Raschke (1978): 651 and note 1023 argues that cardamom grew in Egypt. This is wrong: Raschke confuses the Greek word '*kardamon*' which designates our cress (*Lepidium sativum* L.) and the word '*kardamomon*' which designates our cardamom (*Elattaria cardomomum* Maton).

<sup>63</sup> Identification: Dalby (2003): 229-230 (s.v. nard) and bibliography.

Roxb.)<sup>64</sup> come from the Himalayas. All these plants have a name of non-Greek origin: *peperi* is borrowed from Sanskrit;<sup>65</sup> *amomon* is borrowed from some unidentified Oriental language;<sup>66</sup> and *nardos* is borrowed from Sanskrit via Semitic.<sup>67</sup>

Pepper is qualified with the geographical epithet ‘Indian’ in the following recipe of *Diseases of Women* II: ‘Ἐτερον προσθετόν· ἐκλέψας κόκκους τριήκοντα, τὸ Ἰνδικόν, ὃ καλέουσιν οἱ Πέρσαι πέπερι, καὶ ἐν τουτέῳ ἕνι στρογγύλον, ὃ καλέουσι μυρτίδανον, ξὺν γάλακτι ἡγναικείῳ ὁμοῦ τρίβειν καὶ μέλιτι διέναι.<sup>68</sup> This recipe informs us that the Greeks learnt the word ‘*peperi*’ – and probably the uses of pepper – from the Persians, who may have served as intermediaries in the trade of this plant.<sup>69</sup>

The other East-Asian products listed in the recipes are not qualified with geographical epithets, and there is no way of knowing whether the compilers of the recipes knew their geographical origin. Theophrastus records the divergent opinions of ancient authorities on this topic: for some ancients, cardamom and amomum were from Media; whereas for others these products came from India, together with spikenard.<sup>70</sup>

All the products from ‘further East’ listed in the Hippocratic recipes were used outside medicine. Interestingly, the use of pepper as a food is not documented until the fourth century. Andrew Dalby therefore concluded that pepper was used in medicine before the Greeks discovered its culinary properties.<sup>71</sup> However, it seems dangerous to use the argument *e silentio* in this manner: pepper may have been used as a condiment well before it was first recorded in a written text.

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<sup>64</sup> Identification: Dalby (2003): 8 (s.v. amomum) and bibliography.

<sup>65</sup> Carnoy (1959): 208.

<sup>66</sup> Carnoy (1959): 22.

<sup>67</sup> Carnoy (1959): 185; Masson (1967): 56.

<sup>68</sup> *Mul.* 2.205 (L8.394.7-10). Translation: ‘Another pessary: peel 30 grains – the Indian <grain> which the Persians call pepper (and in this there is a round <grain> which they call *myrtidanon*) – together with woman’s milk; crush and soak with honey.’ See also *Mul.* 1.81 (L8.202.15-17). See Filliozat (1949): 212-212.

<sup>69</sup> Thomas (2000b): 99 notes that this is the only mention of the Persians in the Hippocratic Corpus. In another recipe, pepper is called ‘the Median remedy’: see *Nat.Mul.* 32 (Trapp 96.1-4; L7.364.1-4): ‘Ἐτερον· κόκκους ἐκλέξας ὅσον τριάκοντα καὶ τρίμματα Μηδικοῦ φαρμάκου τὸ τῶν ὀφθαλμῶν ὃ καλεῖται πέπερι. Translation: ‘Another: Chose thirty grains and scrapings of the Median remedy, the one for the eyes which is called pepper.’ The notion of pepper as a treatment for the eyes is surprising: maybe it was supposed to make the patient cry, thus cleansing the eyes?

<sup>70</sup> Theophrastus *Hist.Plant.* 9.7.2: Τὸ δὲ καρδάμωμον καὶ ἄμωμον οἱ μὲν ἐκ Μηδείας, οἱ δ’ ἐξ Ἰνδῶν καὶ ταῦτα καὶ τὴν νάρδον καὶ τὰ ἄλλα ἢ τὰ πλείστα. Translation: ‘Some <say> that cardamom and amomum come from Media; others <say> that they come from India, together with spikenard and most of the other <spices>.’

<sup>71</sup> Dalby (1996): 137. Pepper appears, for instance, in a list of condiments in Alexis fr.132 (Kassel and Austin).

Like most of the oriental products reviewed so far, spikenard, cardamom and amomon were characterised by their pleasant smell and figure in Theophrastus' list of *aromata* used in perfumery:

Οἷς μὲν οὖν εἰς τὰ ἀρώματα χρῶνται σχεδὸν τάδε ἐστί· κασία κινάμων καρδάμων νάρδος ναῖρον βάλαμον ἀσπάλαθος στύραξ ἴρις νάρτη κόστος πάνακες κρόκος σμύρνα κύπειρον σχοῖνος κάλαμος ἀμάρακον λωτὸς ἄννητος... Καὶ τὰ μὲν πολλαχού γίνεται, τὰ δὲ περιττότατα καὶ εὐοδμότατα πάντα ἐκ τῆς Ἀσίας καὶ ἐκ τῶν ἀλεεινῶν τόπων. Ἐκ γὰρ αὐτῆς Εὐρώπης οὐδὲν ἐστὶν ἔξω τῆς Ἰριδος.<sup>72</sup>

For Theophrastus, there is a strong link between the geographical origin of the *aromata* and their wondrous qualities: all ingredients but iris are products of 'Asia', a continent that included Ionia.

If the recipes given by Theophrastus in *On Odours* are anything to go by, Eastern ingredients also entered in the composition of the numerous perfumes mentioned in the Hippocratic recipes: iris perfume, narcissus perfume, myrtle perfume, *bakkaris* perfume, marjoram perfume, white perfume and above all, Egyptian perfume.

To sum up, Hippocratics made use of a large number of eastern ingredients in their recipes: there are well over 300 references to eastern ingredients in the Corpus, to which should be added references to perfumes including eastern products. Most of these oriental products have a foreign name, and only one ingredient is qualified with an epithet: the Indian pepper.<sup>73</sup> None of these products was used solely in medicine; they were also exploited in one or more of the followings: perfumery, cooking and religious practice. The polyvalence of these ingredients should not surprise us: it is very unlikely that a trade in *materia medica* existed independently from trade in other goods in the ancient world. Specialised trade did not exist in early Greece, as was

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<sup>72</sup> Theophrastus, *Hist.Plant.* 9.7.3. Translation: 'Here are, approximately, <the plants> used as *aromata*: cassia, cinnamon, cardamom, spikenard, *nairon*, balsam, *aspalathos*, styrax, iris, *narte*, costus, all-heal, saffron-crocus, myrrh, cyperus, ginger-grass, sweet flag, marjoram, *lotos*, dill. Some of them grow in many places, but the most extraordinary and the most fragrant come from Asia and from hot regions. None of them is from Europe itself, apart from the iris.'

<sup>73</sup> Thomas (2000b): 73 also noticed this absence of epithets.



noted in studies on food trade. For instance, David Braund pointed out that, in the Greek world:

Trade in food is not distinguished from trade in other goods: even individual cargoes were regularly composed of a plethora of different items... there was no 'food' trade', but trade in food was a large proportion of total trade.<sup>74</sup>

Recent archaeological discoveries of shipwrecks have stressed the importance of highly heterogeneous cargoes in antiquity.<sup>75</sup> The fluidity we have observed in the previous chapter between medicine, religious practice and cooking was, it seems, reinforced by the nature of ancient trade.

### 5.3.2 *The South*

The compilers of recipes exploited the riches of three Southern regions: Egypt, Ethiopia (the land to the South of Egypt) and Libya.

Perfumes of the Egyptian 'family' occur frequently in the gynaecological treatises: Egyptian oil, Egyptian white oil, Egyptian perfume, and Egyptian white perfume. Theophrastus in his *On Odours* tells us that the Egyptian perfume was composed of several ingredients, including *kinamomon* and myrrh.<sup>76</sup> A few centuries later, Erotian glosses the word 'Egyptian perfume', informing us that 'Egyptian oil' is a synonym used in *Diseases of Women II*.<sup>77</sup> The Galenic glossary of Hippocratic terms, on the other hand, makes a difference between Egyptian oil and Egyptian perfume:

Αἰγύπτιον ἔλαιον ὅπερ αὐτοὶ καλοῦσι κίκινον. (Οἱ μέντοι παλαιοὶ ἐκ τῆς κίκεως καὶ κίκινον)

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<sup>74</sup> Braund (1995): 164.

<sup>75</sup> See for instance Parker (1992): 16-22.

<sup>76</sup> Theophrastus, *Odor*. 6.28: Τὸ δ' Αἰγύπτιον ἐκ πλειόνων, ἕκ τε τοῦ κιναμώμου καὶ ἐκ σμύρνης καὶ ἐξ ἄλλων. Translation: 'The Egyptian <perfume> is made from many ingredients, including *kinamonon* and myrrh.'

<sup>77</sup> Erotianus, *Glossarium* (Nachmanson 61.3-6): Μύρον Αἰγύπτιον... Ἔστι γὰρ θερμαντικόν. Οἱ δὲ τὸ μαλαβάθρινον. Οἱ δὲ τὸ μενδήσιον. Καὶ γὰρ ἐν β' Γυναικείων τὸ αὐτὸ φησιν ἔλαιον Αἰγύπτιον. Translation: 'Egyptian perfume... It is heating. Some <call it> *Malabathrinon*; some <call it> *Mendesion*. In the second book of *Diseases of Women*, they also call it Egyptian oil.'

Αἰγύπτιον ἔλαιον λευκόν· τὸ ἀπὸ τῶν κρίνων σκευαζόμενον, ὅπερ καὶ κρίνινόν τε καὶ σούσινον ἔλαιον ὠνόμασται.

Αἰγύπτιον μύρον λευκόν· ὅπερ καὶ Μενδήσιον ὠνόμασται σκευαζόμενον διὰ τε κρίνων καὶ ἀρωμάτων, διὰ τοῦτο καὶ μύρον, οὐκ ἔλαιον προσαγορεύεται· τὸ δ' αὐτὸ καὶ κρινόμυρον καὶ σούσινον μύρον ὠνόμασται.

Αἰγύπτιον μύρον· τὸ μύρον διὰ τοῦ ἄνθους τῆς ἀκάνθης Αἰγυπτίας, ὅπερ καὶ μετώπιον ὠνόμασται.<sup>78</sup>

Since we have different recipes for the Egyptian perfume in different sources, it might be wondered whether the expressions 'Egyptian perfume' and 'Egyptian oil' were used to designate a standard of quality, a kind of preparation, instead of a fixed recipe. The scent could have been manufactured in Greece itself; indeed, fragments of comedies indicate that Egyptian perfumers were established at Athens.<sup>79</sup>

In addition to the Egyptian perfume, we find in the Hippocratic treatises a series of products bearing the epithet Egyptian: Egyptian *kyamos*, Egyptian *balanos*, Egyptian *akantha*, Egyptian *krokos*, Egyptian *stypteria*, Egyptian *nitron*, Egyptian *linon*, and Egyptian or Theban *hals*.

'Egyptian *kyamos*', literally 'Egyptian bean', is usually identified with the pink lotus (*Nelumbo nucifera* Gaertn.).<sup>80</sup> The name 'bean' was chosen by the Greeks because of the shape of this plant's seeds, which Theophrastus describes as follows: Ἐπὶ τούτῳ δὲ ἡ κωδύα παρομοία σφηκίῳ περιφερεῖ. Καὶ ἐν ἐκάστῳ τῶν κυττάρων κύαμος μικρὸν ὑπεραίρων αὐτοῦ, πλῆθος δὲ οἱ πλεῖστοι τρίακοντα.<sup>81</sup> The epithet 'Egyptian' was then added to differentiate this plant from beans in the ordinary sense.

Similarly, the 'Egyptian *balanos*', literally the 'Egyptian acorn', took its name from its fruits, according to Theophrastus: Ἡ δὲ βάλανος ἔχει μὲν τὴν προσηγορίαν

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<sup>78</sup> Galen, *Glossarium* (K19.70-71). Translation: 'Egyptian oil: what we call *Kikinon* (the ancients, on the other hand, <called> it *From the castor-oil plant* and *Kikinon*). Egyptian white oil: what is prepared from lilies and is called *Krininon* and *Sousinon oil*. Egyptian white perfume: what also is called *Mendesion* and is prepared from lilies and spices. For that reason it is called perfume and not oil. It is also called *Krinoperfume* or *Sousinonperfume*. Egyptian perfume: the perfume made from the flower of the Egyptian *akantha*, which is also called *Metopion*.'

<sup>79</sup> For mentions of Egyptian perfumers in Athens, see for instance Strattis fr. 33 (Kassel and Austin): Perfumer Deinas the Egyptian. See Froidefond (1971): 60. On perfume recipes, see Manniche (1999): 61-89.

<sup>80</sup> See Dalby (2003): 199-200 and bibliography.

<sup>81</sup> Theophrastus, *Hist. Plant.* 4.8.7. Translation: 'Above this <sc. the stem>, the head is similar to a round wasp-nest. And in each of its cells, there is a small 'bean' slightly raised; at the most there are thirty of these.'

ἀπὸ τοῦ καρποῦ.<sup>82</sup> Modern scholars usually identify the ‘Egyptian *balanos*’ with *Balanites aegyptiaca* Delile,<sup>83</sup> but Amigues believes Theophrastus’ description rather points to an identification with *Moringa peregrina* Forsk.<sup>84</sup> Besides its medicinal use, ‘Egyptian *balanos*’ was used in antiquity to produce an oil used as a base in perfumery.<sup>85</sup>

The name ‘*akantha*’ was given to many plants by the Greeks, but one *akantha* was particular to Egypt according to Theophrastus;<sup>86</sup> it is identified as *Acacia nilotica* Wild. by modern scholars.<sup>87</sup> This plant produces a gum called *kommi* in Greek, a loan-word from the Egyptian.<sup>88</sup> This gum is also recommended in the Hippocratic treatises.

The case of the ‘Egyptian *krokos*’ is more enigmatic: the phrase does not appear outside the Hippocratic Corpus. The Greek word *krokos* was most commonly used to designate the saffron-crocus (*Crocus sativus* L.),<sup>89</sup> a plant that was not grown, it seems, in ancient Egypt.<sup>90</sup> There were other varieties of ancient *krokos*, however, which Theophrastus listed as ‘sweet-smelling *krokos*’, ‘white *krokos*’ and ‘thorny *krokos*’.<sup>91</sup> According to Amigues, the ‘thorny *krokos*’ can be identified with safflower (*Carthamus tinctorius* L.), a plant with saffron coloured flowers growing in Egypt, most commonly called *knekos* in Greek.<sup>92</sup> *Knekos* is recommended in several Hippocratic recipes, and outside of medicine was used as a dye.

The plants just presented were particular to Egypt. On the other hand, *linon* (linen), *nitron* (native sodium carbonate), *stypteria* (alum) and *hals* (salt)<sup>93</sup> could be found in other places around the Mediterranean, but it seems that the Greek considered them of better quality if they came from Egypt. In the case of salt, in particular, the epithet is used to differentiate a simple commodity from its more luxurious equivalent.

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<sup>82</sup> Theophrastus, *Hist. Plant.* 4.2.6. Translation: ‘The *balanos* takes its name from its fruit.’

<sup>83</sup> See for instance the identification by Hort in the Liddell-Scott-Jones.

<sup>84</sup> See Amigues (1989): 207 and bibliography.

<sup>85</sup> Theophrastus, *Odor.* 4.15: Χρῶνται δὲ μάλιστα τῷ ἐκ τῆς βαλάνου τῆς Αἰγυπτίας καὶ Συρίας, ἥκιστα γὰρ λιπαρόν· Translation: ‘The <oil> from the Egyptian or Syrian *balanos* is used the most because it is the least greasy.’

<sup>86</sup> Theophrastus, *Hist. Plant.* 4.2.1: Ἐν Αἰγύπτῳ γὰρ ἐστὶν ἴδια δένδρα πλείω, ἢ τε συκάμινος καὶ ἡ περσέα καλουμένη καὶ ἡ βάλανος καὶ ἡ ἄκανθα καὶ ἕτερ’ ἄττα. Translation: ‘For in Egypt there are many particular trees: the *sykaminos*, the tree called *persea*, the *balanos*, the *akantha* and so on.’

<sup>87</sup> See Amigues (1989): 209.

<sup>88</sup> See Fournet (1989): 62.

<sup>89</sup> See Dalby (2003): 289-290 (s.v. saffron) and bibliography.

<sup>90</sup> See Darby (1977): 805-806.

<sup>91</sup> Theophrastus *Hist. Plant.* 7.7.4: Ὁ κρόκος οὔτε ὁ εὐσμός οὔθ’ ὁ λευκὸς οὔθ’ ὁ ἀκανθώδης·

<sup>92</sup> Amigues (2003): 131. On safflower, see Dalby (2003): 289 (s.v. safflower) and bibliography.

<sup>93</sup> On Egyptian salt, see Darby (1977): 447-451.

The use of Egyptian drugs in the Hippocratic Corpus is not surprising since Egyptian medicine was highly regarded in Greece;<sup>94</sup> some Greek authors even maintained medicine was an Egyptian invention.<sup>95</sup> Egyptian drugs received particular praise, as in this passage of the *Odyssey*:

Τοῖα Διὸς θυγάτηρ ἔχε φάρμακα μητιόεντα,  
ἔσθλά, τά οἱ Πολύδαμνα πόρεν, Θῶνος παράκοιτις,  
Αἴγυπτίη, τῇ πλεῖστα φέρει ζεΐδωρος ἄρουρα  
φάρμακα, πολλὰ μὲν ἔσθλά μεμιγμένα, πολλὰ δὲ λυγρά·  
ἰητρὸς δὲ ἕκαστος ἐπιστάμενος περὶ πάντων  
ἀνθρώπων· ἧ γὰρ Παιήονός εἰσι γενέθλης.<sup>96</sup>

Archaeological records suggest that exchanges of pharmacological substances between the Aegean world and Egypt occurred well before the writing-down of the Homeric poems in the eighth century BC.<sup>97</sup> This traffic seems to have gone in both directions, since a section of the Ebers papyrus mentions Cretan beans.<sup>98</sup> In later times, transmission of pharmacological knowledge between Egyptians and Greeks would have been relatively easy since Greeks were present in Egypt from the reign of Psammetichus I (664–610 BC).<sup>99</sup> This transmission would have been even more facilitated by the foundation of Naucratis under the reign of Amasis (570–526 BC), or slightly earlier.<sup>100</sup> By the fifth century BC, healing drugs from Egypt were familiar to

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<sup>94</sup> On the image of Egyptian medicine in Greece, see Jouanna (2004): 6-21.

<sup>95</sup> Isocrates, *Busiris* 22: Μεθ' ὧν ἐκείνοι βιοτεύοντες τοῖς μὲν σώμασιν ἰατρικὴν ἐξευρον ἐπικουρίαν. Translation: 'With such conditions of life, they <sc. the Egyptian priests> invented for the body the succour of medicine.' Clemens Alexandrinus, *Stromata* 1.16.75: Οἱ δὲ Φοίνικας καὶ Σύρους γράμματα ἐπινοῆσαι πρώτους λέγουσιν. Ἰατρικὴν δὲ Ἄπιν Αἰγύπτιον αὐτόχθονα πρὶν εἰς Αἴγυπτον ἀφικέσθαι τὴν Ἰώ, μετὰ δὲ ταῦτα Ἀσκληπιὸν τὴν τέχνην αὐξῆσαι λέγουσιν. Translation: 'Some say the Phoenicians and Syrians first invented the letters, and that Apis, a native Egyptian, <invented> the <art> of medicine before Io came to Egypt. Later, they say, Asclepius augmented the art.'

<sup>96</sup> *Od.* 4.227-232. Translation (von Staden [1989]: 2): 'Such cunningly good drugs the daughter of Zeus had; drugs Polydamna, mistress of Thon, had provided her in Egypt, where food-giving fields yield most kinds of drugs: many good when mixed, many baneful. And each physician there is knowledgeable beyond all human; for they are of the race of Paean.'

<sup>97</sup> See Arnott (1996): 28; (2004): 165; Marganne (1993): 37-38; Nutton (2004): 41.

<sup>98</sup> Papyrus Ebers 28 (Bardinet 255).

<sup>99</sup> See Marganne (1993): 37-38. See Guralnick (1997) for an overview of the links between Egyptians and Greeks from the eighth century BC to the sixth century BC.

<sup>100</sup> On Naucratis, see Möller (2000).

an Aristophanic audience.<sup>101</sup> Although Egyptian medicine lost some of its prestige over the centuries,<sup>102</sup> Egyptian drugs were still valued at the times of Dioscorides and Galen: all the Egyptian ingredients mentioned in the Hippocratic recipes are listed in their pharmacological works.<sup>103</sup>

Although Egyptian drugs appear in several non-gynaecological Hippocratic treatises, the gynaecological treatises seem particularly keen on them. For Heinrich von Staden the constant reference to Egyptian drugs in the Hippocratic gynaecologies may be a reflection of the strong gynaecological tradition within Pharaonic medicine – a suggestion that will be discussed at the end of this chapter.<sup>104</sup>

It is interesting to note that, with the exception of *nitron* and *kommi*, all the Egyptian drugs used in the Hippocratic Corpus have Greek names; this is in stark contrast with the Oriental products which, for the most, have names of foreign origin. If this naming system is anything to go by, the attitude towards Egyptian products must have been rather ambivalent in classical Greece: the Greeks were ready to acknowledge the high quality of Egyptian drugs and to use them in their medical preparations, but in general, they preferred giving them a Greek name: naming is taming. At the same time, however, the use of the epithet ‘Egyptian’ made these products more visible, more conspicuous in the written recipes. The number of occurrences of Egyptian products in the Hippocratic recipes is much smaller than the number of occurrences of Oriental products, but modern scholars have put much more emphasis on the former than on the latter. As Rosalind Thomas puts it: ‘Egypt beats them all’.<sup>105</sup>

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<sup>101</sup> Aristophanes, *Pax* 1253-1254:

Πώλει βαδίζων αὐτὰ τοῖς Αἰγυπτίοις  
ἔστιν γὰρ ἐπιτήδεια συρμαίαν μετρεῖν.

Translation: ‘Go and sell them <sc. your helmets> to the Egyptians for they are convenient for measuring the purge-plant <sc. a plant used by the Egyptians for medical purposes>.’ See von Staden (1989): 1-2; Thomas (2000b): 72.

<sup>102</sup> See Jouanna (2004): 14-21.

<sup>103</sup> ‘Egyptian *balanos*’: see for instance Galen, *Comp.Med.sec.Loc.* 5.1 (K12.818.13); ‘Egyptian *kyamos*’: see for instance Galen, *De Ther. ad Pamphil.* (K14.303.2) where it is used as a measure; ‘Egyptian *stypteria*’: see for instance Galen, *Comp.Med. per Gen.* 4.5 (K13.697.4); ‘Egyptian *nitron*’: see for instance Aretaeus, *De curatione acutorum morborum* 1.4.10 (Hude 104.23); ‘Egyptian *akantha*’: see for instance Galen, *Comp.Med.sec.Loc.* 6.5 (K12.926.6); *kommi*: see for instance Galen, *Comp.Med.sec.Loc.* 4. 5 (K12.718.5) (by that time, however, *kommi* has become a generic term, referring to any gum produced by a tree, and not only by *Acacia nilotica*). On Egyptian drugs in Dioscorides, see Marganne (1992).

<sup>104</sup> Von Staden (1989): 16.

<sup>105</sup> Thomas (2004): 182. See also Joly (1966): 51.

Reference is also made in our recipes to three ingredients coming from Ethiopia, the land to the South of Egypt: Ethiopian *kyminon*; Ethiopian *daukos*; and Ethiopian *rhize*.

‘Ethiopian *kyminon*’, literally ‘Ethiopian cumin’, is usually identified with nigella (*Nigella sativa* L.), also known as black cumin, a plant that grows in the South of modern Egypt.<sup>106</sup> ‘Ethiopian cumin’ does not seem to have been used in the cooking of the Greeks and Romans,<sup>107</sup> but was still a favoured medicinal drug in late antiquity.<sup>108</sup>

The expression ‘Ethiopian *daukos*’ does not appear anywhere else in Greek literature, and Ethiopia is nowhere said to have grown a variety of *daukos*. *Daukos* on its own refers to an umbelliferous plant, probably *Daucus carota* L.<sup>109</sup> Alfred C. Andrews and Johann H. Dierbach suggested identifying the ‘Ethiopian *daukos*’ with the ‘Ethiopian *seselis*’ described by Dioscorides, a plant which they see as the equivalent of our *Bupleurum fruticosum* L.<sup>110</sup>

The identification of the ‘Ethiopian *rhize*’, literally the ‘Ethiopian root’, mentioned once in *Nature of Women* is also problematic.<sup>111</sup> An ‘Ethiopian root’ is mentioned by Theophrastus: Ἐν Αἰθιοπία γὰρ ἡ τοὺς οἴστους χρίουσι ῥίζα τίς ἐστὶ θανατηφόρος.<sup>112</sup> However, if arrows poisoned with this plant (which Hort identified with *Acokanthera Schimperi* Oliv.) could kill, one can doubt it would have been administered internally for ten days, as in the case of the Hippocratic recipe. Theophrastus and the Hippocratic recipe must be referring to a different plant. An alternative identification for the Hippocratic ‘Ethiopian root’ could be with the root of Dioscorides’ *aithiopsis*, a plant with a stout root, which Dierbach identifies with our *Salvia Aethiopsis* L.<sup>113</sup>

Ethiopia does not have a particular reputation for medicine in ancient literature. On the other hand, the sheer distance between Ethiopia and Greece,

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<sup>106</sup> Identification: Dalby (2003): 109 and bibliography.

<sup>107</sup> See Dalby (2003): 109.

<sup>108</sup> See for instance Galen, *Comp. Med. sec. Loc.* 9. 2 (K13.255.2).

<sup>109</sup> See Dalby (2003): 75 (s.v. carrot) and bibliography.

<sup>110</sup> Andrews (1949): 186; Dierbach (1824): 194. For the ‘Ethiopian *seselis*’ see Dioscorides 3.53.2.

<sup>111</sup> *Nat. Mul.* 101 (Trapp 122.7-8; L7.416.7-8): Ἦν παρθένος λιθίησι, τοῦ φύλλου διδόναι τῆς Αἰθιοπικῆς ῥίζης σταθμῶ, ἐν οἴνῳ παλαιῶ διδοὺς ἐπὶ ἡμέρας δέκα. Translation: ‘If a young woman suffers from the stone: give a certain amount of leaves of the Ethiopian root in old wine for ten days.’

<sup>112</sup> Theophrastus, *Hist. Plant.* 9.15.2 Translation: ‘Thus, in Ethiopia there is a certain deadly root with which they smear their arrow-heads.’

<sup>113</sup> Dioscorides, *Mat. Med.* 4.104. See Dierbach (1824): 165.

together with the colour of the *aethiopes* (the black people), seem to have exerted a certain fascination on the Greeks. There are references to the 'Ethiopians, most distant of men' in the *Odyssey*, indicating that there was a certain awareness of the land beyond Egypt from early times. However, contacts between Greeks and Ethiopia dramatically increased in the seventh century BC, when Greek mercenaries took part in expeditions led by the pharaohs of the twenty-sixth (Saite) dynasty against the Ethiopians.<sup>114</sup> Greek traders may have accompanied the mercenaries. From the seventh century onwards, contacts between Ethiopia and Greece were never interrupted. By the fifth century, Ethiopian themes were 'in fashion' in Greek art, with, for instance, a series of Athenian plays entitled *Memnon*, *Aethiopes*, *Andromeda*, and *Busiris*. The presence of the 'Ethiopian' ingredients in the recipes in the Hippocratic recipes may be part of this 'fashion'. It should also be noted that Ethiopia, together with Egypt, was described in the lost section of *Airs, Waters and Places*.

From Libya came one of the imported ingredients most commonly prescribed in the Hippocratic texts: silphium. Silphium is arguably the biggest mystery of ancient botany and has aroused the curiosity of classicists and botanists alike for more than two centuries.<sup>115</sup> The interest in the plant is largely due to its alleged extinction. Indeed, Roman authors reported it as extinct from the first century AD, making its identification more difficult to determine.<sup>116</sup> Thanks to representations of the plant on coins, and descriptions by ancient naturalists, we know that silphium was an umbelliferous plant, probably of the genus *Ferula*.<sup>117</sup> The name '*silphion*' –

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<sup>114</sup> See Snowden (1997) and Thompson (1969) for an overview of the contacts between Greeks and Ethiopians.

<sup>115</sup> On silphium: see Dalby (2003): 303-304 and bibliography, to which should be added Amigues (1997); Bocquet (1988); Gemmil (1966); Horden and Purcell (2000): 65-67; Fabricatti (1993); Michelin et al. (1984); Vercoeur (1913); Walton (1919).

<sup>116</sup> See for instance Pliny, *H.N.* 19.15.38: *In Cyrenaica prouincia repertum... Multis iam annis in ea terra non inuenitur, quoniam publicani, qui pascua conducunt, maius ita lucrum sentientes depopulantur pecorum pabulo. Unus omnino caulis nostra memoria repertus Neroni principi missus est.* Translation: 'It <sc. silphium> is found in the province of Cyrenaica... It has not been found in this region for many years already because the farmers who lead their pastures destroy it by grazing sheep, realizing that they make more profit in that way. In our memory, only one stalk was found, which was sent to the Emperor Nero.'

<sup>117</sup> Many different identifications of the plant have been proposed: *Ferula asafoetida* L., *Ferula tingitana* L., *Thapsia garganica* L., etc.

apparently of non-Indo-European origin – was probably given to the plant by the indigenous population of Cyrene.<sup>118</sup>

It is possible that silphium was exported from Libya in the Bronze Age. Arthur Evans interpreted a Ψ-like Minoan hieroglyph as a sign for silphium, and argued that silphium was introduced and cultivated in Crete during the Minoan era.<sup>119</sup> Without going this far, we can suggest that it was the object of regular trade from Libya to Crete. The possibility of an early Bronze Age trade in silphium is reinforced by the observation that a gum qualified as ‘Libyan product’ or ‘Libyan perfume’ was used in Egyptian rituals of renewal of the king’s vigour (*Heb-Sed*) in the Old Kingdom, i.e. a little earlier than the possible documented use of silphium in Crete.<sup>120</sup> Whatever the vitality of this trade in the early Bronze Age, we have no information on it in later Bronze Age and early Iron Age.

From our classical Greek sources, it seems that this trade was not resumed before the seventh century BC. In a legend, Aristaios, son of Apollo and the nymph Cyrene, is said to have discovered the properties of the plant.<sup>121</sup> According to the Therans, silphium appeared seven years before the foundation of Cyrene<sup>122</sup> after a heavy shower;<sup>123</sup> this date (638 BC) incidentally corresponds to the first Theran activity in Libya. Such stories show how the Greek colonists appropriated silphium, and transformed it into a ‘Greek’ plant, which only started growing when Greeks arrived in Libya. Legends of this kind were particularly necessary since, as we can read in the Hippocratic treatise *Diseases IV*, numerous attempts to grow silphium in Ionia and the Peloponnesus failed:

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<sup>118</sup> See Chantraine (1968): 1004. Carnoy (1959): 245 disagrees and believes the plant name could be Greek.

<sup>119</sup> Evans (1921): 284-285.

<sup>120</sup> See Vikentiev (1954).

<sup>121</sup> See Scholia in Aristoph. *Equites*, line 894: Ἀρισταῖος δὲ ὁ Ἀπόλλωνος καὶ Κυρήνης πρῶτος τὴν ἐργασίαν τοῦ σιλφίου ἐξεύρεν ὥσπερ καὶ τοῦ μέλιτος. Translation: ‘Aristaios, son of Apollo and Cyrene, first discovered the properties of silphium as well as those of honey.’

<sup>122</sup> See Theophrastus, *Hist.Plant.* 6.3.3: Φασὶ δὲ οἱ Κυρηναῖοι φανῆναι τὸ σίλφιον ἔτεσι πρότερον ἢ αὐτοὶ τὴν πόλιν ὤκησαν ἐπτά. Translation: ‘The Cyrenaicans say that silphium appeared seven years before they settled in the city.’

<sup>123</sup> See Theophrastus, *Caus.Plant.* 1.5.1: Οὕτω γὰρ καὶ τὸ σίλφιον ἀνατεῦλαί φασιν ἐν Λιβύῃ, πιτώδους τινὸς ὕδατος γενομένου καὶ παχέος Translation: ‘For it is in this manner that they say silphium appeared in Libya, after a heavy, pitch-like rain had occurred.’ See also *Hist.Plant.* 3.1.6; Pliny, *H.N.* 19.15.41.



Ἄλλ' ὅμως οὐ δυνατόν, πολλῶν ἤδη πειρασαμένων, οὔτε ἐν Ἴωνίῃ οὔτε ἐν Πελοποννήσῳ σίλφιον φῦναι· ἐν δὲ τῇ Λιβύῃ αὐτόματον φύεται· οὐ γὰρ ἔστιν ἐν τῇ Ἴωνίῃ οὐδὲ ἐν Πελοποννήσῳ ἱκμάς τοιαύτη ὥστε τρέφειν αὐτό.<sup>124</sup>

In any case, the Greek trade in silphium flourished and contributed largely to the prosperity of Cyrene. The plant appeared on almost all coins of Cyrenaica from the seventh to the first century BC.<sup>125</sup> In the fifth and fourth centuries BC, silphium was a fashionable plant, used as an expensive way to condiment dishes; the Attic comedians joked about its high price.<sup>126</sup>

In the Hippocratic treatises, we find numerous dietary prescriptions concerning silphium,<sup>127</sup> as well as recipes for soups and *kykeones* including the herb.<sup>128</sup> It is the only exotic plant to be described in one of the Hippocratic catalogues of foods – the catalogue of the *Appendix to Regimen in Acute Diseases* – which usually only list Greek plants.<sup>129</sup> In these dietary descriptions and prescriptions, silphium is associated with garlic and other sharp products; and a passage of *Diseases of Women I* describes it as a ‘windy’ plant.<sup>130</sup>

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<sup>124</sup> *Morb.* 4.34 (Joly 86.16-20; L7.546.11-14). Translation: ‘Nevertheless it was not possible, despite numerous attempts, to grow silphium either in Ionia or in the Peloponnesus. In Libya, on the other hand, it grows spontaneously. This is because, neither in Ionia nor in the Peloponnesus, is there a humour (*ikmas*) able to nourish this plant.’ See Lonie (1981): 273 for a commentary.

<sup>125</sup> See Robinson (1927): ccli-cclviii.

<sup>126</sup> See for instance Aristophanes, *Plutus* 923-925.

ΔΙ. Οὐδ' ἂν μεταμάθοις;

ΣΥ. Οὐδ' ἂν εἰ δοίης γέ μοι

τὸν Πιλοῦτον αὐτὸν καὶ τὸ Βάττου σίλφιον.

Translation: ‘The Just: And you wouldn’t learn anything else <sc. than the art of sycophancy>? – The Sycophant: Not even if you gave me Plutus himself and the silphium of Battos.’

<sup>127</sup> See for instance *Mul.* 2.133 (L8.298.8-12): ‘Ἐσθίειν δὲ μάζην ἢ ἄρτον καὶ πράσα ἐφθὰ ἢ ὠμά, καὶ τῶν ὁμοιοτρόπων δριμέων πάντων τῶν προγεγραμμένων, καὶ ἔτνος ἄλλοτε καὶ ἄλλοτε, τὸν δὲ ἀφρὸν μὴ ἀφαιρέειν, καὶ σίλφιον πουλὺ ἐγκλῶντα, καὶ σκόροδα ἐγκαθεψῶντα πολλὰ. Translation: ‘Make her eat *maza* or bread, and leeks cooked or raw, and all similarly sharp things prescribed above, and now and then, thick soups from which the foam has not been removed, and a lot of crushed silphium and quantity of boiled garlic.’

<sup>128</sup> See for instance *Int.Aff.* 42 (Potter 212.10-12; L7.270.18-19): ‘Ἐς ἐσπέρην φακῆς τρυβλίον ῥυφεῖτω ψυχρῆς ἀνάλτου, σίλφιον δ' ἐπιξύσθω πολὺ. Translation: ‘Towards the evening, let him drink as a soup a *tryblion* of unsalted cold lentil-soup, grating a generous quantity of silphium over it.’

<sup>129</sup> *Acut.Sp.* 68 (Joly 89.23-90.6 ; L2.486.6-490.2).

<sup>130</sup> *Mul.* 1.75 (L8.164.20-166.2): ‘Ἐτερον κυητήριον· διαιτᾶν δεῖ τὴν γυναῖκα ἥτις δέεται κυήσιος, καὶ δίδόναι αὐτῇ ἄπερ λεχοῖ καὶ ἐσθίειν καὶ πίνειν, τῷ δὲ ἀνδρὶ τῆς γυναικὸς τᾶλλα πλὴν σκοροδου, καὶ κρομμύου, καὶ ἔτνους, καὶ ὀποῦ σιλφίου, καὶ ὅσα φυσητικά· τούτων δὲ ἀπεχέσθω. Translation: ‘Another remedy aiding conception: It is necessary for the woman who needs to conceive to follow a diet and to eat and drink like a woman who has just given birth, and to give to her husband everything but garlic, leek, thick soups, juice of silphium and everything that causes flatulence; from these he will abstain.’

Because of its windy quality, silphium was prescribed in gynaecology to ‘create a wind in the womb’<sup>131</sup> – *contraria contrariis* – or against ‘winds in the womb’ – *similia similibus*.<sup>132</sup> Although ‘winds in the womb’ referred to a genuine condition that needed treatment, ‘to create a wind in the womb’ may have been a euphemistic way to refer to an abortion; another important use of the herb was as an expelling of the dead foetus or as an abortive.<sup>133</sup>

It therefore seems that all medical uses of silphium derived from its dietary properties. In this case, John Riddle’s suggestion that the ‘true value’ of the plant was not as a medicine or a condiment but as an anti-conceptive is, to say the very least, exaggerated.<sup>134</sup>

I would suggest that silphium was primarily exported from Cyrene as a culinary herb, and that the medicinal uses of the plant stemmed from its uses in cooking, although one cannot entirely reject the suggestion, made independently by Jean-Pierre Bocquet and Jacques Jouanna, that the use of silphium in medicine may have been disseminated from Cyrene itself, which, if we may believe Herodotus, was an important medical centre in the fifth century BC.<sup>135</sup>

The ‘Libyan *phyllon*’, literally the ‘Libyan leaf’, mentioned in a recipe of *Diseases of Women* I could be identified with the leaf of silphium;<sup>136</sup> the epithet ‘Libyan’ is here used to make a difference between leaves in general and the leaf of

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<sup>131</sup> *Steril.* 239 (L8.454.1-2): Ποιέειν δὲ φύσαν ἐν τῇ μήτρῃ ὅταν βούλῃ, σκοροδίου μάλυζαν καὶ ὀπὸν σιλφίου παραμιγνύναι πρὸς τὰ προσθετά. Translation: ‘When one wants to create a wind in the womb: add heads of garlic and juice of silphium to the pessaries.’

<sup>132</sup> *Mul.* 2.211 (L8.406.11 and 14-15): Ἦν δὲ ἄνεμος ἐγγένηται ἐν τῇ μήτρῃ... καὶ κρίμανα πύρινα ἐν οἴνῳ λευκῷ φορύξαι, καὶ ὀπὸν σιλφίου ὡς κύαθον, κράμα ἐψεῖν, ἐνωμότερον διδόναι ῥοφέειν. Translation: ‘If there is a wind in the womb... knead wheat meal in white wine, add juice of silphium in the amount of a *kyathos*, boil the mixture; give to eat as a soup not too much cooked.’ Parallel recipe at *Nat. Mul.* 64. (Trapp 114.11 and 13-15; L7.400.11 and 13-15).

<sup>133</sup> See for instance *Mul.* 1.91 (L8.218.13 and 20-21): Διεκβόλιον, ἦν ἀποθάνῃ τὸ ἔμβρυον... Ἄλλο· σιλφίου ὀκόσον δραχμὴν μίαν, καὶ πράσου χυλὸν ὀκόσον ὀξύβαφον, παραμίξας κέδρινον ἔλαιον ἥμισυ κυάθου σμικροῦ, δὸς πιεῖν. Translation: ‘Expelling if the embryo has died... Another: one *drachma* of silphium, one *oxybaphon* of juice of leek, add half of a small *kyathos* of cedar-oil; give to drink.’

<sup>134</sup> Riddle (1997): 44. See also Riddle et al. (1994): 30. Riddle’s hypothesis is largely based on a Cyrenian coin depicting a seated woman with silphium at her feet, touching the plant with one hand and her lap with the other. Fabricatti (1993): 30 interprets this coin as a representation of the goddess Cyrene looking ‘after its [sc. the region’s] most precious fruits’. On this coin, see also Robinson (1927): 3.

<sup>135</sup> Bocquet (1988): 90; Jouanna (1999): 176. See Herodotus 3.131: Ἐγένετο γὰρ ὧν τοῦτο ὅτε πρῶτοι μὲν Κροτωνιῆται ἰητροὶ ἐλέγοντο ἀνὰ τὴν Ἑλλάδα εἶναι, δεῦτεροι δὲ Κυρηναῖοι. Translation: ‘For this happened at the time when the doctors from Croton were said to be the best in Greece, and <the doctors> from Cyrene to be the second.’

<sup>136</sup> *Mul.* 1.78 (L8.182.24-184.2): Ἦ φύλλον τὸ Λιβυκὸν ξηρὸν ἡμιχοϊνίκιον σὺν οἴνῳ κοτύλῃσι τρισίν, ἐψεῖν καὶ ἄγειν ἐς τὸ ἥμισυ, καὶ ἀπὸ τούτου πινέτω. Translation: ‘Or half a *choenix* of dried *Libyan* leaf with three *kotylai* of wine; boil and reduce by half. Let her drink from this.’

silphium. The word ‘silphium’ is never qualified with a geographical epithet in the Hippocratic recipes, and the expression ‘Cyrenaic *opos*’, literally ‘Cyrenaic juice’, referring to the juice of silphium in the works of later medical authors, does not occur in the Corpus.<sup>137</sup>

### 5.3.3 The North

There is only one reference to an ingredient from the Black Sea (Pontus) in the Hippocratic Corpus: the ‘Pontic *karya*’, literally ‘Pontic nuts’.<sup>138</sup> ‘Pontic nut’ was the Greek name for the hazelnut (*Corylus avellana* L.); the mountains south of the Black Sea are rich in hazelnut trees.<sup>139</sup> ‘Pontic nuts’ are mentioned by Ctesias of Cnidus and appear in the recipes of later medical authors.<sup>140</sup>

From north of the Pontic Sea came two ingredients recommended exclusively in the cure of female diseases: beaver testes and the scented secretion that the ancients believed to be produced by these testes, castoreum. In reality, castoreum is produced by the scent glands of the beaver, which are situated between its anus and testes; as Guido Majno puts it, ‘it seems that some information was lost between the beaver and the market’.<sup>141</sup> According to Herodotus, beavers came from the land of the Budinians, to the north of Lake Maeotis: Ἐν δὲ ταύτῃ ἐνύδριες ἀλίσκονται καὶ κάστορες καὶ ἄλλα θηρία τετραγωνόπρῳσα, τῶν τὰ δέρματα παρὰ τὰς σισύρνας παραρράπτεται, καὶ οἱ ὄρχιες αὐτοῖσιν εἰσι χρήσιμοι ἐς ὑστερέων ἄκεσιν.<sup>142</sup>

Herodotus seems to indicate that the testicles of all three categories of animals (the otters, the beavers and the square-faced animals) are useful for gynaecological

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<sup>137</sup> For the use of this expression in later authors, see for instance Galen, *Comp.Med.sec.Loc.* 1.1 (K12.419.17).

<sup>138</sup> *Mul.* 2.208 (L8.402.20-21): Βοηθεῖ δὲ καὶ κρόκος, σμύρνα, κάρυα Ποντικά, ἄλευρον καθαρὸν, ἐν χηνὸς στέατι καὶ μύρῳ ἱρῖνῳ προστιθέναί. Translation: ‘Saffron, myrrh, Pontic nuts, and cleaned flour also help; apply in goose suet and iris perfume.’

<sup>139</sup> Identification: Dalby (2003): 173 (s.v. hazelnut) and 267 (s.v. Pontus) and bibliography.

<sup>140</sup> Ctesias fr. 45.36 (Lenfant): Φέρειν δὲ καὶ καρπὸν τὰ δένδρα βότρυς, ὥσπερ ἄμπελος, ἔχειν δὲ τὰς ῥῶγας ὥσπερ κάρυα τὰ Ποντικά. Translation: ‘<He says> that these trees bear fruits in bunches, like grapes, and that they have fruits like Pontic nuts.’ Use in later recipes: see for instance Galen, *Comp.Med.sec.Loc.* 10.1 (K13.323.7).

<sup>141</sup> Majno (1975): 210.

<sup>142</sup> Herodotus 4.109. Translation: ‘In this <lake>, otters and beavers are captured, and also square-faced beasts whose skin is sewn onto garments, and whose testicles are useful for healing <diseases of> the womb.’

diseases. In the Hippocratic recipes, on the other hand, the beaver is the only animal whose testes are recommended.<sup>143</sup>

The identification of Herodotus' square-faced animal is problematic. Casson's identification with the seal from the Caspian Sea has been rejected by scholars;<sup>144</sup> it is, however, supported by the fact that various products from seals, although never the testicles, are mentioned in ancient medical texts. In the Hippocratic texts, products from seals are recorded only in gynaecological contexts;<sup>145</sup> Theophrastus, on the other hand, reports that seal's rennet was useful in the treatment of epilepsy.<sup>146</sup>

Herodotus implies that the Budinians themselves (αὐτοῖσι) used the testes of these animals. Thomas suggested, that 'some information about possible use travelled with the drug in question'.<sup>147</sup> However, it cannot be excluded that Herodotus reflected Greek practices upon the Budinians. In any case, the concordance between the use of beaver products in ancient gynaecological recipes and Herodotus' assertion that beaver testes are good for the womb is particularly striking, especially since in later medicine these ingredients were not particularly associated with female ailments.<sup>148</sup>

In later sources, castoreum is sometimes referred to as 'Pontic';<sup>149</sup> in the recipes of the Hippocratic Corpus, on the other hand, castoreum is never accompanied by a geographical epithet.

A reference to τῆ σποδῶ τῆ Ἰλλυριώτιδι at *Ulcers* 13 is particularly difficult to interpret.<sup>150</sup> The adjective Ἰλλυριώτις is a *hapax legomenon*, bearing some similarity with the adjectives Ἰλλύριος or Ἰλλυρικός, 'Illyrian'. However, Illyria was not known

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<sup>143</sup> On otter's testes in the early modern period, see Chapter Three, Section Two.

<sup>144</sup> Casson (1918/1919): 185. For a criticism of this interpretation, see for instance Corcella (1993): 319.

<sup>145</sup> Seal's rennet and oil: see *Nat. Mul.* 34 (Trapp 100.18-20; L7.372.18-20): Ἔτερον· φώκης τῆς πυτίης τὸ δέρμα κόψας λειὸν καὶ σπόγγον καὶ βρύα ὁμοῦ λεία μίξας, τῶ ἐλαίῳ τῆς φώκης περιποιησας, ὑποθυμῆν. Translation: 'Chop finely the skin of seal's rennet, sponge, and *bryon*; mix well together. Keep in seal oil; fumigate.' Seal's lung: *Nat. Mul.* 34 (Trapp 100.20-21; L7.372.20-21): Ἔτερον· αἰγὸς σπυράθους καὶ φώκης τοῦ πλεύμονος καὶ κέδρου πρίσματα ὑποθυμῆν. Translation: 'Another: goat's dung, the lung of a seal, shavings of cedar; fumigate.'

<sup>146</sup> Theophrastus, *Hist. Plant.* 9.11.3. On the use of products from seal in medicine, see Lloyd (1983): 45-46; Sharples (1995): 74; Scarborough (1978): 364-365.

<sup>147</sup> Thomas (2000b): 288.

<sup>148</sup> Thomas (2000b): 63 and 286-288.

<sup>149</sup> See for instance Galen, *Anti.* 2 (K14.192.2).

<sup>150</sup> *Ulc.* 13 (Duminil 63.3-6; L6.12-15): Ὅταν δέηται, ξηροῖσι τοῖσι τοιοῦτοισι χρῆσθαι καὶ τῆ σποδῶ τῆ Ἰλλυριώτιδι λείη μετὰ τῶν ἰχθυημάτων καὶ αὐτῇ μόνῃ καὶ ἰχθυήμασι καὶ ἄνθει ἀργύρου μόνῳ ὡς λειοτάτῳ... Translation: 'When necessary, use dry substances of this kind, also fine Illyrian ash together with the shavings or on its own, also the shavings and flower of silver on its own very fine...'

for its mining industry in the classical period.<sup>151</sup> Petrequin regards Ἰλλυριώτιδι as a corruption of Λαυριώτιδι, referring to products from the Laurion district (Attica).<sup>152</sup> This hypothesis is reinforced by Pliny's mention of a *spodos Lauriotis*, an ash produced when silver is smelted.<sup>153</sup>

### 5.3.4 The West

Two products identified as originating in the Western Mediterranean are mentioned in the Hippocratic treatises: 'seselis from Massalia' is recommended in a recipe of *Diseases of Women I*;<sup>154</sup> and 'salt-fish (gr: *taricha*) from Cadiz' are mentioned twice in *Internal Affections*.<sup>155</sup> Massalia was a Greek colony from 600 BC; whereas Cadiz was a Phoenician – and later Carthaginian – commercial settlement in the West.

*Seselis* is generally identified with our hartwort (*Tordylium* spp.).<sup>156</sup> On the other hand, *seselis* from Massalia – a plant described at length by Dioscorides –<sup>157</sup> has been identified by Dierbach with *Seseli tortuosum* L., a plant growing in the south of France.<sup>158</sup> By Galen's time, this ingredient entered, for instance, in the composition of a remedy called *diakalaminthe*.<sup>159</sup>

'Salt-fish from Cadiz' are mentioned by several poets of the Middle Comedy.<sup>160</sup> Galen informs us that, in his time, these pickles were not called 'from Cadiz' anymore, but went under the name '*sarda*'.<sup>161</sup> Although archaeological finds indicate that Spain played an important role in the trade of salt-fish in antiquity, it is

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<sup>151</sup> See Healy's map (1978): 54-55.

<sup>152</sup> Petrequin *ap. Duminil* (1998): 215. On the Laurion district, see Shepherd (1993): 73-95.

<sup>153</sup> Pliny, *H.N.* 34.34.132: *Fit et in argenti fornacibus spodos, quam uocant Lauriotim.* Translation: 'And an ash is produced in furnaces <in which> silver <is smelted>; they call it *Lauriotis*.'

<sup>154</sup> *Mul.* 1.78 (L8.182.23-24): Παραμίσειν δὲ τῶν σπερμάτων κύμινον αἰθιοπικὸν καὶ σέσελι μασσαλιωτικόν. Translation: 'Mix seeds together: Ethiopian cumin and *seselis* from Massalia.'

<sup>155</sup> *Int. Aff.* 25 (Potter 159.2; L7.232.1); 30 (Potter 176.24; L7.244.25).

<sup>156</sup> See Dalby (2003): 173.

<sup>157</sup> Dioscorides 3.53.1.

<sup>158</sup> Dierbach (1824): 187.

<sup>159</sup> See Galen, *De sanitate tuenda* 7 (K6.282.6).

<sup>160</sup> See for instance Antiphanes fr. 78 (Kassel and Austin): Τάριχος ἀντακαῖον εἴ τις βούλετ' ἢ Γαδειρικόν... Translation: 'Salted sturgeon, if you want, or salt-fish from Cadiz...'

<sup>161</sup> Galen, *De alimentorum facultatibus* 3.40.6 (Helmreich 385.69-8; K6.747.6-9): Ἄριστα δ' ἐστὶ τῶν εἰς ἐμὴν πεῖραν ἐλθόντων τὰ τε Γαδειρικὰ πρὸς τῶν ἔμπροσθεν ἰατρῶν ὀνομαζόμενα ταρίχη, σάρδας δ' αὐτάς καλοῦσιν οἱ νῦν. Translation: The best salt-fishes among those we have experienced are those which were called "from Cadiz" by the physicians of the past, but which they call "sarda" now.

difficult to tell whether all Cadiz salt-fish was imported from that place, or whether pickling *à la mode de Cadiz* was a standard of production.<sup>162</sup>

Elizabeth Craik recently noted that the possible western Greek dimension of the Hippocratic Corpus has received far less attention than its possible Coan and Cnidian dimensions.<sup>163</sup> Since the cities of Magna Graecia were particularly flourishing intellectually at the end of the fifth century BC, and since famous physicians are known to have come from there, we may expect to find in the Corpus at least traces – and maybe even entire works – that originated in the western Greek world.<sup>164</sup> In our recipes, on the other hand, the presence of the western Mediterranean appears very limited. One might argue that, since this region was largely hellenised, its products would not have been considered ‘exotic’. However, many of its products could have been given a ‘luxury’ status by employing a geographical epithet.

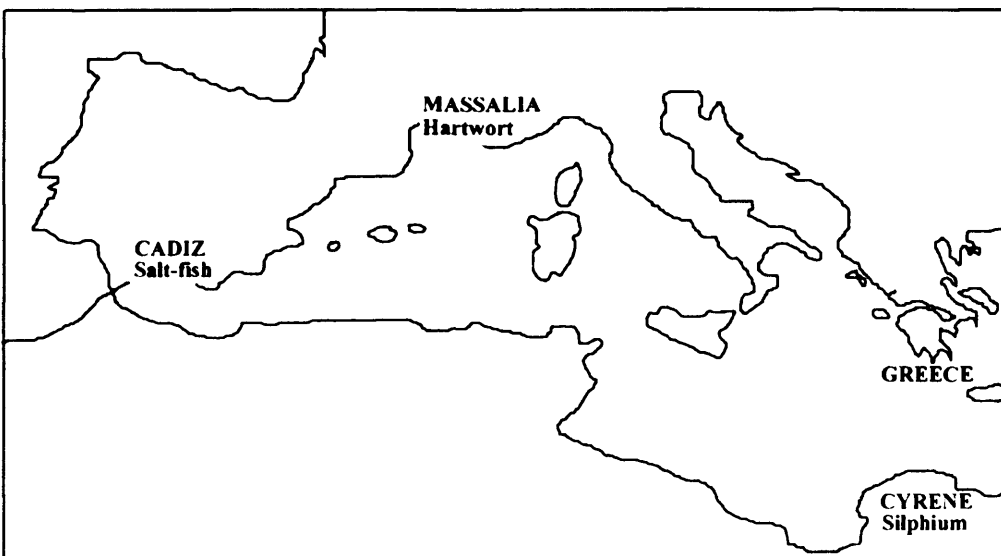
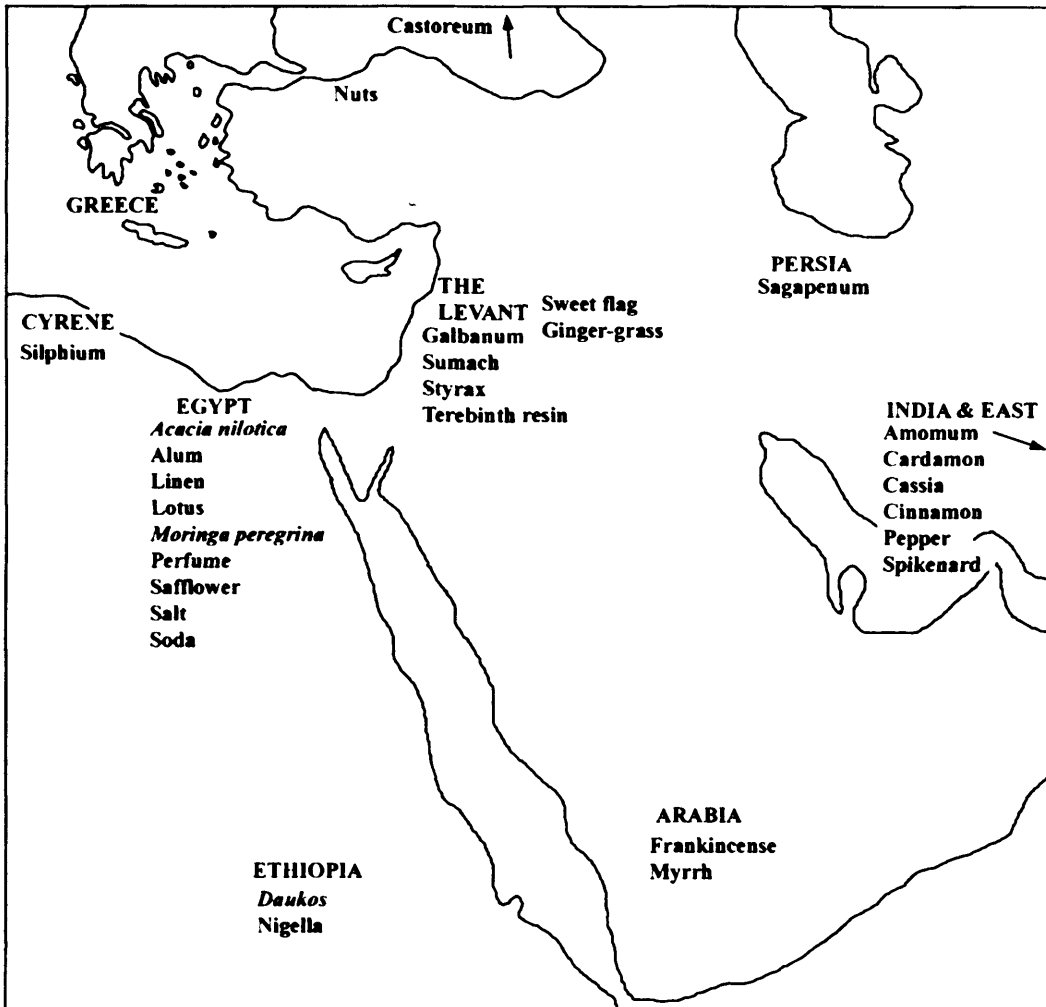
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<sup>162</sup> On the role of Spain in the trade of salt-fish, see Curtis (1991): 44-46.

On the use of salt-fish in ancient medicine, see Curtis (1991): Chapter Three, ‘Salted fish products in ancient medicine’.

<sup>163</sup> Craik (1998): 7-8.

<sup>164</sup> Craik (1998): 29 believes that *Places in Man* could bear the stamp of West Greek medicine.



**Maps One and Two: The exotic ingredients listed in the Hippocratic Corpus**

#### 5.4 Greek ingredients accompanied by a geographical epithet<sup>165</sup>

Several ingredients coming from Greece are accompanied by a geographical epithet in the recipes of the Hippocratic Corpus.

Products qualified with an epithet referring to a region of Mainland Greece appear relatively rarely in the Hippocratic Corpus: a powder from Orchomenos is mentioned once in *Ulcers*;<sup>166</sup> the wine from Mende is recommended five times in *Internal Affections*; Attic honey enters in the composition of several recipes; and an Attic remedy, for which no recipe is given is mentioned in *Epidemics IV*.<sup>167</sup> In addition, *Diseases III* mentions once the ‘earth from Eretria’, a city of Euboea.<sup>168</sup>

The powder from Orchomenos is otherwise unknown; Marie-Paule Duminil suggests it was made with plants growing around Lake Copais (Boeotia), which according to Theophrastus were particular to this locality.<sup>169</sup> On the other hand, Attic honey and wine from Mende were praised in fifth- and fourth-century Greek literature.<sup>170</sup> In addition, Attic honey, wine from Mende and Eretrian earth were exploited in later recipes.<sup>171</sup>

The epithet ‘Cretan’ is attached to several ingredients in the gynaecological treatises: Cretan *diktamnon*, Cretan *kissos*, Cretan *kedros*, and Cretan *aigeiros*.

‘Cretan *kissos*’ is mentioned nowhere else in the Greek Corpus, and it is therefore impossible to determine whether ‘Cretan *kissos*’ was a plant particular to Crete which bore some similarity to the ivy (*Helix* spp.) – the Greek word ‘*kissos*’ is

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<sup>165</sup> These ingredients are recapitulated on Table Three, found at the end of this chapter.

<sup>166</sup> *Ulc.* 17 (Duminil 66.15-16; L6.422.10-11). Ἀναγαλλίς καὶ στυπτηρὴ Αἰγυπτίη ὀπτή, ἐπίπαστον Ὀρχομένιον ἐπιπάσαι. Translation: ‘Pimpernel, roasted Egyptian alum; sprinkle with powder from Orchomenos.’

<sup>167</sup> *Epid.* 4.47 (Smith 142.12-14; L5.188.19-190.2): Ὅς ἐν τῇ κνήμῃ ἔλκος ἔσχε, καὶ τῷ Ἀττικῷ ἐχρήσατο, τούτῳ ἐξανθήματα ἐξαιρόμενα, ἐρυθρὰ, μεγάλα. Translation: ‘The person who had a wound in the leg and who used the Attic remedy: for him, large, red, swelling eruptions.’

<sup>168</sup> *Morb.* 3.16 (Potter 94.25-27; L7.154.6-8): Ἐς οὖν Ἐρετριάδα γῆν ὑγρὴν καὶ λείην τετριμμένην καὶ χλιαρὴν ἐμβάψας ὀθόνιον λεπτόν, περικάλυπον κύκλω τὸν θώρακα. Translation: ‘Soak a fine cloth in moist, warm, finely pounded Eretrian earth; wrap it all around <the patient’s> thorax.’

<sup>169</sup> Duminil (1998): 66, note 76. See Theophrastus, *Hist.Plant.* 4.10.1.

<sup>170</sup> For references to the wine from Mende, see Dalby (2003): 215-216 (s.v. Mendaeon wine). For Attic honey, see for instance Aristophanes, *Thesm.* 1192: Ὡς γλυκερὸ τὸ γλῶσσ’, ὥσπερ Ἀττικὸς μέλις. Translation: ‘How sweet is <your> tongue, like Attic honey.’ The Thracian who is talking here is speaking bad Greek (see γλυκερὸ).

<sup>171</sup> Wine from Mende: see for instance Galen, *Comp.Med.sec.Loc.* 2.2 (K12.572.14). Attic honey: see for instance Galen, *Comp.Med.sec.Loc.* 3.1. (K12.646.6). Earth from Eretria: see for instance Galen, *Comp.Med.sec.Loc.* 5.2 (K12.838.12).



generally used to designate our ivy – or whether ivy from Crete was judged to be of especial quality.

According to Theophrastus, *diktamnon* (Dittany, *Origanum dictamnus* L.) was a plant growing only in Crete;<sup>172</sup> the epithet ‘Cretan’ was therefore not strictly necessary.<sup>173</sup> The medicinal properties of this plant were exploited throughout antiquity.<sup>174</sup>

The word ‘*kedros*’ is used in the modern Cretan dialect to designate the juniper tree (*Juniperus* spp.), and it probably did so in antiquity; cedar-tree – also designated by the word *kedros* in Greek – did not grow in ancient Crete.<sup>175</sup> Each time the word *kedros* appears on its own in the Hippocratic recipes, or in later recipes, one is left wondering whether our juniper or our cedar is intended.

The grains of the ‘Cretan *aigeiros*’ are mentioned in a gynaecological recipe.<sup>176</sup> Usually, the word ‘*aigeiros*’ refers to our black poplar (*Populus nigra* L.). However, the black poplar does not have berries/grains and does not grow in Crete.<sup>177</sup> Nevertheless, Theophrastus informs us that *aigeiroi* were plentiful in Crete.<sup>178</sup> It seems that the word ‘*aigeiros*’ was used in the ancient Cretan dialect to designate a plant native to Crete, possibly *Zelcova cretica* Spach.<sup>179</sup>

It should be noted that Theophrastus praised the quality of the Cretan vegetation in the ninth book of his *History of Plants* – the book he devoted to the medicinal properties of plants: Φασὶ δὲ τινες ὅλως τῶν φύλλων καὶ τῶν ὀροδάμων καὶ ἀπλῶς τῶν ὑπὲρ γῆς τὰ ἐν Κρήτῃ διαφέρειν.<sup>180</sup> Down to the Roman Empire, the plants of Crete maintained their excellent reputation.<sup>181</sup>

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<sup>172</sup> See Theophrastus, *Hist.Plant.* 9.16.1: Τὸ δὲ δίκταμνον ἴδιον τῆς Κρήτης. Translation: ‘But dittany is particular to Crete’.

<sup>173</sup> There are mentions of *diktamnon* without the epithet in the gynaecological writings.

<sup>174</sup> See for instance Galen, *Anti.* 2.9 (K14.154.3).

<sup>175</sup> See Rackham and Moody (1996): 131.

<sup>176</sup> *Mul.* 1.78 (L8.182.3-4): Ἡ αἰγείρου Κρητικῆς κόκκους ἑννέα τρίψας ἐν οἴνῳ πινέτω. Translation: ‘Let her drink nine grains of the Cretan *aigeiros* in wine.’ Parallel at *Nat.Mul.* 32 (Trapp 89.1-2; L7.350.1-2).

<sup>177</sup> See Rackham and Moody (1996): 129.

<sup>178</sup> Theophrastus, *Hist.Plant.* 3.3.4: Ἐν Κρήτῃ δὲ καὶ αἰγειροὶ κάρπιμοι πλείους εἰσὶ. Translation: ‘And in Crete fruit-bearing *aigeiroi* are plentiful.’

<sup>179</sup> See Amigues (1989): 127; Rackham and Moody (1996): 129.

<sup>180</sup> Theophrastus, *Hist.Plant.* 9.16.3. Translation: ‘Indeed some say that the <plants> of Crete are superior in leaves, branches and, in general, all <parts> above the earth.’

<sup>181</sup> See for instance Galen, *Anti.* 5 (K14.30.14-16): Οὐδείς γοῦν ἐστὶ τῶν μυροπωλῶν, ὃς οὐκ οἶδεν τὰς ἐκ Κρήτης κομιζομένας βοτάνας, ὥσπερ καὶ τοὺς καρποὺς αὐτῶν. Translation: ‘There is no perfume-seller who does not know the plants brought from Crete as well as their fruits.’ See also Pliny, *H.N.* 25.94 who copies Theophrastus *Hist.Plant.* 9.16.3.

Two ingredients qualified as coming from Cyprus appear in the Hippocratic recipes: ‘Cypriot *spodos*’ and ‘Cypriot *hals*’.

The phrase ‘Cypriot *spodos*’, literally ‘Cypriot ash’, probably refers to the ash resulting from the smelting of copper, one of the most important products of Cyprus.<sup>182</sup> The geographical epithet is here used to differentiate between copper ashes and ashes in general. With time, the expression ‘Cypriot *spodos*’ seems to have become a set phrase for copper ashes, whatever their actual geographical provenance. This phrase occurs in the writings of later medical writers.<sup>183</sup>

The case of ‘Cypriot *hals*’, literally ‘Cypriot salt’ is similar to the case of ‘Egyptian salt’: salt was produced in many regions of the Mediterranean, but was judged of particular quality when coming from Egypt or Cyprus.

With regard to Asia Minor, we find numerous references to the ‘Cnidian *kokkos*’ in *Internal Affections* and the gynaecological treatises; ‘Cilician *hyssopos*’ is mentioned in a list of drugs ‘good for the womb’ and in a remedy of *Diseases III*;<sup>184</sup> ‘the black earth from Samos’ enters in the composition of a recipe of *Nature of Women*;<sup>185</sup> and a pessary described in *Barren Women* has to be applied in ‘Milesian wool’.<sup>186</sup>

The ‘Cnidian *kokkos*’, literally the ‘Cnidian grain’, is identified by modern scholars as the grain of the poisonous plant *Daphne gnidium* L.<sup>187</sup> Following a text by the medical author Rufus of Ephesus (second half of the first century AD), modern scholars have argued that the Asclepiads of Cnidus established the reputation of this ingredient: Οὐ γὰρ πάντα πάντῃ κάλλιστα φύεται, ἀλλὰ σκαμμωνία μὲν ἐν Κολοφῶνι τῆς Ἰωνίας... περὶ δὲ Καρίαν ὁ Κνίδιος κόκκος, ὅθεν δὴ καὶ ἔσχε τοῦνομα, τῶν δὲ ἐκ Κνίδου Ἀσκληπιαδῶν μάλιστα τε καὶ πλείστῳ χρωμένων.<sup>188</sup> Although physicians on

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<sup>182</sup> See Healy (1978): 58; Shepherd (1993): 113-115 where bibliography is given.

<sup>183</sup> See for instance Galen, *Comp.Med.sec.Loc.* 4.8 (K12.748.17).

<sup>184</sup> See *Nat.Mul.* 32 (Trapp 93.6; L7.358.6); *Morb.* 3.10 (Potter 78.14; L7.130.10).

<sup>185</sup> *Nat.Mul.* 32 (Trapp 92.4-5; L7.356.4-5): “Ἐτερον τὴν γῆν τὴν μέλαιναν τὴν Σαμίνην ἐν ὕδατι τρίψας ὅσον ἀστράγαλον δίδου πιεῖν. Translation: ‘Another: the black earth from Samos; crush in water the amount of a knuckle-bone. Give to drink.’

<sup>186</sup> *Steril.* 221 (L8.426.7-9): ...τουτέων ἴσον ἐκάστου ζυμίζαντα, διατήξαντα, προστιθέναι ἐν εἰρίῳ Μιλησιῶ μαθακῶ ὡς εὐειροτάτῳ. Translation: ‘Mix the same amount of each, melt; apply in soft Milesian wool, as well-combed as possible.’

<sup>187</sup> See Touwaide (2003): 999.

<sup>188</sup> Rufus, *De medicamentis purgantibus*, in Orbasius, *Collectiones medicae* 7.26.30 (Raeder 231.8-13). Translation: ‘For not all <plants> grow beautifully everywhere, but scammony <grows> in Colophon in Ionia... And in Caria <grows> the Cnidian grain, whence it also takes its name , the

Cnidus might have used this ingredient, its presence in a text is not sufficient for classifying this text as Cnidian (as opposed to Coan).

Dioscorides informs us that the best variety of *hyssopos* grew in Cilicia.<sup>189</sup> Dioscorides' description points to an identification with *Hyssopus officinalis* L., a plant native to Asia Minor. The epithet 'Cilician' is used by the Hippocratic authors to indicate that only the best quality of hyssop would be satisfactory.

The Milesian wool was mentioned regularly in classical literature for its high quality, but does not appear in later medical works.<sup>190</sup> As in the case of the Egyptian perfume, it is doubtful that all Milesian wools were really imported from Miletus; rather it seems that the expression 'Milesian wool' was used to designate wool of particularly high quality.

All three other products – the Cnidian *kokkos*, the Cilician *hyssopos* and the Samian earth – were exploited in the recipes of later medical authors.<sup>191</sup>

When we turn to the islands of the Aegean, we find one reference to the milk of goats from Scyros in *Diseases of Women I*;<sup>192</sup> Thasian nuts and Thasian wine are each mentioned once in *Diseases III*;<sup>193</sup> Melian *stypteria* (alum) appears four times in the *Corpus*;<sup>194</sup> Coan wine is recommended once in *Internal Affections*;<sup>195</sup> and Chian wine is listed in a recipe of *Excision of the Foetus*.<sup>196</sup>

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Asclepiads of Cnidus having used it the most and frequently.' See Grensemann (1975): 67-70; Jouanna (1999): 176.

<sup>189</sup> Dioscorides, *Mat.Med.* 3.25: "Υσσωπος...ἀρίστη δὲ ἢ ἐν Κιλικίᾳ γεννωμένη. Translation: 'Hyssop... The best grows in Cilicia.'

<sup>190</sup> See for instance Aristophanes, *Lysistrata* 729-730:

Οἴκοι γὰρ ἔστιν ἔριά μοι Μιλήσια

ὑπὸ τῶν σέων κατακοπτόμενα.

Translation: 'For I have at home Milesian wools which fall into pieces because of moths.' See also below on Milesian wool.

<sup>191</sup> Cnidian *kokkos*: see for instance Galen, *Comp.Med. per Gen.* 6.2 (K13.875.8); Cilician *hyssopos*: see for instance Galen, *Comp.Med.sec.Loc.* (K12.818.17); earth from Samos: see for instance Galen, *Comp.Med.sec.Loc.* 1.7 (K12.491.15). On the Samian earth, see Shepherd (1993): 111-112.

<sup>192</sup> *Mul.* 1.44 (L8.102.12-13): 'Ομοῦ ταῦτα πάντα γάλα πουλὸ ποιέει καὶ αὔξει· Σκυρίαί αιγες, τυροὶ δὲ μάλιστα. Translation: 'All these things together make the milk abundant and increase <the production of milk>; the goats from Scyros, their cheese above all.'

<sup>193</sup> Thasian wine: *Morb.* 3.17 (Potter 98.26-27; L7.160.5-6): Τοῦτο δέ· Θάσιον οἶνον παλαιόν, πέντε καὶ εἴκοσιν ὕδατος καὶ οἴνου ἓνα δίδου. Translation: 'Another: Thasian wine; give to drink one part of wine for twenty-five parts of water.' Thasian nuts: *Morb.* 3.11 (Potter 78.29-30; L7.130.24-132.2): Καὶ πίνειν μελίκρητον σὺν καρῶν θασίων λεπισθέντων καὶ ἀψινθίου κόμης ἴσῳ, ἀννίσου σεσησμένου ἡμίσει· πίνειν ὀλκῆς τριώβολον νήσις. Translation: 'And let him drink *melikraton* with peeled nuts from Thasos, the same amount of leaves of wormwood, half of sieved anise-seed; let him drink three *oboloi* of this preparation whilst fasting.'

<sup>194</sup> *Ulc.* 11 (Duminil 59.21; L6.412.1); 12 (Duminil 61.21; L6.414.18); 18 (Duminil 66.17; L6.422.16); *Steril.* 225 (L8.434.16).

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Translation: 'For I have at home Milesian wools which fall into pieces because of moths.' See also below on Milesian wool.

<sup>191</sup> Cnidian *kokkos*: see for instance Galen, *Comp.Med. per Gen.* 6.2 (K13.875.8); Cilician *hyssopos*: see for instance Galen, *Comp.Med.sec.Loc.* (K12.818.17); earth from Samos: see for instance Galen, *Comp.Med.sec.Loc.* 1.7 (K12.491.15). On the Samian earth, see Shepherd (1993): 111-112.

<sup>192</sup> *Mul.* 1.44 (L8.102.12-13): 'Ὁμοῦ ταῦτα πάντα γάλα πουλὸν ποιέει καὶ αὐξει. Σκυρίαί τιγες, τυροὶ δὲ μάλιστα. Translation: 'All these things together make the milk abundant and increase <the production of milk>; the goats from Scyros, their cheese above all.'

<sup>193</sup> Thasian wine: *Morb.* 3.17 (Potter 98.26-27; L7.160.5-6): Τοῦτο δέ· Θάσιον οἶνον παλαιόν, πέντε καὶ εἴκοσιν ὕδατος καὶ οἴνου ἕνα δίδου. Translation: 'Another: Thasian wine; give to drink one part of wine for twenty-five parts of water.' Thasian nuts: *Morb.* 3.11 (Potter 78.29-30; L7.130.24-132.2): Καὶ πίνειν μελίκρητον σὺν καρῶν Θασίων λεπισθέντων καὶ ἀψινθίου κόμης ἴσῳ, ἀννίσου σεσημένου ἡμίσει· πίνειν ὀλκῆς τριώβολον νῆστις. Translation: 'And let him drink *melikraton* with peeled nuts from Thasos, the same amount of leaves of wormwood, half of sieved anise-seed; let him drink three *oboloi* of this preparation whilst fasting.'

<sup>194</sup> *Ulc.* 11 (Duminil 59.21; L6.412.1); 12 (Duminil 61.21; L6.414.18); 18 (Duminil 66.17; L6.422.16); *Steril.* 225 (L8.434.16).

Most of these products are known from classical Greek texts: Thasian nuts were used, for instance, in the preparation of a Cretan cake, the recipe of which is reported by the physician Chrysippus (c. 300 BC);<sup>197</sup> Thasian, Chian and Coan wine were famous antique *crus*;<sup>198</sup> and the goats from Scyros are first mentioned by Pindar (second half of the fifth century BC) for the quality of their milk.<sup>199</sup>

In addition, Thasian nuts, and Chian and Coan wine were still exploited in the medicinal recipes of the first centuries of our era.<sup>200</sup>

Only one ingredient from the Ionian Islands is mentioned in the Hippocratic Corpus: the ‘*asphaltos* from Zakynthos’, literally ‘the bitumen from Zakynthos’, listed in a recipe of *Diseases of Women II*.<sup>201</sup> This ingredient later entered in the composition of recipes recorded by Galen.<sup>202</sup>

Although there are relatively few Greek ingredients accompanied by an epithet of origin in the Hippocratic Corpus, they yield interesting conclusions. First, with the exception of the Cretan ingredients, which appear only in the gynaecological treatises, the Greek products distinguished by geographical epithets are spread over a series of Hippocratic treatises and not concentrated in the gynaecological treatises only. In addition, the majority of these ingredients are also known outside the Corpus: in fifth- and fourth-century sources and/or in later medicinal recipes.

Second, many of the products qualified with an epithet, wine, honey, salt, wool and goats are not rare *per se*; they are what Peregrine Horden and Nicholas Purcell have called ‘artificial rarities’. The scholars have noted that the distribution of

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<sup>195</sup> *Int.Aff.* 30 (Potter 178.2-3; L7.246.2): Πινέτω δὲ οἶνον Κῶνον ὑπόστρυφνον ὡς μελάντατον. Translation: ‘Let him drink astringent Coan wine, as dark as possible.’

<sup>196</sup> *Foet.Ex.* 4 (L8.516.8-9): Κάστορος ἐνεψῆσαι τῷ οἴνῳ Χίῳ. Translation: ‘Boil castoreum in Chian wine.’

<sup>197</sup> Athenaeus 14.57 (647f): Ἐν Κρήτῃ δέ, φησὶν, πλακουτάριον ποιοῦσιν, ὅπερ ὀνομάζουσι γάστριν. Γίνεται δὲ οὕτως· κάρνα Θάσια καὶ Ποντικά καὶ ἀμύγδαλα...’ Translation: ‘In Crete,’ Chrysippus says, ‘they make a cake which they call *gastris*. It is made in the following manner: nuts from Thasos and Pontus, almonds...’

<sup>198</sup> See Dalby (2003): 82 (s.v. Chian wine); 89-90 (s.v. Coan wine); and 325 (s.v. Thasian wine) for further references.

<sup>199</sup> Pindar *ap.* Athenaeus 1.50 (28a) (text quoted below).

<sup>200</sup> Thasian nuts: see for instance Oribasius 4.7.27 (Raeder 1.104.25); Chian wine: see for instance Galen, *Anti.* 2 (K14.108.7); Coan wine: see for instance Galen, *Comp.Med.sec.Loc.* 5.5 (K12.867.8).

<sup>201</sup> *Mul.* 2.206 (L8.402.1-3): Ἐτέρη πυρήν ἢ δι’ ἀσφάλτου στερεωτέρη· ἀσφάλτου Ζακυνθίης, λαγωῦ τρίχας, πήγανον, κόριον ξηρὸν, ταῦτα τρίψας πάντα, φθοῖδας πλασάμενον θυμῆν. Translation: ‘Another stronger fomentation of bitumen: bitumen from Zakynthos, hare hairs, rue, dry coriander; crush all these. Mould cakes and foment.’

<sup>202</sup> See for instance Galen, *Comp.Med. sec Loc.* 4.13 (K13.741.15).

products in the ancient Mediterranean was rarely the ‘ineluctable consequence’ of the environmental conditions. This distribution responded to ‘the ever-shifting social construction of commodities’.<sup>203</sup>

Second, many of these ingredients come from islands: Euboea, Crete, Cyprus, Samos, Miletus, Thasos, Cos, and Zakynthos. The importance of islands in ancient commerce is, according to Peregrine Horden and Nicholas Purcell, linked to their ‘connectivity’:

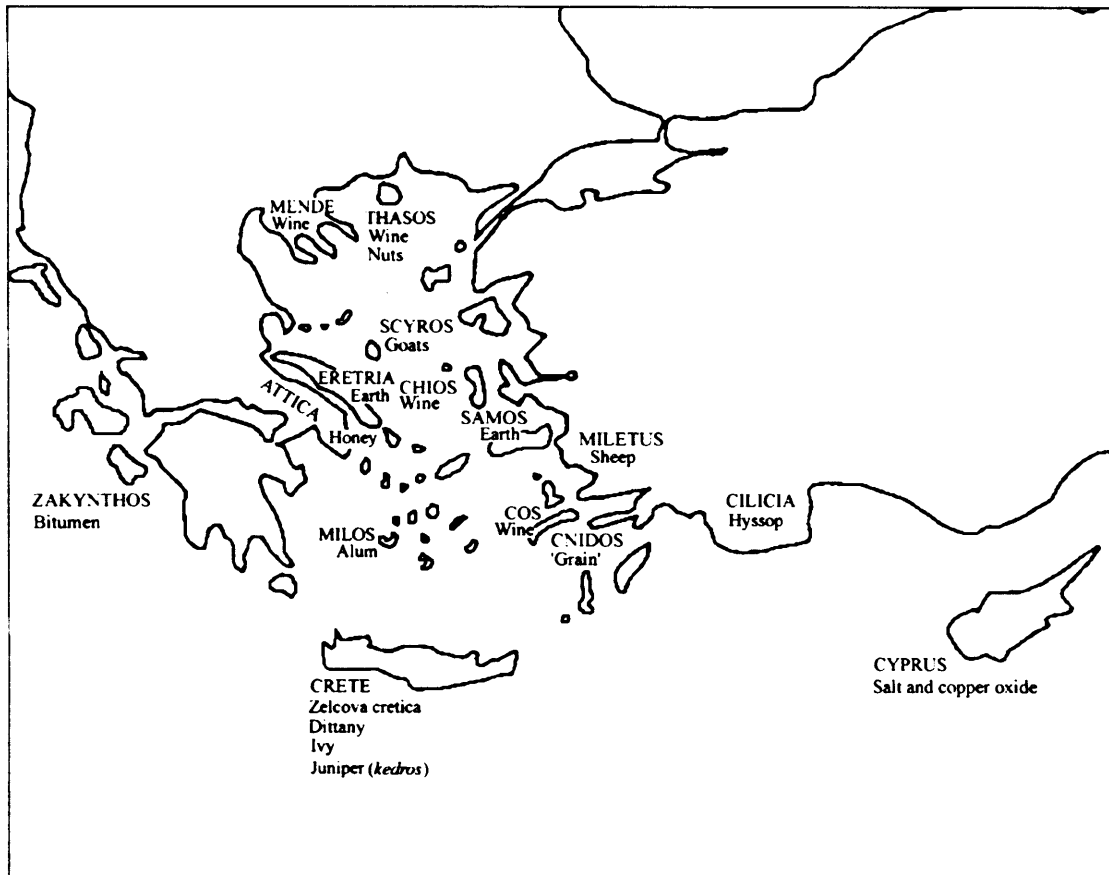
Islands are uniquely accessible to the prime medium of communication and redistribution. It is not that island niches are usually really much more productive in themselves than similar environments on the mainland. It is rather that they have the simple advantage of being located on islands. And despite a malign tendency to see islands as isolated and remote, characterized principally by their lack of contamination and interaction, they in fact lie at the heart of the medium of interdependence: they have all-round connectivity.<sup>204</sup>

Finally, epithets of origin referring to localities in the East are numerous in the Hippocratic Corpus, whereas epithets referring to localities in the West are rare. In other words, the scheme we have discerned for the exotic ingredients is reproduced at the level of Greece; there is a negative prejudice against the West in the Hippocratic prescriptions.

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<sup>203</sup> Horden and Purcell (2000): 344 and 366.

<sup>204</sup> Horden and Purcell (2000): 225.



**Map Three: Greek ingredients accompanied by geographical epithets in the Hippocratic Corpus**

### 5.5 *Final discussion on exotic and luxury ingredients*

In the previous pages, I have attempted to map the exotic and luxury ingredients listed in the recipes of the Hippocratic Corpus. It is now time to draw some general conclusions on these ingredients.

My first set of conclusions is geographical. Contrary to a common opinion, the Egyptian ingredients are not the most important *exotica* of the Hippocratic recipes; ‘Eastern’ ingredients are employed much more frequently. However, the most important geographical conclusion is that products from the West suffered from a negative prejudice in the Corpus. Epithets of origin referring to localities in the west of Greece or in the west of the Mediterranean are extremely rare in the Corpus: if products from these parts of the world were used in the recipes, they are almost impossible to detect. This is surprising since trade in the West was particularly thriving in the archaic and classical periods. However, this apparent lack of western ingredients is probably not related to economic factors; rather it seems that the compilers of Hippocratic recipes were influenced in their choice of ingredients by the orientaling tendencies discernible in ancient Greek culture: products from the East were seen as more ‘exotic’ and more attractive than products from the West. In addition, the lack of western ingredients in the Hippocratic Corpus is linked to the value-loaded connotations of the West and the East – a contrast between the East (valued positively) and the West (valued negatively) is common in the ancient world.<sup>205</sup> Such a contrast is strongly expressed by the author of *Airs, Waters and Places* in his description of the cities situated towards the East and the West:

‘Οκόσαι μὲν πρὸς τὰς ἀνατολάς τοῦ ἡλίου κέονται, ταύτας εἰκὸς εἶναι ὑγιεινότερας τῶν πρὸς τὰς ἄρκτους ἐστραμμένων καὶ τῶν πρὸς τὰ θερμὰ πνεύματα, ἢν καὶ στάδιον τὸ μεταξὺ ἦ...

‘Οκόσαι δὲ πρὸς τὰς δύσιαις κέονται καὶ αὐτῆσιν ἐστὶ σκέπη τῶν πνευμάτων τῶν ἀπὸ τῆς ἡοῦς πνεόντων τά τε θερμὰ πνεύματα παραρρεῖ καὶ τὰ ψυχρὰ ἀπὸ τῶν ἄρκτων, ἀνάγκη ταύτας τὰς πόλιας θέσιν κεῖσθαι νοσερωτάτην.<sup>206</sup>

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<sup>205</sup> See Sassi (2001): 108.

<sup>206</sup> *Aēr.* 5.2 and 6.1 (Jouanna 196.5-9 and 198.1-5; L2.22.18-20 and 24.10-13) Translation: ‘Those <cities> which are facing towards the risings of the sun are, in all likelihood, more salubrious than those which are turned towards the North and those which are turned towards the warm winds, even if



There is a difference between ‘facing towards’ the West and ‘being situated’ in a western region; however, there could have been a connection between these two notions in people’s minds: the ancients might have believed that if bad influences came from the West, in the West itself there must be a lot of these bad influences, therefore products from there will be bad. The choice of ingredients made by the compilers of Hippocratic collections of recipes – or rather the way in which the ingredients are presented in the recipes – is dictated, it seems, by a form of geographical determinism favouring the East against the West.

This geographical determinism was not universal, however: a verse from an unidentified play of Aeschylus depicts Tyrrhenia as rich in drugs: Καὶ γὰρ Αἰσχύλος ἐν ταῖς ἐλεγείαις ὡς πολυφάρμακον λέγει τὴν Τυρρηνίαν· ‘Τυρρηνὸν γενεάν, φαρμακοποιὸν ἔθνος.’<sup>207</sup>

Interestingly, Theophrastus who reports this verse goes on to omit the West in his list of regions producing marvellous drugs: Οἱ δὲ τόποι πάντες πῶς φαίνονται μετέχειν τῶν φαρμάκων, ἀλλὰ τῷ μᾶλλον καὶ ἥττον διαφέρειν· καὶ γὰρ οἱ πρὸς ἄρκτον καὶ μεσημβρίαν καὶ οἱ πρὸς ἀνατολὰς ἔχουσι θαυμαστὰς δυνάμεις.<sup>208</sup>

It is interesting to note that the regions producing most of the exotic and luxury ingredients listed in the Hippocratic Corpus were part of ‘Asia’ as defined by the author of *Airs, Waters and Places*, that is a continent including Ionia, Egypt and Ethiopia. The compilers of the Hippocratic recipes would have agreed with this author in his assertion that ‘Asia’ produced the most beautiful plants:

τὴν Ἀσίην πλεῖστον διαφέρειν φημὶ τῆς Εὐρώπης ἐς τὰς φύσιαις τῶν ξυμπάντων τῶν τε ἐκ τῆς γῆς φυομένων καὶ τῶν ἀνθρώπων. Πολὸν γὰρ καλλίονα καὶ μείζονα πάντα γίνεται ἐν τῇ Ἀσίῃ... Τὸ δὲ αἷτιον τούτων ἢ

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there is only one stadium between them... Those which are situated towards the settings of the sun and which are sheltered from the winds blowing from the Orient, and on which the warm winds and the cold winds from the North flow past; these cities by necessity have the most unhealthy situation.’

<sup>207</sup> Aeschylus *ap.* Theophrastus *Hist. Plant.* 9.15.1 (fr. 2 West). Translation: ‘For Aeschylus too in his elegies says that Tyrrhenia was rich in drugs: “Tyrrhenian race, a nation that produces drugs.”’

<sup>208</sup> Theophrastus, *Hist. Plant.* 9.15.2. Translation: ‘It seems that all places have their share of drugs, but to different extents. For the <places> facing towards the North, the South and the East have <plants of> marvellous power.’

κρήσις τῶν ὥρέων, ὅτι τοῦ ἡλίου ἐν μέσῳ τῶν ἀνατολέων κεῖται πρὸς τὴν ἡῶ  
τοῦ τε ψυχροῦ πορρωτέρω.<sup>209</sup>

The author's idea that the perfect balance of season occurs only in 'Asia' is obviously ethnocentric: this author adopts an Ionian or eastern Greek point of view.<sup>210</sup> The Hippocratic collections of recipes did not necessarily originate in Ionia but they reflect a vision of the world that was first formulated, seemingly, in that part of the Greek world.

My second set of conclusions is chronological. We have seen that products such as sumach, terebinth and silphium may have been imported into Greece during the Bronze Age. This raises the important question of the continuity – or absence of continuity – in Greek overseas trade from the Bronze Age to classical times. Scholars are divided on this question.<sup>211</sup> Until the 1990's, scholars tended to stress the rupture more than the continuity, the collapse of trade in the eleventh century more than the fact that trade in later centuries often followed routes established in the Bronze Age. Recently, however, the reverse trend has started to manifest itself. Sarah Morris, for instance, argued that: 'The period called "Orientalizing" extends from the Bronze Age to late antiquity, and remains better understood as a dimension of Greek culture than a phase.'<sup>212</sup> Julie Laskaris followed Morris, arguing that contacts with North Africa and the North East were never entirely lost from the Bronze Age forward, even though there may have been fluctuations in their intensity.<sup>213</sup> It is, however, important to ask what the significance of these fluctuations is. Exotic and luxury products are by definition not subsistence items and their trade is time- and labour- consuming. Fluctuations in their import may therefore reflect important changes in social, economical and political circumstances.<sup>214</sup> Although some *exotica* were imported into Greece in the Bronze Age, it is necessary to note that these imports probably came to

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<sup>209</sup> *Aēr.* 12.2-3 (Jouanna 219.15-220.8; L2.52.14-54.1). Translation: 'I say that Asia differs from Europe in the nature of everything, be they plants growing from the earth or men. For everything is more beautiful and bigger in Asia... The cause for this is the balance of the seasons because Asia is situated in the middle of the risings of the sun, towards the Orient and furthest away from the cold.'

<sup>210</sup> See Thomas (2000b): 97.

<sup>211</sup> As an introduction to trade in the first centuries of the first millennium BC, see Sherratt and Sherratt (1993).

<sup>212</sup> Morris (1992): 130.

<sup>213</sup> Laskaris (1999): 7.

<sup>214</sup> See Hamilakis (1999) who argues that, in Bronze Age Crete, we can observe cycles of production of wine and perfumed oil (two labour-intensive products), which are 'a response to social processes'.

a halt after the collapse of the Mycenaean civilization. They were probably resumed at the end of the ninth century or at the beginning of the eighth century, at the time of the so-called 'Orientalizing Revolution'. At this time, new routes, such as the Arabian route, were created, and some products were probably imported into Greece for the first time, such as pepper or spikenard.

My final set of conclusions concerns the nature of ancient trade in *materia medica* and its relation to trade in general. I have pointed out that most *exotica* listed in the Hippocratic Corpus were not imported into Greece exclusively for medicinal purposes. Many exotic ingredients listed in the Hippocratic recipes were also used in perfumery, religious practice and cooking. Specialised trade would not have been profitable in the ancient world; the more purposes an ingredient was used for, the more chances it had to be available.

Similarly, most Greek products distinguished by a geographical epithet in the Hippocratic Corpus were also employed outside medicine: Milesian wool, wine from Chios, nuts from Thasos and goat milk from Scyros are all recorded in Greek literature. I have pointed out that, in fifth- and fourth-century literature, geographical epithets are not always a good indicator of the exact geographical origin of a product; rather they appear to be used as a 'rhetorical tool' to indicate that a product is of the highest quality. However, it is safe to assume that when, for instance, the phrase 'Milesian wool' first appeared, it referred to wool from Miletus, and not from anywhere else. Andrew Dalby has noted that phrases linking a geographical epithet with a common noun are particularly rare in Homer;<sup>215</sup> it seems that the idea that a good could be of better quality when produced in one particular locality developed in parallel with the growth of commerce in the first millennium BC.<sup>216</sup>

This link between quality and geographical origin was well established when Pindar composed his ode to the Sicilian tyrant Hieron:

Πίνδαρος δ' ἐν τῇ εἰς Ἱέρωνα Πυθικῆ ᾠδῇ·  
ἀπὸ Ταυγέτοιο μὲν Λάκαιναν  
ἐπὶ θηρσὶ κύνα τρέχειν πυκινώτατον ἐρπετόν.  
Σκύρια δ' ἐς ἄμελξιν γάλακτος

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<sup>215</sup> Dalby (2000): 6.

<sup>216</sup> See Sheratt and Sheratt (1993) who noted that the growth in commerce in the first millennium BC was linked to a 'growing ethnic differentiation.'

αἶγες ἐξοχώταται·  
ὄπλα δ' ἀπ' Ἄργεος, ἄρμα Θηβαῖον, ἀλλ'  
ἀπὸ τῆς ἀγλαοκάρπου  
Σικελιάς ὄχημα δαιδάλεον ματεύειν.<sup>217</sup>

Pindar only lists products from the Greek world, using this enumeration to compare the respective achievements of the Greek cities. By the end of the fifth century BC, catalogues had come to include goods from the entire world, as in this most impressive example by the comedian Hermippus. In this catalogue, the comedian juxtaposes physical goods with more abstract goods, thus making political jokes:

Ἔσπετε νῦν μοι, Μοῦσαι Ὀλύμπια δώματ' ἔχουσαι,  
ἐξ οὗ ναυκληρεῖ Διόνυσος ἐπ' οἴνοτα πόντον,  
ὅσο' ἀγάθ' ἀνθρώποις δεῦρ' ἤγαγε νηὶ μελαίνῃ.  
Ἐκ μὲν Κυρήνης καυλὸν καὶ δέρμα βοείον,  
ἐκ δ' Ἑλλησπόντου σκόμβρους καὶ πάντα ταρίχη,  
ἐκ δ' αὖ Θετταλίας χόνδρον καὶ πλευρὰ βόεια·  
καὶ παρὰ Σιτάλκου ψώραν Λακεδαιμονίοισι,  
καὶ παρὰ Περδίκκου ψεύδη ναυσὶν πάνυ πολλαῖς.  
Αἶ δὲ Συράκουσαι σῦς καὶ τυρὸν παρέχουσι.  
Καὶ Κερκυραίους ὁ Ποσειδῶν ἐξολέσειε  
ναυσὶν ἐπὶ γλαφυραῖς, ὅτι ἡ δίχα θυμὸν ἔχουσι.  
Ταῦτα μὲν ἐντεῦθεν· ἐκ δ' Αἰγύπτου τὰ κρεμαστὰ  
ἰστία καὶ βίβλους, ἀπὸ δ' αὖ Συρίας λιβανωτόν.  
Ἡ δὲ καλὴ Κρήτη κυπάριττον τοῖσι θεοῖσιν,  
ἢ Λιβύῃ δ' ἐλέφαντα πολὺν παρέχει κατὰ πρᾶσιν,  
ἢ Ῥόδος ἀσταφίδας <τε> καὶ ἰσχάδας ἡδυονείρους.  
Αὐτὰρ ἀπ' Εὐβοίας ἀπίους καὶ ἴφια μῆλα·  
ἀνδράποδ' ἐκ Φρυγίας, ἀπὸ δ' Ἀρκαδίας ἐπικούρους.

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<sup>217</sup> Pindar *ap.* Athenaeus 1.50 (28a). Translation: "Pindar in the Pythian ode to Hieron, <says>: "From Taygetus, he brings the Laconian hound, a most strong beast for the chase. The goats from Scyros are the most excellent for the production of milk. Weapons <are> from Argos, the chariot from Thebes; but from Sicily bearing beautiful fruits, seek for the cunningly wrought carriage.""

Αἱ Παγασαὶ δούλους καὶ στιγματίας παρέχουσι.  
 Τὰς δὲ Διὸς βαλάνους καὶ ἀμύγδαλα σιγαλόεντα  
 Παφλαγόνες παρέχουσι· τὰ γάρ <τ'> ἀναθήματα δαιτός·  
 †Φοινίκη δ' αὐ† καρπὸν φοίνικος καὶ σεμίδαλιν,  
 Καρχηδῶν δάπιδας καὶ ποικίλα προσκεφάλαια.<sup>218</sup>

Hermippus celebrates – in a mock Homeric style – the prosperity of Athens, which draws to herself goods (and ills) from the entire known world. A catalogue of this type would have been a powerful tool in defining the identity of Athens as the centre of the Athenian confederation. At the same time, it defined the identity of other places as sources of luxury goods, necessary commodities or – since this is a comic catalogue – of ills.

The catalogues of goods of Pindar and Hermippus were designed to impress audiences, and it is probable that the Hippocratic catalogues of recipes shared this desire to impress. Aristophanes exploited this impressive aspect of recipes when he included the following recipes for sore eyes in his *Plutus*:

Πρῶτον δὲ πάντων τῷ Νεοκλείδῃ φάρμακον  
 καταπλαστὸν ἐνεχείρησε τρίβειν, ἐμβάλων  
σκοροδῶν κεφαλὰς τρεῖς Τηνίων. Ἔπειτ' ἔφλα  
 ἐν τῇ θυεῖα συμπαραμιγνύων ὀπὸν  
 καὶ σχῖνον· εἴτ' ὄξει διέμενος Σφηττίω,  
 κατέπλασεν αὐτοῦ τὰ βλέφαρ' ἐκστρέψας, ἵνα  
 ὀδυνῶτο μᾶλλον.<sup>219</sup>

<sup>218</sup> Hermippus fr. 63 (Kassel and Austin). Translation: 'Tell me now, Muses dwelling in Olympian mansions, all the blessings Dionysus, since the time he voyaged on the wine-dark sea, brought hither to men in his black ship. From Cyrene, silphium stalk and ox-skins, from the Hellespont mackerels and all sort of pickled fish, from Thessaly again grain and ribs of beef, from Sitalces an itch for the Spartans, from Perdiccas lies in many ships. The Syracusans provide swine and cheese. And the Corcyreans – may Poseidon destroy them in their hollow ships, because their mind <sc. loyalty> is divided in two. Thence all these things; but from Egypt, rigged sails and papyrus, from Syria again frankincense. Beautiful Crete <provides> cypress for the gods; Libya provides much ivory for sale, Rhodes raisins and dried figs procuring sweet dreams. Besides, from Euboea, <he carries> pears and fat apples, from Phrygia slaves, from Arcadia mercenaries. Pagasians provide slaves and branded culprits. Paphlagonians provide the acorns of Zeus and smooth almonds, for they are the ornaments of a party. Phoenicia again <provides> the fruit of the palm-tree and the finest wheaten flour. Carthage <provides> carpets and multi-coloured cushions.' On this catalogue, see Gilula (2000).

<sup>219</sup> Aristophanes, *Plutus* 716-721. Translation: 'First of all, for Neokleides, he <sc. Asclepius> set himself to knead a plaster, throwing in three cloves of Tenian garlic. Then, he crushed them in the

And in his *Assembly Women*:

ΒΛ. ‘Σκόροδ’ ὁμοῦ τρίψαντ’ ὀπῶ  
τιθύμαλλον ἐμβαλόντα τοῦ Λακωνικοῦ  
σαυτοῦ παραλείφειν τὰ βλεφαρα τῆς ἑσπέρας,  
ἔγωγ’ ἂν εἶπον, εἰ παρὼν ἐτύγχανον.<sup>220</sup>

Ancient scholiasts and lexicographers maintain that Tenos was reputed for its garlic;<sup>221</sup> Sphettos for its vinegar;<sup>222</sup> and Laconia for its spurge.<sup>223</sup> However, since none of these products are mentioned in later medical texts, it can be argued that the conclusions of the scholiasts and lexicographers are inferences from the Aristophanic recipes.<sup>224</sup> It seems that Tenian garlic, vinegar from Sphettos, and Laconian spurge are Aristophanes’ inventions. There certainly are political allusions behind the Aristophanic joke;<sup>225</sup> but Aristophanes was probably also parodying those healers who thought that because mundane goods such as garlic or vinegar came from a particular locality, they would be more powerful. It should be noted that Aristophanes criticizes religious healers – the first recipe is concocted by Asclepius himself – and secular healers alike – the second recipe is prepared by Blepyrus, a layman.

At the end of the fifth century BC and in the first half of the fourth century BC (i.e. the time when the Hippocratic collections of recipes were most probably compiled) it was sufficient to add one or two epithet-bearing products, one or two eastern or Egyptian ingredients, to a recipe to make it look impressive and expensive. However, a ‘trickle-down’ effect is often recognised in the history of luxury goods:

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mortar, mixing them together with verjuice and squill. Then, he soaked <the mixture> with Sphettian vinegar. And turning out the eyelids of the man, he plastered them to make him suffer more.’ See Chapter Four, Section Three for more details on this recipe.

<sup>220</sup> Aristophanes, *Ecclesiazusae* 403-407. Translation: ‘Crush garlic with verjuice, add Laconian spurge; cover your eyelids with this ointment in the evening. This is what I would have said if I had been there <sc. at the assembly>.’

<sup>221</sup> See for instance Scholia in Aristoph. *Plutus*, line 718: Τῆνος νῆσος ἐν ἧ δριμύτατα γίνεται σκόροδα. Translation: ‘The island of Tenos in which grows the sharpest garlic.’

<sup>222</sup> See for instance Scholia in Aristoph. *Plutus*, line 720: Σφήττος τόπος, ἔνθα δριμὺ ὄξος γίνεται. Translation: ‘Sphettos, a place wherefrom comes a sharp vinegar.’

<sup>223</sup> See for instance Suda, s.v. Τιθύμαλλος 582 (Adler 548.22-23): Τιθύμαλλος· εἶδος βοτάνης δριμυτάτης, παρὰ Λάκωσιν εὕρισκομένης. Translation: ‘Spurge: a type of plant very sharp found in the land of the Laconians.’

<sup>224</sup> See Rogers (1907): 79.

<sup>225</sup> See for instance Didymus *ap.* Athenaeus 2.76 (67d): Δίδυμος δ’ ἐξηγούμενος τὸ ἰαμβεῖον φησιν· “Ἴσως διότι οἱ Σφήττιοι ὄξεις.” Translation: ‘And Didymus, in explaining the verse, says: “maybe because the Sphettians are sharp.”’

ἀκόρου τε καὶ φοῦ, καὶ σαγαπηνοῦ τὰς ἴσας,  
ἀθαμαντικοῦ μήου τε καὶ τῆς ἀκακίας  
σκίγκου τε γαστρὸς, ὑπερικοῦ τε σπέρματος.  
Τούτων ἴσα πάντων ἀνὰ β' S'' .  
Ἰσκάδας, οἴνου τὸ μέτριον, καὶ μέλιτος  
τὸ σύμμετρον, ὡς τάσδ' ὁμοίως οὕτως σκεύασον.

## 5.6 *The question of influences*

On sait d'ailleurs bien qu'influence est un vocable  
commode pour marquer un lien, en masquant une méconnaissance.

François Hartog<sup>228</sup>

Up to this point, I have considered the 'exotic' ingredients listed in the Hippocratic recipes individually. Entire recipes may also have been exchanged from one region to another. For instance, the Greeks may have learnt recipes for preparing the 'Egyptian perfume' from Egyptian perfumers. In addition, two recipes in the Hippocratic Corpus bear regional names: the 'Indian remedy' described in *Disease of Women II*:

Τρίβειν τε ἄνησον, καὶ ἀνήθου καρπὸν, καὶ σμύρνης ὀλκὴν ὀβολοὺς δύο,  
διέναι οἴνω λευκῷ ἀκρήτῳ ἡμικοτυλίῳ, ἐν τουτέῳ διακλυζέσθω, καὶ ἐν τῷ  
στόματι πουλὸν κατεχέτω χρόνον ... Τοῦτο τὸ φάρμακον ὀδόντας καθαίρει  
καὶ εὐώδεις ποιεῖ· καλέεται δὲ Ἰνδικὸν φάρμακον.<sup>229</sup>

And the Carian remedy recommended in *Ulcers*:

Ἦν βούλη ὑγρῷ χρήσθαι, καὶ τὸ Καρικὸν φάρμακον ἐπαλείφειν, ἐπιθεῖν δὲ  
ὥσπερ τὰ πρότερα γέγραπται κατὰ τὸν αὐτὸν τρόπον. Ἔστι δὲ ἐκ τῶνδε τὸ

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<sup>228</sup> Hartog (1980): 344.

<sup>229</sup> *Mul.* 2.185 (L8.366.14-20). Translation: 'Crush anise, seed of dill and two *oboloi* of myrrh; soak with half a *kotyle* of pure white wine. Let her wash her mouth with this and keep it in her mouth for a long time... This remedy cleanses the teeth and makes them sweet smelling. It is called the "Indian remedy".'

φάρμακον ποιούμενον· ἔλλεβόρου μέλανος, σανδαράχης, λεπίδος, μολίβου  
κεκαυμένου σὺν πολλῶ θείῳ, ἀρρῆνικοῦ, κανθαρίδος· τούτῳ ὁποίῳ δοκεῖ  
συντεθέντι χρῆσθαι· ἢ δὲ δίεςις, κεδρίνῳ ἐλαίῳ.<sup>230</sup>

However, it is impossible to determine whether these recipes really came from India and Caria, respectively.

As pointed out by Vivian Nutton, ‘the exchange of substances need not have involved any deep exchange of ideas beyond the most obvious instructions for use.’<sup>231</sup> It is therefore possible to conceive of a trade in *materia medica* without any deep influences from one culture onto another. However, the question of influences deserves attention for two main reasons. First, there are obvious cases of parallelism between Greek recipes, and recipes from other cultures. Second, the question of influence raises important historiographical issues regarding the alleged ‘rational’ nature of Hippocratic medicine in comparison to other ancient medicines. In the following pages, I will concentrate on the possibility of influences of Egyptian and Mesopotamian pharmacology upon Greek pharmacology.

### 5.6.1 Egyptian influences?

As pointed out earlier, Egypt was regarded as a land of wondrous drugs from an early time in Greece. Egyptian ingredients, as seen above, enjoyed a particular status in the gynaecological recipes: although they are listed less frequently than Arabian products (myrrh and frankincense), they are singled out and made more conspicuous by the use of the epithet ‘Egyptian’.

The use of Egyptian drugs in Hippocratic gynaecology is a sign of interactions between Egypt and Greece, but is it a sign of influences? Most Egyptian drugs listed in the Hippocratic recipes also appear in the important Corpus of Egyptian recipes, but exact parallels between Egyptian and Greek recipes containing these ingredients are difficult to

isolate.

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<sup>230</sup> *Ulc.* 16 (Duminil 64.19-65.3; L6.418.20-420.2). Translation: ‘If you want to use a moist <remedy>, also smear the Carian remedy and bandage in the same way as prescribed in the previous cases. This remedy is made of the following <ingredients>: black hellebore, realgar, <copper> flakes, burnt lead with a quantity of brimstone, arsenic, cantharid. Make use of this preparation in whatever manner seems good. Dilute with cedar oil.’

<sup>231</sup> Nutton (2004): 42. See also Thomas (2004): 175. Jouanna (2004): 3.



In addition to the Egyptian drugs presented at the beginning of this chapter, scholars have argued that Egypt might have contributed several ‘unusual’ ingredients to the Greek pharmacopoeia; the example most commonly given is the ‘milk of a woman who has borne a male child’.<sup>232</sup> According to Julie Laskaris, in Egyptian medicine, the phrase ‘milk of a woman who has borne a child’ refers to the milk of Isis nursing Horus. Laskaris argues that the use of kourotropic milk in Greek medicine is the result of Egyptian influences, but that the Greek misunderstood or ignored the Egyptian ritual connotations of kourotropic milk.

To assume that, when ‘unusual’ ingredients are used in the medicines of two neighbouring cultures, there was borrowing from one of these cultures to the other poses an important epistemological problem. Because we see ‘milk of a woman who has borne a male child’ as unusual, we are tempted to see its use in Greek medicine as a borrowing. However, the boundary between the ‘usual’ and the ‘unusual’ is fixed by us, not by the ancients. In ancient civilizations, the medicinal use of ‘milk of a woman who has borne a boy’ may have seemed perfectly natural. The possibility of independent developments in Egypt and Greece should not be rejected.<sup>233</sup>

Nevertheless, it should be noted that an Egyptian recipe of *Papyrus Berlin* (c. 1200 BC) involving kourotropic milk has a very close parallel in the Hippocratic treatise *Barren Women*, as was already noticed by P. Le Page Renouf in 1873:<sup>234</sup>

Berlin medical papyrus 194 (Translation: Iversen [1939]: 27)	<i>Barren Women</i> 214 (following Kühn’s text) <sup>235</sup>
Water-melons ( <i>hdd</i> ), squeezed, moistened with the milk of a woman who has borne a male child, it shall be made into a remedy that can be swallowed, and the woman shall eat it. If she vomits, she will give birth, if she gets flatus, then she will not give birth.	If you want to know whether a woman will be pregnant, prepare bottle-gourd ( <i>sikye</i> ) or <i>boutyron</i> and milk of a woman who has borne a male child; give to drink. If she vomits, she will be pregnant; if not, she will not.

<sup>232</sup> Laskaris (forthcoming). See also Dawson (1929): 140; (1932); Ghalioungui (1968): 98.

<sup>233</sup> The ‘milk of a woman who has borne a male child’ appears in a Chinese remedy. See Read (1931): number 422. I wish to thank Dr Vivienne Lo for this reference.

<sup>234</sup> Since I do not read Egyptian, texts in this section will appear in translation.

<sup>235</sup> Greek text (Kühn 3.6): Γυναῖκα ἣν θέλης γνῶναι εἰ κύει, σικύην ποιῆσαι ἢ βούτυρον καὶ γάλα γυναικὸς κουροτρόφου διδόναι πίνειν, καὶ ἣν ἐρίγηται, κηῖσει· εἰ δὲ μή, οὐ.

For Le Page Renouf, the Greek word ‘*boutyron*’ in this context does not mean ‘butter’ but is the transliteration of the Egyptian *bdd*, the water-melon. In other words, *boutyron* is considered to be a synonym for *sikye*, bottle-gourd.<sup>236</sup> The Greek lexicographer Hesychius mentions a plant named *boutyros* but unfortunately does not give enough information for us to identify it with a cucurbitaceous plant.<sup>237</sup> It should be noted that the parallel drawn by le Page Renouf is based on Kühn’s edition of Hippocrates; if one follows Littré’s edition, the parallel is less striking.<sup>238</sup>

Erik Iversen identified two further close parallels between birth prognoses found in *Papyrus Carlsberg VIII* (c. 1300 BC) and *Papyrus Kahun* (c. 1820 BC), on the one hand, and in the Hippocratic treatises *Barren Women*, *Nature of Women* and *Aphorisms*, on the other:

<i>Papyrus Carlsberg</i> 8.4 = <i>Papyrus Kahun</i> 28 (Translation: Nunn [1996]: 192)	<i>Barren Women</i> 214 = <i>Nature of Women</i> 96 <sup>239</sup>
<To determine> who will <bear children> and who will not <bear children>, you should then cause the bulb of an onion to spend the night in her flesh until dawn. If the odour appears in her mouth, she will bear <children>. If <it does not>, she will never <bear children>.	Another: Having washed and peeled a head of garlic, apply it to the womb, and see the next day whether she smells <of it> through the mouth; if she smells, she will be pregnant, if not, she will not.
<i>Papyrus Carlsberg</i> 8.5 = Berlin medical papyrus 195	<i>Aphorisms</i> 5.59 <sup>240</sup>
Another to distinguish between a woman who shall give birth and one who shall	If a woman does not take <a child> in her belly, if you want to know whether she

<sup>236</sup> See also Dawson (1928): 298; (1929): 42.

<sup>237</sup> Hesychius, *Lexicon*, s.v. βούτυρος (1000): Βούτυρος· βοτάνης εἶδος. Translation: ‘*Boutyros*: a type of plant.’

<sup>238</sup> *Steril.* 214 (L8.414.18-19): Γυναῖκα ἢν θέλης γνῶναι εἰ κησει· βούτυρον καὶ γάλα γυναικὸς κουροτρόφου διδόναι πίνειν νήσσει, καὶ ἢν ἐρεύγηται, κησει· εἰ δὲ μὴ, οὐ. Translation: ‘If you want to know whether a woman will be pregnant, give to drink *boutyron* and the milk of a woman who has borne a child whilst she is fasting. If she vomits, she will be pregant; if not, she will not.’

<sup>239</sup> *Steril.* 214 (L8.416.2-5): Ἄλλο· μάλυξαν σκορόδου περικαθήραντα τὴν κεφαλὴν, ἀποκνίσαντα, προσθεῖναι πρὸς τὴν ὑστέρην, καὶ ὄρην τῇ ὑστεραίῃ, ἢν ὄζη διὰ στόματος· καὶ ἢν ὄζη κησει· ἢν δὲ μὴ, οὐ. Parallel recipe at *Nat. Mul.* 96 (Trapp 120.18-121.3; L7.412.19-414.3).

<sup>240</sup> *Aph.* 5.59 (L4.554.3-6): Γυνὴ ἢν μὴ λαμβάνῃ ἐν γαστρὶ, βούλη δὲ εἰδέναι εἰ λήσεται, περικαλύψας ἱματίοισι, θυμία κάτω· κῆν μὲν πορεύεσθαι δοκέη ἢ ὄδη διὰ τοῦ σώματος ἐς τὰς ρίνας καὶ ἐς τὸ στόμα, γίνωσκε ὅτι αὐτὴ οὐ δι’ ἐωυτὴν ἀγονὸς ἐστίν. On this aphorism, see Hanson (2004b): 296-298.

<p>not. You shall fumigate her with &lt;excrements of hippopotamus through&gt; her vulva. If she vomits with her mouth at once, she will not give birth, if she gets flatus from her posterior at once then she will give birth.</p>	<p>will take: wrap her in clothes, fumigate from below: if the smell seems to go through the body to the nose and to the mouth, know that she is not sterile on her own account.</p>
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In the case of the first recipe, Iversen acknowledges that the text of *P. Carlsberg* 8.4 and *P. Kahun* 28 is so extremely damaged that 'it is not until we compare our prescription with a similar one from Hippocrates that the meaning and the whole proceeding becomes perfectly clear.'<sup>241</sup> As we will see, the translations of the Egyptian recipes were also based on the comparison with Greek texts, and have recently been challenged. In the case of the second test (the fumigation test), although there are similarities between the recipes, the interpretation of the signs in the Egyptian recipe (vomit: sign of sterility) appears to be exactly the opposite as in the Greek recipe (smelling through the mouth: sign that the woman is not sterile).

Iversen believed that these pregnancy/fertility tests had been transmitted from Egyptian to Greek medicine through writing. He argued that the prognoses were part of an important Egyptian gynaecological treatise, now lost. He found the proof for the existence of such a treatise in Clement of Alexandria (second century AD), who informs us that six books of medicinal lore were included in the forty-two books of human knowledge that circulated in ancient Egypt:

Δύο μὲν οὖν καὶ τεσσαράκοντα αἱ πάνυ ἀναγκαῖαι τῷ Ἑρμῇ γεγόνασι βίβλοι· ὧν τὰς μὲν τριάκοντα ἔξ τὴν πᾶσαν Αἰγυπτίων περιεχούσας φιλοσοφίαν οἱ προειρημένοι ἐκμανθάνουσι, τὰς δὲ λοιπὰς ἔξ οἱ παστοφόροι ἰατρικὰς οὔσας περὶ τε τῆς τοῦ σώματος κατασκευῆς καὶ περὶ νόσων καὶ περὶ ὀργάνων καὶ φαρμάκων καὶ περὶ ὀφθαλμῶν καὶ τὸ τελευταῖον περὶ τῶν γυναικείων.<sup>242</sup>

<sup>241</sup> Iversen (1939): 21.

<sup>242</sup> Clemens Alexandrinus, *Stromata* 6.4.37. Translation: 'There are forty-two books in total which are essential to Hermes. Thirty-six of them encompass the whole of Egyptian philosophy; the aforementioned <priests> study them by heart. The *pastophoroi* <study> the six other <books>; they are medical: about the constitution of the human body, about diseases, internal organs, remedies, diseases of the eyes, and the final <book> about gynaecological diseases.'

Iversen concluded his study of the Egyptian birth prognoses as follows: 'Thus there seems to be good evidences of the existence of this volume in ancient Egyptian medicine; and that the birth-prognoses are direct remains and the only existing excerpts of any extent, would seem to be the only natural and probable conclusion.'<sup>243</sup>

Egyptologists embraced Iversen's conclusions and extended them, sometimes with very little caution, to other areas of Egyptian and Greek gynaecology. For instance, J.B. de Crusance Morant Saunders suggested that:

The aphoristic style so common in the 'Hippocratic Collection' is characteristically Egyptian and there is very strong suspicion, if not actual proof, that apart from the various pregnancy tests and methods of gynecological treatment by fumigation, sections from several others of the Hippocratic works are derived from the physicians of the Nile.<sup>244</sup>

From a series of clear parallels, Saunders jumped to the conclusion that most aphorisms contained in the Hippocratic Corpus were derived from Egyptian medicine. A series of Egyptologists suggested that the way in which recipes are presented in the Hippocratic gynaecological treatises – long lists of alternative remedies separated by the phrase 'another' – is an indication of direct borrowing from Egyptian medical texts;<sup>245</sup> a conclusion also embraced by the Hippocratic scholar Jouanna.<sup>246</sup>

However, it should be noted that long lists of alternative medications separated by the phrase 'another' or by visual markers also occur in Akkadian and Chinese medical texts, to mention only two examples. We need not assume that Hippocratic physicians imported this model from the Egyptians. It rather seems that the very act of writing leads to the constitution of catalogues.

Moreover, if we take into consideration the repugnance the Greeks had towards learning foreign languages, the suggestion of a transmission through writing becomes very implausible.<sup>247</sup> If gynaecological remedies were ever transmitted from Egyptian to Greek medicine, the transmission most probably occurred orally.

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<sup>243</sup> Iversen (1939): 30. See also Capart (1939).

<sup>244</sup> Saunders (1963): 18.

<sup>245</sup> See Ghalioungui (1968): 105; (1983): 215; Saunders (1963): 15.

<sup>246</sup> Jouanna (1974): 509, note 1.

<sup>247</sup> On the repugnance of the Greeks towards learning foreign languages: see Lanza (1974): 27 ff.

The Egyptologists' claim that Greek medicine, and particularly Greek gynaecology, was largely indebted to Egyptian gynaecology met a variety of reactions among classicists. Many, like Laskaris and Jouanna, accept the possibility of an influence of Egyptian medicine upon Greek pharmacology, especially upon the pharmacology of the so-called Cnidian School.<sup>248</sup> However, these scholars were eager to point out that the Greeks only borrowed therapies from the Egyptian, but not the aetiological theories guiding the choice of therapies.<sup>249</sup> Other classicists, like Heinrich von Staden and Robert Palter, are much more sceptical towards claims of Egyptian influence, even in the case of the birth prognoses.<sup>250</sup>

Von Staden notes that three factors make the question of influence particularly difficult to resolve.<sup>251</sup> The first factor is a chronological gap: the extant Egyptian medical papyri are dated from the second millennium BC, whereas the Greek parallels are from the fifth and fourth centuries BC. The second factor is the uncertainty about the exact meaning of numerous Egyptian and Greek disease and plant names. The third factor is that many medical theories and practices are shared by several Mediterranean cultures, and sometimes also by other cultures.

Von Staden is not entirely correct in identifying his first chronological problem: although most of the Egyptian medicinal texts date from the second millennium BC, later Coptic texts have also survived.<sup>252</sup> With regards to the second objection, it was recently estimated that only 20 per cent of some 160 plants mentioned in the Egyptian medical texts are identified with certainty.<sup>253</sup> However, this objection is not sufficient in itself to reject the possibility of influences. The final objection is more important: similarities are not necessarily a sign of borrowing: the possibility of independent developments can never be excluded, even in striking cases such as the birth-prognoses.<sup>254</sup> As von Staden put it: 'merely identifying foreign borrowings... can be misleading, since the original semantic, structural, theoretical, or

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<sup>248</sup> See also Bourgey (1953): 176, note 4; Grensemann (1975): 49-50; Jouanna (1983): 248-249; Jouanna (2004): 3; Lonie (1978): 17; Marganne (1993): 41; Thomas (2004).

<sup>249</sup> Jouanna (1974): 509, note 2. For the hypothesis that Cnidian aetiology was influenced by Egyptian medicine, see Steuer and Saunders (1959); Saunders (1963): 20-30.

<sup>250</sup> See Palter (1993): 264-274 (especially p. 272-273 for the birth prognoses); von Staden (1989). Bernal wrote a response to Palter: Bernal (1994) 457-459.

<sup>251</sup> Von Staden (1989): 3-5.

<sup>252</sup> See Ritner (1989): 39. See also Jouanna (2004): 2.

<sup>253</sup> See Germer (1993).

<sup>254</sup> See Von Staden (1989): 21-22.

functional context of the borrowed often is usurped and transformed by new cultural contexts, in science as in art and myth.<sup>255</sup>

Recently, the Egyptologist Thierry Bardinet has located a possible transformation in the functional context of the Egyptian prognoses examined above. The Egyptian tests have always been interpreted, with the help of the Hippocratic text, as fertility or pregnancy tests. However, Bardinet believes this was not the function of the Egyptian tests; they were used to determine whether pregnancy and childbirth would be problematic or not.<sup>256</sup> If the Greeks adopted these tests, they also adapted them.

### 5.6.2 *The question of rationality and Mesopotamian medicine*

In their claims for the influence of Egyptian medicine on Greek medicine, Egyptologists and Classicists have often belittled Mesopotamian medicine, as in this quote of the French Egyptologist Gustave Lefebvre:

Greek medicine, we can see, knew well and used widely prognostic methods and therapeutic recipes fashioned centuries earlier by Egyptian gynaecologists. What is surprising is that peoples closer to Egypt in space and time did not know these recipes. No trace of them can be found in Assyro-Babylonia. It seems that physicians were there rarer than exorcists.<sup>257</sup>

Further, Lefebvre acknowledges that there are pregnancy prognoses in the Akkadian Corpus of prognostic texts, in the handbook entitled '*When the exorcist (āšipu) goes to the house of the sick person*',<sup>258</sup> but argues that 'they cannot stand comparison with the Egyptian prognoses, sometimes so close to the modern mind and which are always so colourful.'<sup>259</sup>

Fifty years have passed since Lefebvre wrote these comments, but things have changed very little: 'Greek medicine' is still considered the pinnacle of 'rationality', followed by 'Egyptian medicine' – and lowest of all – Mesopotamian medicine. For

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<sup>255</sup> Von Staden (1992c): 588.

<sup>256</sup> Bardinet (1995): See also Jouanna (2004): 4.

<sup>257</sup> Lefebvre (1956): 104.

<sup>258</sup> This handbook was edited by Labat (1951). The pregnancy prognoses and prognoses related to gynaecological ailments are found on tablets 35 and 36: Labat (1951): 201-217. See also Stol (2000): 193-203.

<sup>259</sup> Lefebvre (1956): 105.

instance, James Longrigg opens his *Greek Rational Medicine* with the following words:

One of the most impressive contributions of the ancient Greeks to Western culture was their invention of rational medicine. It was the Greeks who first evolved rational systems of medicine for the most part free from magical and religious elements and based upon natural causes.<sup>260</sup>

When Dietlinde Goltz listed fifteen similarities between Greek and Babylonian recipes, the classicist Georg Harig maintained that there is ‘qualitative difference between Greek scientific medicine and Oriental pre-scientific medicine; a difference which excludes almost any possibility for a direct borrowing.’<sup>261</sup> And Geoffrey Lloyd also argued that ‘Babylonian medicine was, to judge from the extant remains, much more straightforwardly magical than Egyptian.’<sup>262</sup>

In this situation, one is not surprised why Egyptologists are so keen to show that Egyptian medicine had rational elements long before the emergence of Greek medicine, and that these rational elements had an influence on Greek medicine – conflating two claims that should be kept separate.

However, if Longrigg’s definition of ‘rational medicine’ could maybe be applied to a few treatises of the Hippocratic Corpus such as *On Ancient Medicine* and *The Sacred Disease*, it cannot be applied to the entirety of the Hippocratic Corpus. A series of Hippocratic texts – and particularly the Hippocratic collections of gynaecological recipes on which the debate on Egyptian influence has concentrated – include many magical and religious aspects. Greek medicine need not be ‘irrational’ for having been influenced by Egyptian medicine, and Egyptian medicine need not be ‘rational’ for influencing Greek medicine. The debate on influence should stir away from these considerations on ‘rationality’ which can only blind us to interesting aspects of medical texts.

For instance, we have seen that Lefebvre denigrated the pregnancy prognoses found in the manual of the Mesopotamian *āšipu* (the exorcist). However, he did not

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<sup>260</sup> Longrigg (1993): 1.

<sup>261</sup> See Goltz (1974): 240-242 and the criticism by Harig (1975): 656. See also Harig (1977). On the other hand, the Assyriologist Stol (2004): 63 argues that almost none of Goltz’s similarities ‘can stand criticism’.

<sup>262</sup> Lloyd (1982): 16 (reprinted in Lloyd [1991]: 295).

know that birth-prognoses also occur in the medical texts reflecting the practices of another Mesopotamian actor: the *asū*, a term which can be translated as 'physician'.<sup>263</sup>

Another example of practice shared by the three 'cultures' is the action of placing pharmacological preparations outside during the night. The Egyptologist François Daumas, observing that the indication to place a pharmacological preparation outside during the night occurred in both Egyptian and Greek medicine, concluded that: 'This prescription, amongst others, shows a closer dependence between Greek and Egyptian medicine than between Egyptian and Babylonian medicine, for instance.'<sup>264</sup> However, this indication occurs quite frequently in Babylonian texts, and was interpreted by Erika Reiner as an indication to expose a remedy to astral irradiation.<sup>265</sup> Now, the astral dimension may not be present in Egypt and Greece, but further study is necessary.

The question of influences from Mesopotamian medicine upon Greek medicine is further complicated by two factors. First, the ancient Greeks did not praise Babylonian medicine as they did praise Egyptian medicine. Herodotus' account of how medicine was practiced in Babylonia is surprising and difficult to interpret:

Δεύτερος δὲ σοφίη ὅδε ἄλλος σφι νόμος κατέστηκε· Τοὺς κάμνοντας ἐς τὴν ἀγορὴν ἐκφορέουσι· οὐ γὰρ δὴ χρέωνται ἰητροῖσι. Προσιόντες ὧν πρὸς τὸν κάμνοντα συμβουλεύουσι περὶ τῆς νόσου, εἴ τις καὶ αὐτὸς τοιοῦτον ἔπαθε ὀκοῖον ἂν ἔχη ὁ κάμνων ἢ ἄλλον εἶδε παθόντα· ταῦτα προσιόντες συμβουλεύουσι καὶ παραινέουσι ἄσσα αὐτὸς ποιήσας ἐξέφυγε ὁμοίην νόσον ἢ ἄλλον εἶδε ἐκφυγόντα. Σιγῇ δὲ παρεξελθεῖν τὸν κάμνοντα οὐ σφι ἔξεστι, πρὶν ἂν ἐπιείρηται ἦντινα νόσον ἔχει.<sup>266</sup>

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<sup>263</sup> See Reiner (1982).

<sup>264</sup> Daumas (1956): 174.

<sup>265</sup> Reiner (1995): 48ff. See also Goltz (1974): 240.

<sup>266</sup> Herodotus 1.197. Translation: 'Their second wisest custom is as follows. They carry their sick people to the market-place, for they do not have physicians. Then, passers-by approach the sick and advise him about his disease if they have suffered themselves from something similar to whatever the sick person is afflicted with, or if they have seen someone else suffering from it. Approaching him, they advise him and recommend him to do the things they have done themselves to escape a similar disease, or what they have seen someone else do to escape it. It is forbidden for them to pass by the sick in silence, without asking him what sort of disease he has.'



Second, if ingredients from the Levant and from the Far East are used in the Hippocratic Corpus, no ingredient seems to come from the lands in between these two extremities of the Asian continent. Thomas argues that:

If trade routes for ingredients might correspond at all to routes of information, recipes, medical techniques, then they would suggest that the doctors of the *Corpus Hippocraticum*, in all their variety, had their eyes turned elsewhere than the Mesopotamian heartland of the Near East.<sup>267</sup>

This, however, is too strong a statement since trading routes from Persia and the Far East certainly passed through Mesopotamia. Mesopotamia might not have contributed any ingredient of its own, but it had a role to play in the transmission of eastern ingredients to Greece.

The Assyriologist Mark Geller recently offered a new and original solution to the problem of influences. For him the striking similarities between Babylonian and Greek medicine can be explained because Babylonia and Greece shared the same system of medicine for centuries:

There was only one major system of medicine in the oikumene of the Near East before Hippocrates, which later diverged into two quite different systems. Babylonian medicine represented an older classical tradition going back to the second millennium, which continued through until the Parthian period without much innovation. In Greek circles, however, the fifth century BC introduced some important changes, which highlighted many new developments in Greek medical thinking and writing.<sup>268</sup>

The main development introduced in Greek medicine, according to Geller, was dietetic treatment, no trace of which can be found in Babylonia.<sup>269</sup> Geller is certainly correct in not drawing clear boundaries between Greece and Mesopotamia in the domain of medicine, and I believe no clear boundary existed between Greece and Egypt either; I have given examples of common practices between the three cultures,

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<sup>267</sup> Thomas (2004): 183.

<sup>268</sup> Geller (1991): 73.

<sup>269</sup> See also Stol (2004): 64.

and more examples could certainly be found. The boundaries that have been drawn between cultures in the field of medicine often reflect the boundaries between modern scholarly disciplines (Egyptology, Assyriology, and Classical Studies) and the lack of communication between scholars.

I would argue that, like goods, and like physicians, pharmacological knowledge circulated in the ancient Mediterranean world from at least the second millennium BC. The notion of 'influences' is not helpful in understanding the links between Mesopotamia, Egypt, and Greece in the field of pharmacology, because it often presupposes that one of these cultures is superior to the others. The notion of 'influence' implies a flux of knowledge in one direction only, with one contributor and one recipient. However, in practice, the flux of pharmacological knowledge must have gone in all possible directions, following commercial routes.

Exact parallel recipes are difficult to locate in our texts, because of problems of ingredient identification, because slight regional (and maybe also local) variations in medical practices occurred, but above all because only one portion of medical knowledge was transmitted through writing in the ancient world. The Egyptian medical papyri, the Mesopotamian tablets, and the Hippocratic texts only represent a minuscule proportion of the transmission of medical knowledge in the ancient Mediterranean. The most common way of communicating medical theories and therapies across civilizations was orally; not all pharmacological knowledge transmitted in this manner was written down in the form of recipes.

**Table One: The exotic ingredients of the Hippocratic Corpus that are not accompanied by geographical epithets**

Greek name	Identification	Origin of the name	Number of occurrences	Hippocratic treatises in which the ingredient appears <sup>270</sup>
Amomom	Amomum, <i>Amomum subulatum</i> Roxb.	Oriental language	1	Gynaecological
Castoreum	Product of the scent glands of the beaver	Greek	25	Gynaecological
Chalbane	Galbanum, resin of <i>Ferula galbaniflua</i> Boiss. & Buhse	Semitic	17	Gynaecological except for two recipes: <i>Acut.Sp.</i> 30 and 34
Kalamos	Sweet flag, <i>Acorus calamus</i> L.	Greek	20	Mixed
Kardamomon	Cardamon, <i>Elettaria Cardomomum</i> Maton	Oriental language	5	Gynaecological
Kassia	? Cassia, bark of <i>Cinnamomum cassia</i> Nees	Semitic	6	Gynaecological
Kinamomom	? Cinnamon, bark of <i>Cinnamomum zeilanicum</i> Nees	Semitic	7	Gynaecological
Knekos	Safflower, <i>Carthamus tinctorius</i> L.	Greek	4	Mixed
Kommi	Gum produced by <i>Acacia nilotica</i> Wild	Egyptian	4	Mixed
Libanotos	Frankincense, <i>Boswellia</i> sp.	Semitic	69	Mixed
Nardos	Spikenard, <i>Nardostachys Jatamansi</i> D. Don	Sanskrit via Semitic	2	Gynaecological
Peperi	Pepper, <i>Piper longum</i> L.	Sanskrit	17	Mixed
Rhous	Sumach, <i>Rhus coriaria</i> L.	Greek	28	Mixed
Sagapenon	Sagapenum, the gum of <i>Ferula persica</i> Willd.	?	1	Gynaecological
Schoinos	Ginger-grass, <i>Cymbopogon Schoenanthus</i> Spreng.	Greek	12	Gynaecological

<sup>270</sup> The treatises are referred to as 'gynaecological'; 'non-gynaecological'; and mixed (i.e. a mixture of both gynaecological and non-gynaecological treatises).

Silphium	A plant of the <i>Ferula</i> genus	?	46	Mixed
Smyrna	Myrrh, <i>Commiphora Myrrha</i> Engl.	Semitic	150	Mixed
Styrax	Styrax, the gum of <i>Storax officinalis</i> L.	Semitic	7	Gynaecological
Terminthos/terminthinos retine	Terebinth resin, resin of <i>Pistacia terebinthus</i> L.	Greek	7	Mixed

**Table Two: The exotic ingredients of the Hippocratic Corpus that are accompanied by geographical epithets**

Greek name	Literal translation	Identification	Number of occurrences	Hippocratic treatises in which the ingredient appears
Indikon peperis	Indian pepper	Long pepper, <i>Piper longum</i> L.	2	Gynaecological
Aigyptios Kyamos	Egyptian bean	Pink lotus, <i>nelumbo nucifera</i> Gaertn.	1	Gynaecological
Aigyptios Balanos	Egyptian acorn	<i>Moringa peregrina</i> Forsk.	1	Gynaecological
Aigyptia Akantha	Egyptian thorny plant	<i>Acacia nilotica</i> Wild.	3	Gynaecological
Aigyptios Krokos	Egyptian saffron	Safflower, <i>Carthamus tinctorius</i> L.	1	Gynaecological
Aigyption Linon	Egyptian linen	Linen, <i>Linum</i> spp.	1	Non-gynaecological
Aigyptia Stypteria	Egyptian alum	Sulphate of aluminium and potassium.	13	Mixed
Aigyption Nitron	Egyptian soda	Native sodium carbonate, $\text{Na}_2\text{CO}_3$	8	Mixed
Aigyption myron	Egyptian perfume	A type of perfume	7	Gynaecological
Aigyption leukon myron	Egyptian white perfume	A type of perfume	1	Gynaecological
Aigyption aleipha	Egyptian oil	A type of scented oil	3	Gynaecological
Aigyption	Egyptian white	A type of	4	Gynaecological

leukon aleipha	oil	scented oil		
Aigyption elaion	Egyptian oil	A type of scented oil	4	Gynaecological
Aigyption elaion leukon	Egyptian white oil	A type of scented oil	7	Gynaecological
To Aigyption	The Egyptian	A type of perfume	1	Gynaecological
Aigyptios Hals	Egyptian salt	NaCl	2	Gynaecological
Thebaikos Hals	Theban salt	NaCl	2 (parallel recipes)	Gynaecological
Aithipikon kyminon	Ethiopian cumin	<i>Nigella</i> , <i>Nigella sativa</i> L.	35	Mixed
Aithipike rhize	Ethiopian root	? <i>Salvia</i> <i>Aethiopsis</i> L.	1	Gynaecological
Aithipikos daukos	Ethiopian daukos	? <i>Bupleurum</i> <i>fruticosum</i> L.	2	Gynaecological
Libykon phyllon	Libyan leave	The leave of silphium	1	Gynaecological
Massalotikos seselis	Seselis from Massalia	<i>Seseli</i> <i>tortuosum</i> L.	1	Gynaecological
Gadeirikon tarichon	Salt-fish from Cadiz	A type of salt- fish	2	Non- gynaecological
Pontikon karyon	Pontic nuts	<i>Corylus</i> <i>avellana</i> L.	1	Gynaecological

**Table Three: Greek products accompanied by geographical epithets in the Hippocratic Corpus**

Greek name	Literal translation	Identification	Number of occurrences	Hippocratic treatises in which the ingredient appears
Attikon meli	Attic honey	A type of honey	3	Gynaecological
Chios oinos	Wine from Chios	A type of wine	1	Gynaecological
Eretrias ge	Earth from Eretria	A type of earth	2 (in the same recipe)	Non-gynaecological
Kilikios hyssopos	Cilician hyssop	Hyssop, <i>Hyssopus officinalis</i> L.	2	Mixed
Knidios kokkos	Cnidian grain	<i>Daphne gnidium</i> L.	26	Mixed
Koos oinos	Coan wine	A type of wine	1	Non-gynaecological
Kretikos kissos	Cretan ivy	? A species of ivy ( <i>Helix</i> spp.)	1	Gynaecological
Kretikos kedros	Cretan <i>kedros</i>	Juniper, <i>Juniperus</i> spp.	2 (parallel recipes)	Gynaecological
Kretikos aigeiros	Cretan poplar	? <i>Zelcova cretica</i> Spach	2 (parallel recipes)	Gynaecological
Kyprios hals	Cypriot salt	A type of salt	2	Gynaecological
Kyprie spodos	Cypriot ash	Ash resulting from the smelting of copper	7	
Melia stypteria	Alum from Melos	A type of alum	4	Mixed
Mendaion oionon	Wine from Mende	A type of wine	4	Non-gynaecological
Mendesion				
Milesion eirion	Milesian wool	A type of wool	1	Gynaecological
Orchomenon epipaston	Powder from Orchomenos	The powder made from the plants growing around Lake Copais	1	Non-gynaecological
Samie melaina ge	Black earth from Samos	A types of earth	1	Gynaecological
Skuriai aiges	Goats from	A type of goat	1	Gynaecological

	Scyros			
Thasios oinos	Thasian wine	A type of wine	1	Non-gyanecological
Thasion karyon	Thasian nut	A type of nut	1	Non-gynaecological
Zakynthie asphaltos	Bitumen from Zakynthos	A type of bitumen	1	Gynaecological

## 6 Reading, studying and using the Hippocratic catalogues of recipes

### 6.1 Introduction

This chapter attempts to determine how and by whom the Hippocratic collections of recipes were read, studied and used. Studies of reading in antiquity are relatively few, in great part because scholars often treat literacy as a ‘monolithic’ skill. However, writing and reading – the two constitutive skills of literacy – are distinct: to be able to read does not necessarily imply an ability to write.<sup>1</sup> Existing studies on ancient reading have concentrated on whether the ancients were able or not to read silently.<sup>2</sup> They have maintained that the fact that ancient texts were written in *scriptio continua*, that is, without word division, led to the practice of reading aloud. William A. Johnson (2000) has however argued that the important question is not whether ancient readers were able to read silently, but in which socio-cultural context ancient readers chose to read silently or aloud. In his study, Johnson gave a new definition of reading that I have borrowed:

I prefer to look at reading as not an act, nor even a process, but as a highly complex sociocultural system that involves a great many considerations beyond the decoding by the reader of the words of a text. Critical is the observation that reading is not simply the cognitive process by the individual of the ‘technology’ of writing, but rather *the negotiated construction of meaning within a particular sociocultural context*.<sup>3</sup>

Following this definition, I will ask how ancient readers made sense of the endless lists of recipes found in the Hippocratic treatises and in which context they read them.

Johnson is correct in pointing out that reading is not simply the decoding of the ‘technology of writing’; the format in which a text is written does not determine

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<sup>1</sup> Thomas (1992): 9.

<sup>2</sup> See for instance, Balog (1927); Burnyeat (1997); Gavrilov (1997); Knox (1968); Svenbro (1988); (1999). For the Middle Ages, see Saenger (1997).

<sup>3</sup> Johnson (2000): 603



inexorably the way in which it will be read – for instance a text in *scriptio continua* does not necessarily lead to reading aloud. However, it is important to understand this technology, since it is also the product of a particular socio-cultural context and may therefore interact with the creation of meaning that reading is. Consequently, I first consider the format of the catalogues of recipes; how they were presented materially in antiquity and how this may give us information on the context in which the written recipes were read and used. I pay particular attention to the total absence of retrieval tools for the recipes.

I then attempt to portray the reader of the recipes. By examining which type of information is included – or not – in the recipes, I assess the therapeutic baggage expected from these readers before approaching the recipes. I suggest that one did not necessarily need to be literate to benefit from ‘reading’ the recipes: these were sometimes read out loud to audiences. I also argue that, although knowledge of *materia medica* and how to accommodate ingredients was necessary to understand the recipes, the reader did not need to be skilled in all aspects of drug preparation: he/she could delegate some tasks to an assistant or to the patient himself/herself.

In the final part of this chapter, I examine the possible tasks which the reader might have delegated to his assistants or patients by studying the feminine participles used in the gynaecological treatises.

## ***6.2 The material presentation of recipe collections in antiquity and the Middle Ages***

The first complete copies of the Hippocratic treatises including recipes are preserved in medieval manuscripts, the most ancient of which are dated from the late tenth or eleventh centuries AD.<sup>4</sup> These manuscripts are written on parchment and presented in the form of the codex – a format similar to our modern books. In addition to these medieval manuscripts, we also have important fragments of the gynaecological treatises *Superfoetation* and *Diseases of Women I and II* preserved from a papyrus codex (P.

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<sup>4</sup> See Chapter One, Section One for an introduction to these manuscripts.

Antinoopolis 184, sixth century AD).<sup>5</sup> The codex-format was invented in the first century of our era; we cannot therefore reconstruct the experience of reading in classical Greece from these late-antique and medieval books.

In classical antiquity, literary texts were usually preserved on rolls of papyrus, but other material supports for writing were available: sheets of leather (διφθέραι), sheets of papyrus (χάρται) and wooden tablets (δέλτοι), which could be bound together into a notebook.<sup>6</sup> Volker Langholf suggested that these other supports were used by early medical writers:

The construct is that at an early stage of their genesis c. 400 BC a number of Hippocratic treatises were written down, partly or entirely, on leather pieces or papyrus sheets (little scrolls?) or rather wooden tablets in disconnected instalments, the instalments being equivalent in length to about 100 (or 200) epic verses or Normal Lines... The uniform format of the pieces made it easy to store them in archives. For 'publication', the instalments were filed one after the other.<sup>7</sup>

Galen describes a process similar to Langholf's construct when relating how the *Epidemics* were 'published':

Τὰ γὰρ ἐν διφθέραις ἢ χάρταις ἢ δέλτοις ὑφ' Ἱπποκράτους γεγραμμένα τὸν υἱὸν αὐτοῦ Θεσσαλὸν ἀθροίσαντά φασι ταυτὶ τὰ δύο βιβλία συνθεῖναι, τό τε δεύτερον καὶ τὸ ἕκτον, ἔνιοι δὲ καὶ τὸ τέταρτόν φασι.<sup>8</sup>

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<sup>5</sup> On this papyrus, see Hanson (1970).

<sup>6</sup> On tablets in Graeco-Roman antiquity, see Cauderlier (1992).

<sup>7</sup> Langholf (2004): 271.

<sup>8</sup> Galen, *Comm.Epid.* VI, 2.15 (Wenkebach and Pfaff 76.1-4; K17a.922.5-9). Translation: 'They say that Thessalus, the son of Hippocrates, gathering what his father had written on leather sheets, or papyrus sheets or tablets, composed two books: the second book <of the *Epidemics*> and the sixth; others say the fourth too.' See also Galen, *Comm.Epid.* VI, 5.5.5 (Wenkebach and Pfaff 272.7-9; K17b249.8-11). A similar story is narrated by Diogenes Laertius concerning the 'publication' of Plato's *Laws*. See Diogenes Laertius, *Vitae Philosopharum* 3.37: Ἐνιοὶ τε φασὶν ὅτι Φίλιππος ὁ Ὀπούντιος τοὺς Νόμους αὐτοῦ μετέγραψεν ὄντας ἐν κηρῷ. Translation: And some say that Philippos of Opus transcribed his <sc. Plato's> *Laws* that were <written> on waxen <tablets>.' See Cavallo (1992): 98. Again Diogenes Laertius might be reflecting practices of his day upon the past.

Unfortunately, Galen does not identify his sources here, and it is impossible to determine how far back the history of the ‘publication’ of the *Epidemics* reaches. Elsewhere, Galen tells us that, in his time, recipes could be inscribed on leather sheets: Τοῦτο τὸ φάρμακον οὕτω γεγραμμένον εὗρε Κλαυδιανὸς ὁ ἑταῖρος ἡμῶν ἐκ πικτίδι διφθέρα.<sup>9</sup>

There are no preserved examples of leather sheets or wooden tablets bearing medical texts. On the other hand, small scrolls of papyrus and ostraca bearing recipes from Hellenistic and imperial Egypt have survived. One of these papyri, Papyrus Rylands 531 (end of the third century BC or beginning of the second century BC) – a collection of recipes similar to some recipes recorded in the Hippocratic gynaecological treatises – is of especial importance for reconstructing the experience of reading recipes in antiquity.<sup>10</sup>

The experiences of reading in these different formats – the scroll, the ostrakon and the codex – share common characteristics: in all cases, the text is written in *scriptio continua*, and there are no retrieval tools (such as indices, etc.) to help the reader finding the recipes. On the other hand, these different formats may have led to slightly different experiences, inasmuch as they lead to different ways of handling a document.

In antiquity and the Middle Ages, texts were written in *scriptio continua*, that is, without word division. Moreover, in antiquity, signs marking the end of a sentence and the beginning of another were not used systematically. In the case of collection of recipes, however, it was crucial to clearly indicate where one recipe ended and another started. For this purpose, the ancients combined two different systems: verbal separators and visual separators.<sup>11</sup>

In Chapter Two, we have seen that the ‘application/administration verb’, grammatically the main verb of the recipe, is usually situated either at the end or at the beginning of a recipe (and sometimes both), providing a convenient way to find the limits of a recipe. In a series of recipes, the first recipe is often introduced by a conditional formula of the type ‘if this disease arises, do the following’, and the second and following recipes are separated by verbal indicators (ἢ, ἄλλο, ἕτερον, etc.).

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<sup>9</sup> Galen, *Comp. Med. sec. Loc.* 1.1 (K12.423.13-14). Translation: ‘Our fellow Claudianus found this remedy written in such a way on a sheet of leather.’ See Marganne (2004): 90.

<sup>10</sup> On this collection of recipes, see also Chapter Three.

<sup>11</sup> See Hanson (1997): 302.

In addition to these verbal separators, visual separators could be used to signal the beginning of a new recipe. These separators include the *paragraphos* (a horizontal line inserted between two lines of writing), the *ekthesis* (extension into the left-hand margin), the *eisthesis* (indentation) and blank spaces.<sup>12</sup> The use of these visual separators can be observed on the early P.Rylands 531. On this papyrus, there is no punctuation; but the recipes are separated by *paragraphoi* and a small blank space is sometimes left to signal the beginning of a new sentence. Moreover, the first word of each recipe extends into the margin (*ekthesis*).<sup>13</sup> On P.Antinoopolis 184, a space at the end of the first line of fragment I (a), declared 'difficult to account for' by the editors,<sup>14</sup> is used to mark the transition between the first and second recipes of our chapter 33 of *Superfoetation*. It is difficult, however, to know whether these visual separators were present on collections of recipes ante-dating the Hellenistic period.

With regard to the earliest medieval manuscripts containing the gynaecological treatises, Manuscript V (MS Vaticanus Graecus 276, twelfth century) has very few visual aids for the readers. It is a very large manuscript, in an excellent state of preservation, which was most probably not designed for daily use by medicinal practitioners.<sup>15</sup> On the other hand, Manuscript M (MS Venetus Marcianus Graecus 276, end of tenth or beginning of the eleventh century) occasionally makes use of *ekthesis* of one or two letters in order to mark a change of subject, and has numbered chapters for some of the gynaecological treatises.<sup>16</sup> The gynaecological sections of Manuscript Theta (MS Vindobonensis Medicus Graecus 4, end of the tenth century) contain numerous marginal notes, which usually signal a change of topic or the beginning of a new therapy or recipe.<sup>17</sup> Although M and Theta both employ visual markers, they do so in different ways, suggesting that they organised their material independently, as pointed out by Ann E. Hanson:

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<sup>12</sup> See Turner (1987): 8 for a definition of these terms.

<sup>13</sup> See Roberts (1983): 165-166.

<sup>14</sup> Barns and Zilliacus (1967): 138.

<sup>15</sup> See Irigoien (1999): 270.

<sup>16</sup> See Hanson (1971): 66.

<sup>17</sup> Visual markers are only used in the gynaecological sections of MS Theta.

The common ancestor of ThetaMV probably did not carry extensive section divisions; rather, it was probably more like V, and both the Theta-branch and the M-branch would independently and separately have received the kind of editing which produced the division into subject units signalled in the margins.<sup>18</sup>

Despite the presence of these verbal and visual separators, quickly finding a particular recipe in these medieval manuscripts must have been a difficult task: none of the treatises they contain features retrieval tools, such as content tables or indices, which would have allowed the reader to quickly find a section or series of recipes.<sup>19</sup>

Indices were not invented before the end of the twelfth century and their absence should therefore not surprise us.<sup>20</sup> On the other hand, the table of contents was invented in antiquity, although it was rarely used: Pliny's *Natural History* and Aulus Gellius' *Attic Nights* are introduced by tables of contents;<sup>21</sup> and the table of contents to Scribonius Largus' *Compositions*, found in MS Toletanus Capit. 98.12 (sixteenth century), seems to go back to antiquity. The table of contents became a common feature of medieval *receptaria*, whilst early modern recipe books often include tables of information and indices, as noted by Andrew Wear:

The prominence given to indexes and tables of information in some early modern medical books makes it clear that they were deliberately designed as tools for the extraction of data from what could be a confusing mass of material and were considered important parts of a book.<sup>22</sup>

Indices and tables could guide the reader through the recipe-book, helping him/her selecting the passage he/she needed to read. By contrast, with their total lack of retrieval

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<sup>18</sup> Hanson (1971): 66.

<sup>19</sup> Both MS V and MS M are introduced by a general table of contents listing Hippocratic treatises (see edition in Heiberg (1927): 1-3). In the case of MS V, the table of contents only partially reflects the content of the manuscript: not all treatises listed in the table are found in the manuscript, and inversely, not all treatises copied in the manuscript are listed in the table.

<sup>20</sup> See Blair (2000); Rouse and Rouse (1982); Wellish (1978).

<sup>21</sup> Pliny's table of contents occupies all of Book One of the *Natural History*; Aulus Gellius' table of contents fills 13 pages of the Loeb edition. See Small (1997): 16-18.

<sup>22</sup> Wear (2000): 82.

tools, the Hippocratic treatises in general, and their collections of recipes in particular, do not seem to be 'user-friendly'.<sup>23</sup> The structure of a treatise could, however, facilitate the task of finding particular passages. Recipes and medical descriptions within a treatise could be organised *a capite ad calcem*, as is the case in *Diseases II*. When this order could not be followed, as in the case of gynaecological treatises, a chronological organisation (from conception to birth) could be chosen, as in the case of *Diseases of Women I*. Recipe collections at the end of a treatise could be organised by efficacy or type of medications. However, these structures are rarely followed systematically, sections being inserted 'at the wrong place'; and in the case of a treatise such as *Nature of Women* it is almost impossible to discern any structure at all. Overall, a reader had to be familiar with a treatise in its entirety before being able to find a particular description of disease or recipe. In other words, it was necessary to read the whole treatise, or the whole recipe book, before being able to use it.

Finding a particular passage or recipe must have been particularly difficult when medical treatises took the format of a scroll, a format which makes the action of browsing almost impossible. Indeed, it is impossible with a roll to 'flick through the pages'.<sup>24</sup> One of the main advantages of the codex, by contrast, is that it allows non-linear access to the material.<sup>25</sup> It may not be an accident that the earliest examples of preserved codices, if we exclude Christian works, are grammar and medicine handbooks.<sup>26</sup>

Considering all these difficulties, it is safe to assume that ancient catalogues of recipes could not be consulted rapidly for reference when difficult clinical situations arose.<sup>27</sup> The reading of a recipe book in antiquity must have been closer to what we would call 'studying' than it was to what we call 'reading'.<sup>28</sup> Readers went slowly through the text, attempting to memorize as much as they could.

Before examining what format this learning took, it is necessary to draw a profile of the readers of the Hippocratic collections of recipes. In order to do so, I will turn away

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<sup>23</sup> To use the expression of Small (1997): 61 who is the first scholar to have devoted an extended study to data-retrieval in antiquity.

<sup>24</sup> See Marganne (2004): 25.

<sup>25</sup> See O'Donnell (1998): 54.

<sup>26</sup> On these codices, see Easterling (1985): 18; Gamble (1995): 65.

<sup>27</sup> See Dean-Jones (2003): 113.

<sup>28</sup> See Langholf (2004): 231.

from the material presentation of medical treatises in antiquity, and examine in more detail the information contained in the recipes.

### 6.3 *The audience of the Hippocratic recipes*

In recent years, scholars have paid increasing attention to the audience of the Hippocratic treatises. This approach, as pointed out by Philip van der Eijk, does not go without problems because in most cases we know very little about these audiences.<sup>29</sup> The compilers of the Hippocratic texts usually do not specify for which public they write, and if they do so, like the author of *Affections*, their claims are difficult to interpret:

Ἄνδρα χρῆ, ὅστις ἐστὶ συνετός, λογισάμενον ὅτι τοῖσιν ἀνθρώποισι πλείστου ἄξιόν ἐστὶν ἢ ὑγείῃ, ἐπίστασθαι ἀπὸ τῆς ἑωυτοῦ γνώμης ἐν τῆσι νούσοισιν ὠφελέεσθαι· ἐπίστασθαι δὲ τὰ ὑπὸ τῶν ἰητρῶν καὶ λεγόμενα καὶ προσφερόμενα πρὸς τὸ σῶμα ἑαυτοῦ καὶ διαγινώσκειν· ἐπίστασθαι δὲ τούτων ἕκαστα ἐς ὅσον εἰκὸς ἰδιώτην... Δεῖ δὲ πρὸς ταῦτα τὸν ἰδιώτην ἐπίστασθαι ὅσα εἰκὸς ἰδιώτη. Ὅσα δὲ τοὺς χειροτέχνας εἰκὸς ἐπίστασθαι καὶ προσφέρειν καὶ διαχειρίζειν, περὶ δὲ τούτων καὶ τῶν λεγομένων καὶ τῶν ποιουμένων οἷόν τ' εἶναι τὸν ἰδιώτην γνώμητινὴ συμβάλλεσθαι. Ἦδη οὖν ὁπόθεν τούτων ἕκαστα δεῖ τὸν ἰδιώτην ἐπίστασθαι ἐγὼ φράσω.<sup>30</sup>

From this passage alone, it is difficult to determine whom the author of *Affections* classifies as *idiotai*, what their social position is, their level of education, etc.<sup>31</sup>

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<sup>29</sup> See van der Eijk (1997): 86.

<sup>30</sup> *Aff.* 1 (Potter 6.1-7 and 7.1-8; L6.210.1-6 and 16-21). Translation: 'Any man who is wise must, whilst considering that health is most important for human beings, gain from his personal judgement the knowledge necessary to help himself in diseases, and to understand and judge what physicians say and what they prescribe for his body, and to understand each of these things to a degree reasonable for a layman... The layman must understand as much about these things as is reasonable for a layman; and what is fitting for the experts to understand, administer and manage, about these things, which are either said or done, the layman <must> be able to make a contribution with his own judgement. Now thus, from the point whence the layman must understand each of these things, I shall tell them.'

<sup>31</sup> The author of *Affections* also mentions the *idiotai* at chapter 33, where he concludes his section on diseases (Potter 56.3; L6.244.10); at chapter 45, in relation to drugs (Potter 68.18; L6.254.12; see Chapter Four, Section Three for more details on this text) and at chapter 52, where the word seems to mean simply 'person in good health' (Potter 80.10; L6.262.17).

An indirect way to approach the problem of the intended audiences of the Hippocratic treatises would be to examine what kind of information their compilers needed to make explicit and which information they never spelled out. In the case of the recipes, this examination may give us an indication as to what kind of therapeutic baggage their readers were expected to possess.

One striking aspect of the Hippocratic recipes is the endless repetition of simple rules of procedure.<sup>32</sup> This is in sharp contrast with many Galenic and medieval recipes where these rules of procedure (the *skeuasias*) are missing.<sup>33</sup> This contrast may lead to the conclusion that the Hippocratic recipes could be approached by 'anyone', whereas later recipes were intended for specialists. However, this conclusion would be hasty, as an examination of the instruments, quantities and other information mentioned – or omitted – in the Hippocratic recipes will make clear.

### 6.3.1 *Utensils used in the preparation and application of drugs*

If actions such as pounding, roasting, boiling are endlessly repeated in the recipes, the utensils needed for these actions are rarely mentioned. For instance, the mortar and pestle,<sup>34</sup> the sieve,<sup>35</sup> the strainer<sup>36</sup> and the pan<sup>37</sup> are cited only on rare occasions.<sup>38</sup> These

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<sup>32</sup> See Chapter Two, Section Four.

<sup>33</sup> Fabricius (1972): 29.

<sup>34</sup> Three different words are used for the mortar in the Hippocratic Corpus: ὄλμος; *Int.* 51 (Potter 244.21; L7.294.14); *Nat.Mul.* 109 (Trapp 126.14,16; L7.424.14,16); *Mul.* 1.53 (L8.112.9); 1.107 (L8.230.8). ἕγδη; *Nat.Mul.* 88 (L7.408.11 but not in Trapp); *Mul.* 1.103 (L8.224.22). Θυσίη; *Int.* 48 (Potter 234.19; L7.286.20); 51 (Potter 246.8; L7.296.2); *Mul.* 1.44 (L8.104.2); 1.107 (L8.230.8). Θυσίη λιθίνη; *Mul.* 2.185 (L8.366.9); 2.188 (L8.368.19). The pestle is never mentioned in the Hippocratic Corpus. On mortars and pestles in antiquity, see Amouretti (1986): 135-137; Moritz (1958): 22-28; Sparkes (1962): 125-126.

<sup>35</sup> Κρησέρη; *Mul.* 1.118 (L8.256.13); *Steril.* 222 (L8.430.1).

<sup>36</sup> Ἡθμός; *Ulc.* 12 (Duminil 59.23; L6.412.3)

<sup>37</sup> Χυτρίδιον or χυθρίδιον; *Ulc.* 17 (Duminil 65.20,24; L6.420.17,20); 21 (Duminil 67.19; L6.424.16); *Int.* 26 (Potter 164.4; L7.236.7); 27 (Potter 168.5; L7.238.16); *Nat.Mul.* 53 (Trapp 111.20; L7.394.20); *Mul.* 1.51 (L8.110.8). χυτρίς; *Morb.* 2.26 (Jouanna 160.7; L7.42.1); *Int.* 6 (Potter 90.20; L7.180.21); 51 (Potter 246.1; L7.294.21); 52 (Potter 250.17; L7.298.20). Χύτρινος; *Mul.* 2.133 (eight mentions: L8.284.9,15,16; 286.1.9; 288.3.4; 284.13). Χύτρη; *Ulc.* 12 (Duminil 60.5; L6.412.8); *Morb.* 2.56 (Jouanna 195.19; L7.88.9); *Morb.* 3.17 (3 mentions: Potter 96.23; 98.21 [twice]; L7.156.12; 158.21; 160.1); *Nat.Mul.* 47 (Trapp 110.6; L7.392.6); 64 (Trapp 114.13; L7.400.13); 109 (Trapp 126.15; L7.424.15); *Mul.* 1.98 (L8.224.9); 1.107 (L8.230.9); 2.140 (L8.314.6). Χαλκός; *Ulc.* 12 (Duminil 59.23; 60.3; L6.412.3,6); 17 (Duminil 65.15; L6.420.12); *Mul.* 1.92 (L8.222.10); 1.104 (L8.226.10,22). Χαλκεῖον; *Haem.* 3 (Joly 148.2; L6.438.22,24); *Mul.* 1.92 (L8.222.10); 1.102 (L8.224.11,20); 1.105 (L8.228.14). On vessels in the Hippocratic Corpus, see Villard and Blondé (1991); (1992); Villard (1992).

<sup>38</sup> See Villard (1992): 77-78.



instruments were common kitchen-utensils with which most people in antiquity would have been familiar, and it was therefore not necessary to specify their use in the recipes.<sup>39</sup>

The cooking pan is most often mentioned in the case of the gynaecological fumigations and fomentations, two procedures which are described in details on several occasions in the Hippocratic Corpus. These descriptions include a wealth of information on the instruments used, as in the following example:

Πυριῆν πρῶτον τὰς ὑστέρας ὥδε· χύτρινον λαβόντα ὅσον δύο ἐκτέας χωρέοντα, κάνειον ἐπιθεῖναι καὶ ξυναρτῆσαι, ὅπως παραπνεύσεται μηδέν· ἔπειτα δ' ἐκκόψαι τοῦ κανείου τὸν πυθμένα, καὶ ποιῆσαι ὀπήν· ἐς δὲ τὴν ὀπήν ἐνθεῖναι κάλαμον, μήκος ὅσον πηχυαῖον· ἐνηρμόσθαι δὲ χρῆ τὸν κάλαμον τῷ κανεῖῳ καλῶς, ὅπως μὴ παραπνεύσεται μηδαμῶς· ὁκόταν δὲ ταῦτα σκευάσης, ἐπίθες τὸ κάνειον ἐπὶ τὸν χύτρινον, περιπλάσας πηλῷ· ὅταν δὲ ταῦτα ποιήσης, βόθρον ὄρυξον, ὅσον δύο ποδῶν βάθος, μήκος δὲ ὅσον χωρέειν τὸν χύτρινον· ἔπειτα χρῆ ἐγκαίειν ξύλοις, ἕως τὸν βόθρον διάπυρον ποιήσης· ὅταν δὲ διάπυρος γένηται, ἐξελεῖν χρῆ τὰ ξύλα καὶ τῶν ἀνθράκων οἱ δὴ ἀδρότατοι ἔσονται καὶ διάπυροι, τὴν δὲ σποδιὴν καὶ τὴν μαρίλην ἐν τῷ βόθρῳ καταλιπεῖν· ὁκόταν δὲ ὁ χύτρινος ζέσῃ καὶ ἡ ἀτμίς ἐπανῆ, ἦν μὲν ἡ λίην θερμὴ ἢ πνοιή, ἐπισχεῖν, εἰ δὲ μὴ, καθίζεσθαι ἐπὶ τὸ ἄκρον τοῦ καλάμου, καὶ ἐνθέσθαι ἐς τὸν στόμαχον, ἔπειτα πυριῆσαι· ἦν δὲ ψύχῃται, ἄνθρακας διαπύρους παραβάλλειν, φυλασσόμενος, ἵνα μὴ ὀξέην ποιήσης τὴν πυρίην· ἦν δὲ παραβαλλομένων τῶν ἀνθράκων ὀξεῖα γένηται ἢ πυρίη μᾶλλον τοῦ δέοντος, ἀφαιρέειν τῶν ἀνθράκων· τὴν δὲ πυρίην χρῆ κατασκευάζειν ἐν εὐδίῃ τε καὶ νηνεμίῃ, ὡς μὴ ψύχειν, ἀμφικεκαλύφθαι δὲ χρῆ ἀμφιέσμασιν, ἐς δὲ τὸν χύτρινον χρῆ βάλλειν σκόροδα τῶν αὔων, καὶ ὕδωρ ἐπιχέαι, ὥστε δύο δακτύλους ὑπερίσχειν, καὶ καταβρέξαι ὡς ἄριστα, ἐπιχέαι δὲ καὶ φώκης ἔλαιον· καὶ οὕτω θερμαίνειν, πυριῆν δὲ χρῆ πουλὺν χρόνον.<sup>40</sup>

<sup>39</sup> On kitchen utensils in antiquity, see Dalby (2003): 100-102 (s.v. cooking utensils); Sparkes (1962); (1965).

<sup>40</sup> *Mul.* 2.133 (L8.284.9-286.12). Translation: 'First, foment the womb in this way: take an earthen pot (*chytrion*) of a capacity of two sixths <sc. of a *kotyle*> and place a lid on it, fixed to it so that no vapour can escape round it. Then, cut through the depth of the lid, and make a hole. Through this hole, place a reed (*kalamon*), a cubit long: you must install the reed well into the lid, so that no vapour at all can escape round it. When you have prepared these, place the lid on the pot, plastering over it with clay. When you have

Although this description is very detailed, it is by no means – as vividly expressed by Helen King – ‘a “painting by number” format in which the *iatros* has his book beside him as he works’;<sup>41</sup> the order in which the instructions are given in the text does not correspond to the order in which the activities should be carried out. In addition, there are no indications of where the fumigation should be administered, although the mention of the hole in the ground suggests the woman’s own garden or courtyard.<sup>42</sup> Furthermore, no mention is made of who should dig the hole: the medical practitioner, one of his assistants, one of the woman’s slaves, etc.?

Although advice is given in order to make the experience as comfortable as possible for the patient, this particular fumigation would have been very unpleasant and tiring for the woman squatting for a long time over a steaming pot. Other descriptions of fumigations depict a slightly more sophisticated – and slightly more comfortable – apparatus involving a seat, as in the following example:

Μετὰ δὲ πυριῆσαι πυριητήριον κατασκευάσας τὸ ἐκ τῆς σικύης· ὅταν δὲ πεποιημένον ἦ. ἐγγέας ἐς ἐχίνον θάλασαν, καὶ πράσα ἐμβαλὼν, ἐπιθεῖναι τὸν αὐλὸν τῆς σικύης, καὶ περιελείψαι πηλῶ ὡς βελτίστῳ, ὅπως μὴ διαπνέη· εἶτα διὰ σχοινοτόνου δίφρου τῶν τετραγώνων διάγειν τὸν αὐλὸν, ὅπως ὑπερέξει δύο δακτύλους τοῦ τόνου· εἶτα ὑποκαίειν ἄνθραξι, καὶ τὰς καθέδρας φυλάσσειν, ὅταν τε καθίζηται καὶ ὀκόταν ἀνίστηται, ὅπως μὴ κατακαυθῆ, ἀλλὰ καθίζειν ἔτι

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done this, dig a hole <in the ground>, two feet deep and large enough to accommodate the pot. Then it is necessary to heat <the hole> with wood, until when you have made the hole very hot. When it has become very hot, it is necessary to remove the wood and those of the charcoals which are the biggest and hottest, but leave the ashes and embers in the hole. When the pot is boiling and the vapour comes out, if the steam is too hot, wait; if not, sit <the woman> on the extremity of the reed, and introduce it into the mouth <of the womb>. Then foment. If it becomes cold, add hot coals, taking care that it does not become too sharp. If, after having added the coals, the fomentation becomes sharper than it should, remove the coals. It is necessary to prepare the fomentation in good weather, without wind, lest she gets cold; it is necessary to cover her with clothes. In the pot it is necessary to put dry garlic, and to pour water so that it raises two fingers above <the garlic>; soak well and also pour seal oil. Heat in that manner; it is necessary for the fomentation to last a long time.’

<sup>41</sup> King (1998): 219.

<sup>42</sup> See Gourevitch (1999): 12; Rousselle (1980): 1097.

ψυχροῦ ἐόντος τοῦ πυριητηρίου καὶ ἀνίστασθαι ἕως ἂν καταψυχθῆναι τὸν αὐλὸν· ἐπὶ δὲ τῇ πυρὶ τὴν διατριβὴν ὅτι πλεῖστον τῆς ἡμέρης.<sup>43</sup>

An inhalation prescribed at *Diseases* 2.26 makes use of the same material as the gynaecological fumigations and fomentations and is described in similar terms, down to the recommendations not to hurt the patient:

Ἐπειτα πυριᾶν αὐτὸν ὄξει καὶ λίτρῳ καὶ ὀριγάνῳ καὶ καρδάμου σπέρματι, τρίψας λεία, κεράσας τὸ ὄξος ἰσόχοον ὕδατι, καὶ ἄλειφα ὀλίγον ἐπιστάζας, διεῖναι τούτῳ· ἔπειτα ἐς χυτρίδα ἐγγέας, ἐπιθεῖς ἐπίθημα, καὶ κατασκεπάσας, τρυπήσας τὸ ἐπίθημα, κάλαμον ἐνθεῖναι κοῖλον· ἔπειτα ἐπιθεῖς ἐπ' ἄνθρακας, ἀναζέσαι, καὶ ἐπὴν διὰ τοῦ καλάμου ἢ ἀτμὶς ἴη, περιχάσκων ἐλκέτῳ ἔσω τὴν ἀτμίδα, φυλασσόμενος μὴ κατακαύσῃ τὴν φάρυγγα.<sup>44</sup>

These long descriptions may indicate, as suggested by Laurence Villard, a lack of familiarity on the part of the readers with the techniques of fumigation and fomentation;<sup>45</sup> the material involved in the preparation and application of other forms of medication is described in much less detail. Drinking-vessels are mentioned only on rare occasions.<sup>46</sup> Recipes for pessaries or vaginal applications often specify whether to apply the

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<sup>43</sup> *Steril.* 230 (L8.438.17-440.1). Translation: 'After this foment, having prepared the fomentation apparatus which involves the bottle-gourd. When this has been done, pour sea-water into a jar (*echinos*), add leeks, place the pipe of the bottle-gourd and smear it all over with clay as well as possible, so that it does not let vapour out. Then pass the tube through a square seat made of rushes, so that it raises two fingers above the cords. Then heat with coals, keeping a close eye on the chair, so that <the woman> is not burnt either when she sits down or when she gets up, but let her sit down when the apparatus is still cold and let her not get up until the tube has cooled down. Let her spend most of the day on the fomentation.'

<sup>44</sup> *Morb.* 2.26 (Jouanna 160.4-12; L7.40.19-42.5). Translation: 'Then foment him <sc. the patient> with vinegar, origano, seed of cress; crush these well, mix the vinegar with an equal amount of water, add a few drops of perfume and soak <the dry ingredients> with this. Then pour in a pot, place a lid, cover entirely, pierce through the lid and place a hollow reed through it. Then place it on coals and bring it to the boil; when the vapour goes through the reed, let him open his mouth and inhale the vapour, taking care not to burn his throat.'

<sup>45</sup> Villard (1992): 78.

<sup>46</sup> Βομβύλιον (βομβυλίου οὐκ εὐρυστόμου): *Morb.* 3.16 (Potter 90.30; L7.148.11). Ἄγγος: *Mul.* 2.211 (L8.406.14). Κύλιξ: *Int.Aff.* 12 (Potter 108.26; 110.22; 112.14; L7194.19; 196.10,22); 20 (Potter 136.20,23; L7.216.8,10); 32 (Potter 182.21; L7.250.3); 41 (Potter 208.11 [twice]; L7.268.6 [twice]); *Nat.Mul.* 63 (Trapp 114.9; L7.400.9); *Mul.* 1.78 (L8.196.15); κύλιξ δικότυλος: *Int.Aff.* 12 (Potter 114.15; L7.198.20); 27 (Potter 168.12; L7.238.21); κύλιξ τρικότυλος: *Int.Aff.* 3 (Potter 84.23; L7.176.19); κύλιξ τετρακότυλος: *Int.Aff.* 24 (Potter 152.21; L7.228.9); 28 (Potter 172.10; L7.242.6).

medication in a cloth, in wool or hare-hair, on a feather, on meat and the use of a thread is sometimes mentioned,<sup>47</sup> but these descriptions usually do not exceed two lines. For instance, *Diseases of Women* 1.84 – a long list of pessaries – gives this general advice on how to make pessaries: “Ὅσαι δὲ βάλανον προστίθενται, ἐμπήξαντα χρῆ τὸ πτερόν ἐς τὴν βάλανον, ἔπειτα ῥάκος περιθεῖναι λεπτόν ἐν εἰρίῳ, βάψασα ἐς ἄλειφα Αἰγύπτιον προστίθεσθαι.”<sup>48</sup>

Descriptions of vaginal applications are longer only when they depart from this general advice, as in the following example:

Καὶ ἦν ἐλκωθῆ καὶ φλύκταιναι ὧσιν ἐν τῇ καθάρσει, ἦν μὲν ἄκρα τὰ χεῖλεα ἐλκωθῆ, ἄνησιον καὶ χήνειον ἔλαιον ἐν ῥοδινῷ ἐλαίῳ τρίψας, ἐς εἴριον ἐνελίξας, σάρκα βοῦς λαβὼν παχύτερην τοῦ μεγάλου δακτύλου τοῦ ποδός, μήκος δὲ ἕξ δακτύλων, χρίσας τῷ φαρμάκῳ, περιελίξας τῷ εἰρίῳ, τὸ φάρμακον ἀνασπογίσας. Τὸ ἔσχατον τῆς σαρκὸς ὃ μέλλει ἔξω εἶναι, λίνῳ δήσας, ἔνθεσ τὸ ψιλὸν τῆς σαρκὸς ἐς μήτρας, οὐ ἂν ἔλκος ἦ.<sup>49</sup>

The instrument used to infuse liquids into the womb – the enema – is rarely mentioned in the gynaecological treatises;<sup>50</sup> and the long description of an enema at *Barren Women* 222 is unique:

Τούτῳ κλύζειν, κλυστήρα ἐπιτήδειον ποιησάμενος τὸ μὲν ἄκρον τοῦ κλυστήρος λεῖον ἔστω, οἶόν περ μήλης, ἀργύρεον· καὶ παρ’ αὐτὸ τετρυπήσθω τοῦ κλυστήρος

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<sup>47</sup> Εἴριον, wool: see for instance *Nat.Mul.* 109 (Trapp 128.7; L7.428.7); λίνον, linen thread: see for instance *Mul.* 1.75 (L8.168.10); ἐν λαγωῆσι θριξί, in hare hair: see for instance *Nat.Mul.* 97 (Trapp 121.7; L7.414.7); ῥάμμα, thread: see for instance *Mul.* 20 (L8.60.1); ὀθόνιον, linen cloth: see for instance *Mul.* 75 (L8.164.19); πτερόν, feather: see for instance *Mul.* 1.37 (L8.90.13); ῥάκος, cloth: see for instance *Steril.* 221 (L8.428.3).

<sup>48</sup> *Mul.* 1.84 (L8.208.4-6). Translation: ‘Every time one applies a pessary, it is necessary to stick a feather in the pessary, then to wrap it with a fine cloth and wool; dipping it in Egyptian ointment, let it be applied.’

<sup>49</sup> *Nat.Mul.* 108 (Trapp 125.16-22; L7.422.16-22). Translation: ‘If <the vagina?> is ulcerated and blistered during a purgation, or if the outer lips are blistered: aniseed, and goose oil; crush in rose oil and wrap in wool. Take a piece of beef, larger than the big toe and six fingers in length, smear it with the drug, wrap it with wool, soaking up the drug. Tie with a linen thread the extremity of the meat which has to be outside and insert the part of the meat that does not have the linen thread round it into the womb, where the ulceration is situated.’

<sup>50</sup> Κλυστήρ: *Mul.* 1.66 (L8.138.11); 2.179 (L8.362.10); 2.197 (L8.380.21 and 382.2); *Steril.* 222 (L8.430.2,3,4,6,7,20).

ἀπολεῖπον ὀλίγον τὸ τρῆμα· εἶναι δὲ καὶ ἄλλας ἐκτρήσιας, διαλειπέτω δὲ ἴσον ἐκάστη ἔνθεν καὶ ἔνθεν ἐκ τοῦ πλαγίου τοῦ κλυστήρος, καὶ μὴ μεγάλας, ἀλλὰ στενάς· τοῦ δὲ κλυστήρος ἢ μὲν κορυφή στερεῆ ἔστω, τὸ δὲ ἄλλο πᾶν κοῦλον ἔστω ὡς αὐλίσκος· δῆσαι δὲ χρὴ κύστιν συὸς θηλείης, ταύτην δὲ ψήσας εὖ μάλα· ἐπὶν δὲ προσδήσης, ἐγγέας τὸ γάλα ἐς τὴν κύστιν, ἐς τὰς τρήσιας ἐνθεῖς ῥάκος λεπτῆς ὀθόνης, ὅπως μὴ τὸ γάλα ῥέη· ἐπειδὴν δὲ πλήσης τὴν κύστιν, ἀποδῆσαι, καὶ δοῦναι τῇ γυναικὶ αὐτῇ, ἣν μέλλεις κλύζειν· κείνη δὲ ἐξελοῦσα τὸ βύσμα, ἐς τὴν μήτηρ ἐνθέσθαι· αὐτὴ δὲ εἰδήσει ὅκου δεῖ.<sup>51</sup>

The fact that this enema has an extremity made of silver probably indicates that it was an expensive instrument, available only to few.

To sum up, Hippocratic writers rarely mention the instruments and material necessary for the preparation and/or application of drugs. The forms of treatment for which instruments are most frequently described are the fumigation, fomentation and inhalation. These forms of treatment may have been less familiar to the readers of the Hippocratic collections of recipes than drinks, ointments, pessaries or suppositories, and infusions. For these other forms of medications, the Hippocratic authors only described material when it was unusual.

### 6.3.2 *Quantities: posology and metrology*

The way in which the quantities and posology are expressed in the recipes may also provide an insight into the therapeutic baggage expected from the readers of the Hippocratic recipes.<sup>52</sup>

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<sup>51</sup> *Steril.* 222 (L8.430.2-16). Translation: 'Inject this <preparation>, having prepared a fitting enema. Let the extremity of the enema be smooth, as it is for a probe, and made of silver. Let the aperture be pierced on its side, leaving the aperture small. Let there also be other holes, each at equal distance on each side of the enema; these holes must not be large, but narrow. Let the top of the enema be strong, and all the rest be hollow like a pipe. It is necessary to attach <to this> the bladder of a female pig, having scraped it properly. When you have attached the pipe, pour milk into the bladder, placing rags of fine linen in the holes so that the milk does not flow out. When you have filled the bladder, bind it and give it to the woman herself who needs the injection. This woman, having removed the linen, must introduce it into her womb; she will know where it must <be placed>.'

<sup>52</sup> On the problem of quantities in the Hippocratic Corpus, see Bratescu (1983); Gourevitch (1996); Grimaudo (1998): 71; Lloyd (1987): 247-257; Pellegrin (1992).

As pointed out earlier, many different systems of weights and measures are used in the collections of Hippocratic recipes, without any attempt at standardization.<sup>53</sup> To be able to use the Hippocratic catalogues of recipes, readers needed to be familiar with these different systems.

In the case of countable ingredients, (grains, seeds, eggs, etc.) quantities are sometimes given in exact numbers, which are usually multiples of three, four, five, and more rarely multiples of seven.<sup>54</sup> All these numbers were symbolically significant in antiquity:

Interest in the number seven seems to derive from the belief that there were seven planets, in five from the number of fingers on a hand (and, possibly, ten for similar reasons), in three, possibly from the tripartite division of the cosmos into air, land, and sea, and from the numbers of signs in the zodiac. Multiples of these

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<sup>53</sup> See Chapter Two, Section Four.

<sup>54</sup> Two or three twigs of *myrtidanon*: *Mul.* 1.34 (L8.82.6-7).

Three cantharides: *Acut.Sp.* 58 (Joly 94.14; L2.512.7); three mice: *Mul.* 2.185 (L8.366.7).

Three or four seeds of peony: *Nat.Mul.* 109 (Trapp 127.12; L7.426.12); three or four seeds of cypress: *Mul.* 2.192 (L8.372.7-8); three or four almonds: *Mul.* 2.200 (L8.382.17).

Four grains of peony: *Mul.* 2.136 (L8.308.8); *Steril.* 234 (L8.448.10); four cantharides: *Int.Aff.* 36 (Potter 194.21-22; L7.258.11-12); *Nat.Mul.* 8 (Trapp 76.1; L7.324.1); *Mul.* 2.135 (L8.306.17-18).

Five roots of asphodel: *Morb.* 2.38 (Jouanna 170.5-6; L7.54.7-8); five grains of pepper: *Morb.* 3.16 (Potter 92.10; L7.150.2); five leaves of squirting cucumber: *Int.Aff.* 46 (Potter 226.3; L7.280.9); five grains of peony: *Nat.Mul.* 6 (Trapp 74.9-10; L7.320.9-10); 32 (Trapp 90.7,10; L7.352.7,10); *Mul.* 1.59 (L8.118.14-15); 2.134 (L8.304.18-19); 2.135 (L8.306.18-19); five cantharides: *Nat.Mul.* 32 (Trapp 87.14-15; L7.346.14-15 and Trapp 94.2; L7.360.2) 109 (Trapp 128.3; L7.428.3); *Mul.* 1.74 (L8.158.16); 1.78 (L8.178.3; 182.14); 1.84 (L8.208.17); *Steril.* 221 (L8.426.14); five balls of goat dung: *Nat.Mul.* 32 (Trapp 89.9-10; L7.350.9-10); five grains of pepper: *Mul.* 1.84 (L8.206.12); five river crabs: *Mul.* 1.91 (L8.220.3-4); five juniper-berries: *Mul.* 2.199 (L8.382.11).

Seven seeds of ivy: *Mul.* 1.23 (L8.62.12); seven eggs: *Mul.* 1.75 (L8.164.10).

Nine grains of Cretan 'poplar': *Mul.* 1.78 (L8.182.3).

Ten grains from the fruit of peony: *Int.Aff.* 40 (Potter 206.6; L7.266.9); ten bouprestitis: *Nat.Mul.* 32 (Trapp 94.10; L7.360.10); ten bay-berries: *Mul.* 1.75 (L8.170.3).

Ten or twelve eggs of cuttle-fish: *Mul.* 2.133 (L8.2998.18-19).

Two times seven seeds of peony: *Superf.* 40 (Lienau 96.12-13; L8.508.1-2).

Fifteen eggs of cuttle-fish: *Nat.Mul.* 32 (L7.346.18); *Mul.* 1.78 (L8.178.6; 182.18); 1.84 (L8.208.20-21); fifteen <Cnidian?> grains: *Mul.* 2.158 (L8.336.7).

Thirty grains of pepper: *Nat.Mul.* 32 (Trapp 96, 1-2; L7.364.1-3); *Mul.* 2.205 (L8.394.8-9); thirty grains of sumach: *Nat.Mul.* 109 (Trapp 128.13-14; L7.428.13-14).

Forty grains of raisins: *Mul.* 1.109 (L8.230.16).

Sixty Cnidian grains: *Fist.* 7 (Joly 141.27; L6.454.11); *Nat.Mul.* 33 (Trapp 99.2; L7.370.2); *Mul.* 1.78 (L8.192.9; 196.1); 1.80 (L8.200.6).

numbers may also be regarded as significant (e.g. nine), as could numbers that exceeded a significant number by one (e.g. 13).<sup>55</sup>

In most cases, however, the quantities are not given at all. This happens even in the case of recipes involving toxic (such as hellebore or strychnos)<sup>56</sup> or extremely expensive ingredients. One may wonder why some recipes indicate quantities whilst others do not. Valeria Andò suggested that Hippocratic writers specified the quantities in chapters where there is no symptomatology or in long catalogues of recipes, whereas they did not give them in chapters where symptoms are described in detail.<sup>57</sup> However, Andò's hypothesis cannot be verified: many recipes in long catalogues of recipes do not include quantities, and inversely, recipes in chapters including detailed symptomatology sometimes specify quantities. These discrepancies can be explained by the fact that the compilers of the Hippocratic treatises gathered their recipes from a variety of sources, without attempting to harmonize them. Possible reasons for not mentioning quantities could range from concealing the 'secrets of the trade' to leaving dosage to the reader's judgement. The readers would determine the quantities of each ingredient, taking into consideration the condition of the patient, as recommended in the following recipe: Ἡ κυπαρίσσου καρπὸν ὅσον τρία ἢ τέσσαρα, καὶ μύρτα μέλανα καὶ ὁμοῦ καὶ αὐτὰ καθ' ἑωυτὰ, πρὸς ἰσχὺν τοῦ σώματος ὀρέων τῆς γυναικὸς, ζὺν οἴνω δὲ ἢ πόσις γενέσθω.<sup>58</sup>

The reader also had to determine the posology, i.e. the amount to administer, taking into account the condition of the patient and the strength of his/her disease: Ἄλλο ὁμοίως: δικτάμνου δεσμίδα καὶ δαύκου καρποῦ δραχμὰς δύο, καὶ μελάνθιον ἴσον, ἐν

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<sup>55</sup> Potter, D.S. (1996).

<sup>56</sup> As pointed out by Nutton (2004): 100, poisonous plants are not recommended very frequently in the Hippocratic Corpus. On poisonous plants, see also Girard (1990); Preus (1998); Lloyd (1983): 128.

<sup>57</sup> See Andò (2000): 56.

<sup>58</sup> *Mul.* 2.192 (L8.372.7-9). Translation: 'Three or four seeds of cypress, and black myrtle, together or separately, taking into consideration the strength of the woman's body; let it be drunk with wine.' On the importance of taking into account the patient's condition see also: *Steril.* 230 (L8.442.27-444.4): Πειρῶ δὲ φυσικὸς εἶναι, πρὸς τῆς ἀνθρώπου τὴν ἕξιν καὶ τὴν ἰσχὺν ὀρέων τούτων γὰρ οὐδεὶς σταθμὸς ἐστίν, ἀλλ' ἐξ αὐτέων τούτέων τεκμαιρόμενος πειρῶ, ὅλου τοῦ σώματος, κεφαλῆς καθάρσεις, φαρμακείησι, καὶ πυρίησι τῆς ὑστέρης καὶ προσθέτοισι χρῆσθαι. Translation: 'Attempt to be <a doctor> acting conforming to nature, taking into consideration the condition and strength of the woman. Indeed there is no measure (*stathmos*) for these things; however conjecturing from these, you must try to use, on the whole body and on the head purgations and evacuations, and on the womb fumigations and pessaries.' See Dean-Jones (2003): 111.

οἴνω λευκῶ, τρίψας λειῶν, δὸς πειῖν, καὶ λούσον θερμῶ πολλῶ· διδόναι δὲ πρὸς τὴν ἰσχὺν τοῦ νοσήματος.<sup>59</sup>

When both quantities and posology are specified, it usually appears that the quantities are sufficient for more than one administration of the drug, as in the following case: "Ἐτερον· καστορίου ἢ σαγαπήνου ὀβολὸν, ἀσφάλτου δραχμὴν μίαν, νίτρου δύο, πάντα τρίψας ἐν γλυκεῖ οἴνω καὶ ἐλαίῳ ὅσον ἡμικοτύλιον, δὸς πειῖν νήστει ὀβολοὺς δύο.<sup>60</sup> Eight *oboloi* of ingredients are used for this recipe, but only two *oboloi* are administered at a time. One can either suppose that this preparation (an expelling remedy) had to be administered on four consecutive days to be effective, or that the medication could be used on four different women. One of the late texts of the Hippocratic Corpus – *Decorum* (first or second century AD) – makes it clear that drugs should be prepared in advance:

Προκατασκευάσθω δέ σοι καὶ μαλαγμάτων γένεα πρὸς τὰς ἐκάστων χρήσιας, ποτήματα τέμνειν δυνάμενα ἐξ ἀναγραφῆς ἐσκευασμένα πρὸς τὰ γένεα. Προητοιμάσθω δὲ καὶ τὰ πρὸς φαρμακίην ἐς τὰς καθάρσιας, εἰλημμένα ἀπὸ τόπων τῶν καθηκόντων, ἐσκευασμένα ἐς ὃν δεῖ τρόπον, πρὸς τὰ γένεα καὶ τὰ μεγέθεα ἐς παλαιώσιν μεμελετημένα, τὰ δὲ πρόσφατα ὑπὸ τὸν καιρὸν, καὶ τᾶλλα κατὰ λόγον.<sup>61</sup>

Although some of the drugs recommended in the Hippocratic Corpus must have been prepared in advance, the way and place in which a preparation should be kept is

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<sup>59</sup> *Mul.* 1.78 (L8.184.14-17). Translation: 'Another, similarly: a handful of dittany, two *drachmai* of seed of *daukos* and the same amount of black cumin; crush well in white wine. Give to drink and cleanse <the patient> with lots of warm water. Give according to the strength of the disease.'

<sup>60</sup> *Mul.* 1.78 (L8.184.5-7). Translation: 'Another: one *obolos* of castoreum or sagapenum, one *drachma* of bitumen, two of soda; crush all these in sweet wine and oil, in the amount of half a *kotyle*. Give two *oboloi* to drink whilst fasting.'

<sup>61</sup> *Decorum* 10 (Jones 292.9-17; L9.238.7-13). Translation: 'You must have prepared in advance <different> types of emollients according to their uses, and prepare by chopping powerful draughts, made from a formula, according to their types. You must also make ready before hand purgative drugs, gathered from the appropriate places, and prepared in the appropriate way, according to their types and sizes, some treated so as to keep for a long time, others fresh for immediate use, and similarly for the other <drugs>.' For other ancient texts testifying to the practice of preparing drugs in advance, see Brain (1982).



rarely specified.<sup>62</sup> We will see that the physician did not always prepare drugs in advance, but asked his patients to prepare their own medicines.

The recipes for one form of medication almost always specify the posology: the injection, which should not exceed two *kotylai*, i.e. more or less a pint of liquid:

Κλύσμοι καθαρτικοὶ μητρώων, ἦν ἐκ τόκου ἐλκωθέωσιν ἢ φλεγμασίης· ὀλύνθους χειμερινούς, ὕδωρ ἐπιχέας καὶ ζέσας, ἀφείναι, καταστήναι, εἶτα ἔλαιον ἐπιχέαι χλιαρόν καὶ μίξαι, κλύσαι δὲ δύο κοτύλησι τὸ πλεῖστον· πάντα δὲ τὰ κλύσματα μὴ πλέονι κλύζειν.<sup>63</sup>

Lesley Dean-Jones noted that infusing such a large amount of liquid into the womb would have been particularly uncomfortable, although it is not clear whether the liquid should be injected at once, or little by little until the total amount has been administered.<sup>64</sup> She also pointed out that an amount of two *kotylai* corresponds with what the Hippocratic believed to be a normal menstrual blood loss. Since these authors thought that the womb filled up entirely with blood each month, it is safe to assume that they believed the normal capacity of the non-gravid womb to be of two *kotylai*.<sup>65</sup>

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<sup>62</sup> The place where the remedy should be kept is specified at *Steril.* 235 (L8.450.15-19). Ἴριν εὐώδεα κόψας καὶ διασήσας χωρὶς, κυπεύρου ἴσον, καὶ ἔκμαγμα ὅσον μαγίδα, οἴνω ἀνθοσμὴ δεῖναι· εἶτα ἀλειμματῶδες ποιέειν, καὶ ἐς σπλήνας ἀλείψας μῆκος σπιθαμῆς, ἐς σμικρὴν σιτυίδα ἐνθεῖς, ὅκως μὴ παρακνήη, προσθέσθω. Translation: 'Chop sweet-smelling iris and sift separately, the same amount of cyperus and one *magis* of saffron paste; soak with sweet-smelling wine. Then give <to this preparation> the consistency of an unguent; smear it on compresses, a span in size; place in a little box so that <the preparation> does not lose its smell. Let it be applied.' See also *Mul.* 2.104 (L8.228.8); text quoted below.

<sup>63</sup> *Mul.* 1.78 (L8.188.24-190.4). Translation: 'Purgative enemas for the womb if it is ulcerated after birth or if there is inflammation: winter wild figs; cover with water, boil, sieve and leave to rest. Then add lukewarm oil and mix; inject two *kotylai* at the most. No enema should exceed this amount.' See also *Mul.* 2.209 (L8.404.21-406.1): Πλέον δὲ κλύσμα δύο κοτύλαι μηδενὶ ὡς ἔπος εἰπεῖν. Translation: 'An enema of more than two *kotylai* should be used on no-one, so to say.' There are rare exceptions of enemas of more than two *kotylai*: see for instance *Nat.Mul.* 33 (Trapp 99.11-12; L7.370.11-12): Κλύζειν δὲ, ἦν δέη, κλυσμῶ πλέον ἢ δυοὶ κοτύλαις. Translation: 'If necessary make an injection of more than two *kotylai*.'

<sup>64</sup> See Dean-Jones (1989): 182; (1994): 91. See also King (2002): 565.

<sup>65</sup> Dean-Jones (1994): 86-94. See *Mul.* 1.6 (L8.30.8-9). Μέτρια δ' ἐστὶ πάση γυναικὶ χωρέειν, ἦν ὑγιαίνη τὰ ἐπιμήνια ἐλθόντα ὅσον κοτύλαι δύο Ἀττικαὶ ἢ ὀλίγω πλέονα ἢ ἐλάσσονα. Translation: 'For any healthy woman, an average amount of menstrual blood is two *kotylai*, or a little more or a little less.' This is very heavy blood-loss: See Hanson (1975): note 12; King (1995b): 210-211; King (2002).

### 6.3.3 Conclusions

Information about the instruments used for the preparation of the Hippocratic recipes, quantities and posology were often left to the appreciation of the readers. When quantities and posology are specified they are symbolically significant. Many other elements were often 'left out' of the Hippocratic recipes: how long it takes to prepare the drug, how long it has to stand, how many times it has to be stirred, etc. Recipes specifying these particulars are exceptionally rare:

Ἔτερον ὄμφακὸς χυλὸς, καὶ σποδὸς κυπρὴν· τὴν ὄμφακα ἀκμάζουσιν χρὴ ἐκπέσαι τὸν χυλὸν δι' ὀθονίου ἐς χαλκὸν ἐρυθρὸν, καὶ μῖξαι ὄξεος τρίτον μέρος λευκοῦ ὡς ὄξυτάτου, καὶ οὕτω καθεψεῖν ἐν τῷ ἡλίῳ, καὶ ἀναταράσσειν πεντάκις τῆς ἡμέρης· ὅταν δὲ παχὺς γένηται ὁ χυλὸς, σποδὸν τῆς κυπρῆς τῆς χαλκίτιδος λείην ἐμβαλεῖν καὶ ἀναμίξαι, ἐμβάλλειν δὲ τὴν σποδὸν, ὅταν ἑκταίος ἢ ἑβδομαίος ὁ χυλὸς ἐν τῷ ἡλίῳ κείμενος ἦ, ἐς κοτύλην Ἀττικὴν τοῦ χυλοῦ τῆς σποδοῦ δραχμὰς ὀκτώ· ἐὰν δὲ βούλη δριμύτερον εἶναι, ἐλάσσω τὴν σποδὸν· ἐὰν δὲ μαλθακώτερον, πλέω· μετὰ δὲ ταῦτα ξηραίνειν, ἄχρις οὐ δυνατὸν διαπλάσαι φθόεις· εἶτα ἐγξηραίνειν, κρεμάσας ἄνω ὑπὲρ καπνοῦ, καὶ οὕτω ξηραίνειν μέχρις οὐ ὀστρακῶδες γένηται, ὥστε τριβόμενον μὴ ξυστρέφεσθαι, εἴθ' οὕτως, χρῶ· κείσθω δὲ ὄκου ἰκμάδα μὴ ἔξει.<sup>66</sup>

One may wonder whether recipes of this kind are the rule or the exception, whether composing drugs was always such a long process, or whether most Hippocratic recipes were quickly prepared.

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<sup>66</sup> *Mul.* 2.104 (L8.226.21-228.8). Translation: 'Another: juice of unripe grape and ash of copper. It is necessary to squeeze the juice of the flourishing unripe grape through a cloth into a red copper vessel, and add a third part of white vinegar, as sharp as possible; in this way dry up in the sun, stirring five times a day. When the juice has become thick, add the fine ash of copper from Cyprus and mix together (add the ash when the juice has remained six or seven days in the sun): eight *drachmai* of ash for one Attic *kotyle* of juice. If you want <this preparation> to be sharper, <use>less ash; if you want it to be milder, more. After this, dry until it becomes possible to mould pastilles. Then dry out, hanging <the pastilles> above a smoking fire; dry them in this way until they take the consistency of an earthen pot, so that when you crush them they do not gather together. Use in this way. Keep <the preparation> in a place where there is no humidity.'

In addition, it should be noted that botanical information is almost never given in the recipes. When several varieties of plants existed, the recipes rarely specify which particular variety is to be used. For instance, when hellebore is listed in recipes, it is rarely mentioned whether one need to use the black or the white variety.<sup>67</sup> None of the extant treatises of the Hippocratic Corpus is devoted to the description of the medicinal properties of plants and other ingredients. To approach the recipes, the reader needed an extensive knowledge of *materia medica*. In particular, he needed to know that the art of pharmacology required taking into account many variables, as expressed by the author of *Epidemics II*:

Φαρμάκων τρόπους ἴσμεν, ἐξ ὧν γίνεται ὀκοῖα ἄσσα· οὐ γὰρ πάντες ὁμοίως, ἀλλ' ἄλλοι ἄλλως εὖ κέονται· καὶ ἄλλοθι πρωϊαίτερον ἢ ὀψιαίτερον ληφθέντα· καὶ οἱ διαχειρισμοὶ, οἶον ἢ ξηρᾶναι, ἢ κόψαι, ἢ ἐψησαι· καὶ τὰ τοιαῦτα, ἐὼ τὰ πλείστα· καὶ ὀκόσα ἐκάστω, καὶ ἐφ' οἷσι νουσήμασι, καὶ ὀκότε τοῦ νουσήματος, ἡλικίην, εἶδεα, δίαιταν, ὀκοίη ὠρη ἔτεος, καὶ ἥτις καὶ ὀκότως ἀγομένη, καὶ τὰ τοιαῦτα.<sup>68</sup>

If recipes took into account all these variables, their format would become incredibly cumbersome. The compilers of the Hippocratic recipes opted for a 'lighter' format, which required from their readers a certain amount of expertise in the art of pharmacology.

The Hippocratic recipes leave out more elements than they expose;<sup>69</sup> it seems that we are faced with the bare bones of the recipes, short *aide-mémoires*, or in Jack Goody's formulation, *recettes de base* – the missing elements had to be supplied by the reader. One could suggest that all these elements have been omitted in order to conceal secrets of the trade, but as noted by Pamela Long, 'concrete evidence for craft secrecy in antiquity

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<sup>67</sup> White hellebore: see for instance *Morb.* 3.15 (L7.140.22); black hellebore: see for instance: *Steril.* 230 (L8.442.21); variety not specified: see for instance: *Ulc.* 16 (Duminil 65.7; L6.420.6). See Lloyd (1983): 127.

<sup>68</sup> *Epid.* 2.3.2 (Smith 50.1-8; L5.104.6-12). Translation: 'We know the characteristics of drugs, from which are produced such effects. For they are not all similarly good; but different <characteristics> are good in different conditions. In different places, <plants> are gathered either earlier or later. And manipulations <also differ>, such as drying, chopping or boiling – I omit most things of the sort; and how much for each patient, for which diseases, at what point of the disease, the age, appearance, regimen, which season of the year, of which kind it is and in which way it is developing, and so on and so forth.' On these variables, see Dean-Jones (2003): 111; Lloyd (1987): 253; Nutton (2004): 99.

<sup>69</sup> See Langholf (2004): 252.

is exceedingly sparse'.<sup>70</sup> On the other hand, Long stresses the fact that technical knowledge such as pharmacology can only be taught through practice: 'Written or spoken instructions can introduce the subject but cannot actually transmit it. Only through learning the technique itself through practice can one truly know it. The "secrets" of these crafts are synonymous with the "techniques"'.<sup>71</sup> In order to master fully these techniques, a long apprenticeship was certainly involved, coupled with an extensive use of memory. The author of *Decorum* stresses the importance of memory in the art of pharmacology:

Ἔστω δέ σοι εὐμνημόνευτα φάρμακά τε καὶ δυνάμεις ἀπλαῖ καὶ ἀναγεγραμμένοι, εὔπερ ἄρα ἐστὶν ἐν νόῳ καὶ τὰ περὶ νούσων ἰήσιος, καὶ οἱ τούτων τρόποι, καὶ ὄσαχῶς καὶ ὄν τρόπον περὶ ἐκάστων ἔχουσιν· αὕτη γὰρ ἀρχὴ ἐν ἱητρικῇ καὶ μέσα καὶ τέλος.<sup>72</sup>

It seems that the novice in pharmacology would have gained nothing from reading the preserved Hippocratic recipes.<sup>73</sup> An obvious audience for the Hippocratic collections of recipes would have been the *iatroi*, people who made a living from the practice of medicine.<sup>74</sup> *Iatroi* sometimes possessed their own books. A tombstone from the second century AD (?) may be interpreted as representing a physician in his surgery, in his *iatreion*: it shows a young man with a series of medical instruments and at least three book-rolls.<sup>75</sup> However, a physician did not need to possess books to benefit from the Hippocratic collections of recipes; he did not even necessarily need to be literate: the Hippocratic treatises could be read aloud by a master to a group of students in medicine: reading aloud was, as noted in the introduction to this chapter, far from unusual in

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<sup>70</sup> Long (1991): 860. Craik (1996): 180 and Langholf (2004): 256 suggested that secrecy might be one of the reasons for the omission of so much information in the Hippocratic recipes.

<sup>71</sup> Long (1991): 860. See also Barras (2004): 98.

<sup>72</sup> *Decorum* 8-9 (Jones 293.3-8). Translation (Jones): 'Keep well in your memory drugs and their properties, both simple and compound, seeing that after all it is in the mind that are also the cures of diseases; remember their modes, and their number and variety in the several cases. This in medicine is beginning, middle and end.' On the importance of memory in antiquity, see Small (1997).

<sup>73</sup> See Althoff (1993): 220; Kudlien (1970): 5. On the fact that medieval collections of recipes could not have trained novices, see Eamon (1994): 33.

<sup>74</sup> See Lloyd (1983): 72.

<sup>75</sup> Archäologische Sammlung der Universität Freiburg, Inv. S 535. For other tombstones with representations of doctors and bookrolls, see Birt (1907): 262-263; Hillert (1990): number 9 (p. 94-97, illustration 14; late first century BC) and number 29 (p. 155-159, illustration 32; c. 300 AD).

antiquity. Now, one could imagine that the person performing the reading could stop at times to supplement information, for instance to fill the gaps left in the recipes or to give some information on the ingredients of the recipes. Listeners could store medical information and recipes in their memory.<sup>76</sup> In addition, if one of the students was literate, but not able to afford a medical book, he could write down a selection of recipes on a sheet of papyrus, an ostrakon or a wooden tablet.

However, if we may believe the author of *Affections*, not all medical books were geared towards ‘experts’, and even the fact that the collections of gynaecological recipes were very specialised does not necessarily imply that these collections were read by the *iatros* only. Several comments made by ancient philosophers indicate that people, who could not claim for themselves the label ‘*iatros*’, were interested in reading medical texts. Plato, for instance, writes the following in his *Phaedrus*: Εἰπεῖν ἂν οἶμαι, ὅτι μαίνεται ἄνθρωπος, καὶ ἐκ βιβλίου ποθὲν ἀκούσας ἢ περιτυχὼν φαρμακίῳς ἰατρὸς οἴεται γεγονέναι, οὐδὲν ἐπαίῳν τῆς τέχνης.<sup>77</sup>

A generation later, Aristotle proffered the same opinion – one cannot learn the art of medicine from books, this can only be learnt through practice:

Οὐ γὰρ φαίνονται οὐδ’ ἰατρικοὶ ἐκ τῶν συγγραμμάτων γίνεσθαι. Καίτοι πειρῶνται γε λέγειν οὐ μόνον τὰ θεραπέυματα, ἀλλὰ καὶ ὡς ἰαθεῖεν ἂν καὶ ὡς δεῖ θεραπεύειν ἐκάστους, διελόμενοι τὰς ἕξεις· ταῦτα δὲ τοῖς μὲν ἐμπείροις ὠφέλιμα εἶναι δοκεῖ τοῖς δ’ ἀνεπιστήμοσιν ἀχρεῖα.<sup>78</sup>

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<sup>76</sup> See Dean-Jones (2003): 113.

<sup>77</sup> Plato, *Phaedrus* 268c. Translation: ‘They would say, I think, this man is mad because he has heard somewhere from a book or happened to fall upon some remedies, and he thinks he has become a physician, understanding nothing of the art.’ On this text, see Boudon (2004): 199. A similar thought is attributed to Diocles: see Diocles fr. 6 (van der Eijk): Διοκλῆς ὁ ἰατρὸς λέγοντος αὐτῷ τινος βιβλίον ἠγορακέναι ἰατρικὸν καὶ μὴ προσδεῖσθαι διδασκαλίας εἶπε· Τὰ βιβλία τῶν μεμαθηκότων ὑπομνήματά εἰσι, τῶν δὲ ἀμαθῶν μνήματα. Translation: ‘When someone told Diocles the physicians that he had bought a medical book and that he no longer needed teaching, Diocles said: “Books are reminders for those who have learnt, but for the ignorant they are tombstones.”’ For commentary, see van der Eijk (2001): 11-12.

<sup>78</sup> Aristotle, *Ethica Nicomachea* 9.9 (1181b2-6). Translation: ‘Indeed one does not appear to become skilled in the art of medicine through books (*syngrammatōn*). And yet they attempt to describe not only the cures, but also how they might cure and how it is necessary to treat each individual, distinguishing his condition. But while these things seem useful to men of experience, they are useless to the inexperienced.’

One of Socrates' ironic comments reported by Xenophon implies, however, that some people attempted the impossible – to become a physician through reading the numerous medical books in circulation: Τί δὲ δὴ βουλόμενος ἀγαθὸς γενέσθαι, ἔφη. ὦ Εὐθύδημε, συλλέγεις τὰ γράμματα; ἐπεὶ δὲ διεσιώπησεν ὁ Εὐθύδημος σκοπῶν ὅτι ἀποκρίναιτο, πάλιν ὁ Σωκράτης: Ἄρα μὴ ἰατρός; ἔφη: πολλὰ γὰρ καὶ ἰατρῶν ἐστὶ συγγράμματα.<sup>79</sup>

Although a literate layman could probably not become an *iatros* by reading books, he could, as suggested by the preface of *Affections*, learn to help himself in diseases and to choose the best physician for his family members and slaves.<sup>80</sup> Some literate laymen might have possessed enough of the prerequisite knowledge to 'fill in the gaps' in the recipes included in the *Pharmakitis*, i.e. the recipe book that was once attached to the treatise *Affections*. Whether these laymen took the time necessary to read the more 'specialised' gynaecological treatises is more doubtful, although not entirely impossible: once a book was in circulation, its 'author' could not control its readership.<sup>81</sup>

Here again, literacy was not a *sine qua non* condition for 'reading' medical treatises. Plato, in the *Phaedrus* passage quoted above uses the expression 'hearing from a book' (ἐκ βιβλίου ποθὲν ἀκούσας), indicating that medical texts – or texts containing medical information – were read aloud to groups of people including non-*iatroi*.

Several questions, however, remain unanswered: who organised and 'advertised' such reading reunions, where did they take place, were there readings for 'students of medicine' only, and others to which 'anyone' could assist? In particular, one may wonder whether midwives benefited from readings of the gynaecological treatises. Several scholars, indeed, have argued that midwives either read for themselves or were taught the content of these treatises.<sup>82</sup> Nancy Demand even interpreted a sentence of *Diseases of Women* 1.34 (Οὐ χρὴ στύφειν, οἶα οἱ ἰητροὶ ποιέουσιν.) as direct advice from the author

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<sup>79</sup> Xenophon, *Memorabilia* 4.2.10. Translation: '<Socrates:> "Tell me, Euthydemus, what kind of benefit do you want to get by collecting these books (*grammata*)?" And as Euthydemus remained silent, considering what to answer, Socrates again said: "Maybe <you want to become> a doctor? Indeed there are many medical treatises (*syngrammata*)."'

<sup>80</sup> See Hanson (1992): 235.

<sup>81</sup> See Kenney (1982): 11.

<sup>82</sup> See Drabkin (1944): 34; Demand (1994): 66-68; (1995): 287; Grensemann (1975): 9; Kudlien (1970): 8; Stannard (1961): 518. Harris (1989): 106-107 concluded that midwives were illiterate. Demand (1994): 67, on the other hand, argued that midwives were craft-women, and since it is among craft-people that the highest rates of literacy have to be found in antiquity, there is no a priori reason to assume that midwives were illiterate.

to the midwives not to act as male doctors.<sup>83</sup> Helen King, however, pointed out that passages where doctors are criticised for their actions are not rare in the Hippocratic treatises in general, and in the gynaecological treatises in particular. The passage at *Diseases of Women* 1.34 should be read as a sign of the competitive nature of Hippocratic medicine rather than as unquestionable evidence for an audience of midwives.<sup>84</sup> We have also seen in Chapter Four that midwifery did not appear as a well-defined medical profession in the fifth century BC. It is therefore doubtful that the Hippocratic gynaecological treatises and their catalogues of recipes were originally designed as instruction manuals for midwives, when they were first written down in the fifth century BC. On the other hand, there is no strong argument against the suggestion that women were sometimes present at the reading of medical works, or that they sometimes read these works for themselves. The female doctor Phanostrate must have been a wealthy woman to afford such a beautiful tombstone; to suggest that she could have been literate is by no means extravagant.<sup>85</sup>

The authors of the gynaecological and nosological treatises might have made the deliberate decision not to specify the audience for whom they were writing. They probably composed their treatises with an audience of *iatroi* in mind, but they knew that medical and pharmacological knowledge was not the possession of the *iatroi* only, and that other people might have shown interest in their treatises. In particular, these authors did not wish to exclude from their possible audiences literate laymen, such as the people who frequented Socrates or other sophists.

Although the reader of the Hippocratic recipes – whether he was a medical practitioner or a layman – had to be familiar with the ingredients and techniques described in the recipes, he needed not necessarily be skilled in the gathering of herbs and in the preparation of drugs. He could buy the required ingredients from the herb gatherer or drug seller, and could delegate the task of preparing the medication to assistants or even to his patients, as we will examine now.

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<sup>83</sup> *Mul.* 1.34 (L8.80.20-21). Translation: 'Do not use astringents as doctors do.' See Demand (1994): 66; (1995): 287.

<sup>84</sup> King (1998): 178. On criticism of doctors in the gynaecological treatises, see also Lloyd (1983): 80.

<sup>85</sup> See Chapter Four, Section Three for more details on Phanostrate.

#### 6.4 *The involvement of the female patient in her cure: An analysis of the feminine participles in the gynaecological treatises*

I have suggested that the Hippocratic authors might have deliberately chosen not to identify their audience, in order not to limit it to one particular group of people. It is probably for the same reason that, when these authors give orders to their readers (generally using the second person singular, or the imperatival infinitive), they do not use definite subjects, such as ‘the doctor’ or ‘the midwife’, etc. These authors knew that an array of people were able to perform the medical tasks they were describing, and chose not to specify who should execute them.

Similarly, when a third party was involved in a medical task, his/her identity was generally not specified by the Hippocratic authors. In the surgical treatises, the surgeons’ helpers are designated by the words *τις*, *ἄλλος τις*, and *ἕτερός τις*.<sup>86</sup> In gynaecological texts, female helpers are sometimes referred to with the vague expressions *ἕτερη γυνή* (another woman) or *ἕτεραι γυναῖκες* (other women) – whether these women were midwives or simply family members who happened to be at hand is not specified.<sup>87</sup> In many cases, however, the subject ‘a woman’ is not even mentioned, and feminine participles indicate that the action is undertaken by a woman.

As noted by Geoffrey Lloyd, Hanson and Dean-Jones, feminine participles are frequently used in descriptions of internal examinations.<sup>88</sup> These scholars have pointed out that the interpretation of these feminine participles is problematic in three ways. First, it is sometimes difficult to know whether feminine participles refer to the female patient herself or a female assistant. Feminine participles referring to the action of examining the womb are usually in the middle voice, indicating that the patient should perform this examination herself; but active participles are sometimes used, leaving us wondering whether the patient herself or another woman should perform the action. Hanson argued that ‘the Hippocratic narration may have intended some of this ambiguity in order for

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<sup>86</sup> See Hanson (1996b): 171, note 50 for references.

<sup>87</sup> See *Epid.* 5.25 (Jouanna 15.24; L5.224.12); *Mul.* 1.21 (L8.60.16); *Steril.* 213 (L8.408.17); *Foet.Ex.* 4 (L8.514.15,17; 516.4,5). See Hanson (1996b): 171.

<sup>88</sup> Dean-Jones (1994): 35-36; Hanson (1996b); Lloyd (1983): 70-75. On feminine participles in descriptions of childbirths, see Hanson (1994): 175-176.



their narratives to correspond to variations in circumstances.<sup>89</sup> Second, abrupt changes from a feminine participle form to a masculine participle within a sentence are not rare, making it very difficult to tell who was to execute which medical action.<sup>90</sup> And third, the gender of the person performing the examination can only be determined in a limited number of cases: in most cases instructions are given under the form of an infinitival imperative and are therefore genderless.

I will here conduct a grammatical enquiry on the feminine participles included in the gynaecological recipes, a much larger body of sources than the descriptions of internal examinations, which has never received systematic treatment.<sup>91</sup> I first examine whether there is a pattern in the use of these feminine participles, and whether this pattern – if any – can lead us – or not – to determine a typology of therapeutic actions performed by women – and men – in the Hippocratic gynaecologies, or in other words a ‘division of labour’. Can we say, for instance, as Lloyd did, that the doctor relied on the patient herself, or another woman ‘where simple and straightforward procedures such as, for example, the application or removal of a pessary, are concerned’;<sup>92</sup> or were women also involved in more complicated procedures? Finally, after having stressed some possible pitfalls in the use of grammar for gender history, I try to understand what it exactly means to see women involved in gynaecological procedures in the Hippocratic treatises.

Feminine participles appear most frequently in relation with one form of medication: the pessary or the vaginal application. The act of applying a pessary is sometimes expressed by a feminine participle: Ἐκβολιον· κορίαννον ξὺν τῇ ῥίζῃ καὶ νίτρον καὶ νέτωπον προσθεμένη περιπατεῖτω.<sup>93</sup> The use of the middle voice in this example indicates that the patient herself has to apply the pessary.

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<sup>89</sup> Hanson (1996b): 170.

<sup>90</sup> Lloyd (1983): 75, note 65 considers these switches of subject inconclusive: ‘The frequency of abrupt changes in subject suggests that these authors themselves were often unconcerned to mark them with care.’

<sup>91</sup> The use of feminine participles in therapies was noted by Andò (2000): 34; Dean-Jones (1995): 54-55; Goltz (1974): 177-179; Lloyd (1983): 74 and note 63.

<sup>92</sup> Lloyd (1983): 74.

<sup>93</sup> *Mul.* 1.78 (L8.188.17-18). The feminine participles are underlined in this example and those following. Translation: ‘Expelling: coriander with its root, soda; having applied it, let her walk around.’ Προσθεμένη is also used at *Epid.* 1.3.13.4 (L2.692.7); 4.1.30 (Smith 126.10; L5.174.7); *Nat.Mul.* 8 (Trapp 75.21; L7.322.21); *Steril.* 219 (L8.424.3); *Steril.* 221 (L8.428.10-11); *Superf.* 25 (Lienau 82.4; L8.488.17). Προσθεμένην: *Steril.* 221 (L8.428.13).

Feminine participles in the middle voice are also used to signify that the patient should remove the pessary, as in this example: Ὀκόταν δὲ δάκνη, ἀφαιρευμένη, ἐς ῥόδιον μύρον ἐμβάπτουσα, προστιθέσθω.<sup>94</sup> Feminine participles in the active voice for verbs meaning ‘to apply’ or ‘to remove’ are rarely used in the gynaecological recipes.<sup>95</sup> The second feminine participle in this injunction (ἐμβάπτουσα) is in the active voice, suggesting that this action can be performed either by the patient or by ‘another woman’ present in the room.<sup>96</sup>

The wrapping of a pessary in wool is also often expressed by feminine participles in the active voice: Προσθετόν· Αἰγυπτίην στυπηρίην μαλθακὴν εἰρίῳ περιελήσασα προστιθέσθω.<sup>97</sup>

Most of the time, the actual recipe of the pessary would use either imperatival infinitives or masculine participles, as in this remedy to cleanse the womb:

Σμύρνης ὡς ἀρίστης ἥμισυ, καὶ ἀλὸς χόνδρον ὁμοίως, πίσσαν ἡδυντὴν φλάσας, μίξας τε λεία, ἔστω δὲ τὸ τῆς σμύρνης τὸ ἥμισυ τοῦ ἀλὸς καὶ τῆς πίσσης, ἐμβάλειν δ’ ἐς ῥάκος, τῆς πεφλασμένης μέγεθος ὅσον κικίδα μεγάλην· δύο δὲ ἔστω, ὡς τὸ μὲν ἡμέρης ἔχειν, τὸ δὲ εὐφρόνης, ἔστ’ ἂν κατατακῆ· λουέσθω δὲ θερμῷ, εἶτα ἀφαιρέουσα διανιζέσθω ὕδατι εὐώδει.<sup>98</sup>

<sup>94</sup> *Nat.Mul.* 32 (Trapp 88.20-89.1; L7.348.20-350.1). Translation: ‘When it bites, let her remove it <sc. the pessary>, let her dip it in rose perfume, and apply it again.’ See also: Medium voice: ἀνελομένη: *Mul.* 2.221 (L8.428.9-10); ἀφαιρευμένη: *Nat.Mul.* 109 (Trapp 129.13; L7.430.13); *Mul.* 1.84 (L8.204.22); ἀφαιρευομένη: *Nat.Mul.* 109 (Trapp 129.4; L7.430.4); ἀφαιρευομένην: *Mul.* 1.84 (L8.206.6); ἀφελομένην τὴν γυναῖκα: *Mul.* 1.66 (L8.138.14); ἀφελομένη: *Mul.* 1.84 (L8.206.4).

<sup>95</sup> ‘To apply’: προσθεῖσα (application of sponges to the vaginal area): *Mul.* 2.144 (L8.318.1); προστιθεῖσα: *Mul.* 1.37 (L8.92.7). ‘To remove’: ἀφαιρέουσα: *Mul.* 1.88 (L8.212.11-12); 2.133 (L8.290.3).

<sup>96</sup> See also: ἀποβάπτουσα: *Mul.* 1.78 (L8.178.1); 2.158 (L8.334.21); ἀποβάσασα: *Mul.* 1.84 (L8.206.13); βάσασα: *Mul.* 1.84 (L8.206.17-18 and 208.6); *Superf.* 33 (Lienau 92.12; L8.502.8); ἐμβάπτουσα: *Nat.Mul.* 32 (Trapp 88.20; L7.348.20); ἐμβάσασα: *Mul.* 1.91 (L8.218.14); 2.235 (L8.450.6); ἀναδεύσασα: *Mul.* 2.158 (L8.336.16); ἀνασπογγίζουσα: *Nat.Mul.* 74 (Trapp 116.14; L7.404.14); ἐνστάσασα: *Mul.* 1.91 (L8.218.17).

<sup>97</sup> *Superf.* 35 (Lienau 94.24-25; L8.506.8-9). Translation: ‘Pessary: Soft Egyptian alum; let her apply it, having wrapped it with wool.’ See also ἀμφιελίξασα: *Mul.* 2.162 (L8.340.13); ἀναδήσασα: *Mul.* 2.203 (L8.388.4); ἀναφορύσασα: *Mul.* 2.205 (L8.394.4); ἀποδήσασα: *Mul.* 2.175 (L8.358.3); *Superf.* 33 (Lienau 92.12; L8.502.9); 42 (L8.508.8); ἐλίξασα: *Mul.* 1.75 (L8.166.8 and 10); περιελίξασα: *Mul.* 1.91 (L8.220.14-15).

<sup>98</sup> *Mul.* 1.88 (L8.212.7-12). Masculine participles and infinitives are underlined twice in this example. Translation: ‘Half a portion of excellent myrrh, and grains of salt similarly, seasoned pitch, let him crush <these ingredients>, mix them well (let the amount of myrrh be half the amount of salt and pitch). Put in a cloth a quantity of a big oak-gall of this mixture. Let there be two <pessaries>: one for the day and one for

Here the use of masculine participles in the first part of the recipe seems to imply that a man was expected to prepare the drug.

However, in a limited number of cases, all the actions of the recipe are expressed with feminine participles, implying that a woman has to prepare the remedy, as in the following example: Ἄλλο πρόσθετον τοῦ κισσοῦ τοῦ λευκοῦ τὸν καρπὸν καὶ κέδρου πρίσμα τρίψασα καὶ βαλάνια ποιήσασα προστιθέσθω.<sup>99</sup> As pointed out in Chapter Four, these feminine participles appear in pessary recipes involving both commonly available ingredients and expensive, exotic products.<sup>100</sup>

Feminine participles are also used in recipes for remedies to be taken by mouth: drinks or simple meals that often constitute the second part of the Hippocratic gynaecological treatments, as in the following examples:

Καὶ τῶν πράσων καὶ τῶν κραμβῶν ἐσθιέτω, συνεψοῦσα τοῦ κυτίσου τὰ φύλλα, καὶ τὸν χυλὸν ῥοφείτω.

Ἦν γάλα ἀποσβεσθῆ· τὸν ἐλελίσφακον ἐψοῦσα, καὶ τῶν κεδρίνων ἢ τῶν ἀρκευθίδων παρεμβάλλουσα, ἀποχέασα τὸν χυμὸν καὶ οἶνον ἐπιχέασα, πινέτω· ἐς τὰ λοιπὰ ἄλευρον ἐμβαλοῦσα καὶ βολβόν, καὶ ἐλαίου μικρὸν ἐπιχέασα, ἐσθιέτω.<sup>101</sup>

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the night; let it stay until it melts. Let her bathe in warm water; then having removed the pessary, let her wash herself with perfumed water.'

<sup>99</sup> *Mul.* 1.78 (L8.186.14-16). Translation: 'Another pessary: let her crush the seed of the white ivy and sawdust of cedar, make pessaries and apply them.' For τρίψασα see also: *Mul.* 1.75 (L8.166.8,10,21); 1.78 (L8.176.12 and 186.7,12,14); *Steril.* 228 (L8.436.24); *Superf.* 33 (Lienau 92.4; L8.502.1); 42 (L8.508.8). See also τρίβουσα: *Mul.* 1.13 (L8.52.15); 1.37 (L8.92.3); 2.175 (L8.358.4); *Steril.* 242 (L8.456.12); ξυντρίψασα: *Mul.* 1.78 (L8.188.11); ἀποκολούσασα: *Nat.Mul.* 8 (Trapp 76.1-2; L7.324.1-2); ἐμπλάσασα: *Mul.* 1.78 (L8.178.13); ἐπιχέασα: *Mul.* 1.37 (L8.92.4); ἐψήσασα: *Superf.* 25 (Lienau 82.4; L8.488.18); θερμήσασα: *Steril.* 219 (L8.424.5); μαλθάξασα: *Steril.* 219 (L8.424.6); *Superf.* 25 (Lienau 82.5; L8.488.19); μίξασα: *Mul.* 1.78 (L8.186.13); *Superf.* 33 (Lienau 92.11; L8.502.7); μίσγουσα: *Steril.* 227 (L8.436.14); ξυμμίξασα: *Mul.* 1.81 (L8.202.12); ξυμμίσγουσα: *Mul.* 1.74 (L8.156.4); ποιήσασα βάλανους: *Mul.* 1.78 (L8.188.12); συμμίσγουσα: *Nat.Mul.* 74 (Trapp 116.14; L7.404.14); τήξασα: *Mul.* 2.157 (L8.334.8); χρίσασα: *Mul.* 2.173 (L8.354.5).

<sup>100</sup> See Chapter Four, Section Four.

<sup>101</sup> *Nat.Mul.* 93 (Trapp 119.15-21; L7.410). Translation: 'Let her eat some leeks and cabbages, boiling them together with the leaves of tree-medick; let her drink the juice. If the milk disappears: let her boil sage, add cedar-berries and juniper-berries, pour off the juice and add wine; let her drink. For the rest, let her add barley-meal and the bulb, pour a little oil over it; let her eat it.' These recipes have a parallel at *Mul.* 1.44 (L8.102.11-15) which includes the feminine participles ἀποχέουσα and ἐπιχέουσα (twice). Other feminine participles used in recipes for drinks or dietary prescriptions: διεῖσα: *Mul.* 1.77 (L8.172.13); 2.147

It is safe to assume that any Greek woman would have had the necessary skills for preparing such simple remedies. In addition, these recipes only list simple ingredients that were available on every market of Greece, or indeed in every household's garden, and therefore within reach of most women.

Recipes for fumigations or fomentations sometimes include feminine participles: these are limited to the final actions of the procedure and actions that only the patient can perform (such as sitting on the fumigation apparatus), as in the following examples:

Ἔτερα θυμητά: ὀρύξαι χρῆ βόθρον, καὶ φῶξαι ὅσον δύο χοίνικας Ἀττικὰς γιγάρτων, τῆς σποδιῆς ἐπιβαλὼν ἐπὶ τὸν βόθρον, οἴνω τε ἐπιψεκᾶσαι εὐώδει, καὶ ἀμφικαθεζομένη καὶ διαπλίζασα θυμηθήσθω.

Ἡ τὸ λεγόμενον οἰσύπη αἰγὸς ξηρὰ κόψαι καὶ φῶξαι ξὺν κριθέων ἐρίγματι ἐλαίῳ φυρήσασα, θυμηῆν.<sup>102</sup>

In the first recipe, the only actions expressed by means feminine participles are actions that the female patient must perform herself (seating and taking her legs apart), whereas the other actions are expressed by means of a masculine participle (ἐπιβαλὼν) and neutral infinitives (ὀρύξαι, φῶξαι, ἐπιψεκᾶσαι). In the second recipe, the actions of chopping and

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(L8.324.3); ἐγκρύψασα: *Nat.Mul.* 15 (Trapp 81.3; L7.334.4); ἐμβάπτουσα: *Mul.* 1.75 (L8.164.1-2); ἐνθρύψασα: *Mul.* 1.75 (L8.164.5); ἐνώσασα: *Mul.* 91 (L8.220.5); ἐξαιθριάσασα: *Nat.Mul.* 15 (Trapp 81.8; L7.334.8); ἐπιπάσσουσα: *Mul.* 2.192 (L8.370. 16-17); *Steril.* 242 (L8.456.13); ἐψήσασα: *Superf.* 38 (Lienau 96.8; L8.506.19); ἐψοῦσα: *Nat.Mul.* 9 (Trapp 76.18; L7.324.18); *Mul.* 2.162 (L8.342.5); 2.169 (L8.350.2); *Steril.* 217 (L8.420.6); ὑπαίθριον θεῖσα: *Mul.* 1.91 (L8.220.5); καθεψοῦσα: *Superf.* 29 (Lienau 88.2; L8.496.12); κατασχίσασα: *Steril.* 217 (L8.420.7); *Superf.* 29 (Lienau 88.3; L8.496.13); κόψασα: *Steril.* 217 (L8.420.8); μαλθάσασα: *Steril.* 219 (L8.424.6); *Superf.* 25 (Lienau 82.4; L8.488.18); μίσγουσα: *Nat.Mul.* 15 (Trapp 81.8; L7.334.8); *Steril.* 224 (L8.432.17-18); ξυμμίξασα: *Mul.* 1.85 (L8.210.11); 2.146 (L8.322.9); ξυμμίσγουσα: *Mul.* 1.90 (L8.216.11); *Steril.* 247 (L8.460.9); τρίψασα: *Nat.Mul.* 23 (Trapp 85.5; L7.342.5); *Mul.* 1.91 (L8.220.5); φλάσασα: *Superf.* 33 (Lienau 92.13; L8.502.10).

<sup>102</sup> *Mul.* 2.195 (L8.378.4-8). Translation: 'Another fumigation: it is necessary to dig a hole and to roast grape-stones to the amount of two Attic *choinices*; let him throw some of this ash in the hole, dropping continuously sweet-smelling perfume. Seating around <the hole> and taking her legs apart, let her be fumigated. Or <it is necessary to> chop and roast what is called the dry *oisype* of the goat <sc. the grease extracted from goat's wool> together with bruised barley, let her knead <these ingredients> with oil; fumigate.' See also ἐγγέασα: *Mul.* 2.146 (L8.322.10); ἐνελιξαμένη: *Mul.* 2.193 (L8.376.8); ἐπιπάσσουσα: *Mul.* 1.11 (L8.46.8); θυμησαμένη: *Nat.Mul.* 7 (Trapp 75.9; L7.322.9); *Mul.* 2.146 (L8.322.20); καθεζόμενη: *Mul.* 1.11 (L8.46.10); καλυψαμένη: *Mul.* 2.146 (L8.322.11); περιβάσα: *Nat.Mul.* 34 (Trapp 100.12; L7.372.12); ποιήσασα: *Mul.* 2.193 (L8.376.8); φυρήσασα: *Mul.* 2.195 (L8.378.8); ὑποθυμησαμένη: *Mul.* 2.128 (L8.276.7); ὑποθυμήσασα: *Nat.Mul.* 18 (Trapp 83.21; L7.338.21)

roasting the ingredients are expressed by means of infinitives (κόψαι, φώξαι), whereas the very final action before the administration of the fomentation is expressed by means of a feminine participle (φυρήσασα). Maybe the use of this latter feminine participle indicates that only women were expected to be present when the fomentation was administered.

Feminine participles are not used to indicate that the woman should prepare the ingredients – chop them, crush them, roast them, etc. – prior to the administration of a fumigation or fomentation. Here Lloyd's argument of simplicity and straightforwardness does not hold. It is not more difficult or less straightforward, for instance, to chop ingredients for a fumigation than it is for a pessary; there seems to be a special link between the pessary and women – the pessary is the female form of medication *par excellence*. Feminine participles in recipes for other forms of medication – enemas, ointments, cataplasms, etc. – can be counted on one's fingers.<sup>103</sup>

This preliminary study of the grammatical evidence in the Hippocratic gynaecological recipes seems to lead us to the idea of a division of labour within the gynaecological therapies. Women seem to be involved mostly in the preparation of pessaries and drinks, whether these contain 'kitchen' ingredients or exotic, expensive ingredients. However, it is necessary to stress several issues that preclude the determination of a neat and tidy division of labour.

First, recipes using feminine participles probably amount to less than ten per cent of the gynaecological recipes:<sup>104</sup> any pattern observable on such a small sample should be considered with due care. Most recipes, even recipes for pessaries and drinks, use either genderless infinitives or masculine participles.

Second, switches from feminine to masculine within a recipe are not rare, making it extremely difficult to determine who was to do what, as in the following example: Ἦν

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<sup>103</sup> Cataplasm: ἐξελομένη: *Nat.Mul.* 66 (Trapp 115.4-5; L7.402.4-5)

Injection/infusion: ἀψεσοῦσα: *Nat.Mul.* 66 (Trapp 115.5; L7.402.4-5); διακλυζομένη: *Epid.* 5.67 (Jouanna 30.14; L5.244.8); 7.64 (L5.428.15); ἐξελοῦσα: *Steril.* 222 (L8.430.13); κατέχουσα: *Epid.* 7.64 (Jouanna 89.15; L5.428.15).

Application to the head: περιθεῖσα, ἐπιθεῖσα, ἀπολυσάμενη: all *Superf.* 25 (Lienau 82.1,3,5; L8.488.15,16,19); the parallel of this recipe at *Steril.* 219 (L8.424.2,4,6) has περιθεῖσα, ὑποθεῖσα, ἀπολύσασα.

Tooth-paste: βάπτουσα: *Mul.* 2.185 (L8.366.12).

<sup>104</sup> Eighty of the 1210 gynaecological recipes (that is 6.6 %) include feminine participles.

δὲ θέλης, σίδην ἐς σποδὸν ἐγκρύψασα ἐν οἴνῳ πινέτω, ἄλφιτον ἴσον καὶ ἄλητον ἐπιβάλλων, καὶ ὡς ἥκιστα λουέσθω.<sup>105</sup> This switch of subject is difficult to explain in terms of a division of labour; both actions of this recipe are equally simple and straightforward and could have been performed by a woman, or indeed a man. Rather, this switch is due to the fact that, as pointed in Chapter Two, compilers of recipe collections were not always attentive to the grammar of recipes.

Third, when two versions of the same recipe exist, it is common to see a change of subject from one version to another, as in this recipe of a cantharid-drink:<sup>106</sup>

<i>Nature of Women</i> 8	<i>Diseases of Women</i> 2.135
Πινέτω κανθαρίδας τέσσαρας, ἀποκολούσασα τοὺς πόδας καὶ τὰ πτερὰ καὶ τὴν κεφαλὴν, καὶ γλυकुσίδης κόκκους πέντε τοὺς μέλανας, καὶ σηπίης ὠία, σπέρμα †λίνου† ὀλίγον ἐν οἴνῳ.	Κανθαρίδας τέσσαρας, ἀπτέρους καὶ ἄποδας καὶ ἄτερ κεφαλῆς καὶ γλυकुσίδης κόκκους πέντε τοὺς μέλανας καὶ σηπίης ὠὰ, καὶ σελίνου σπέρμα ὀλίγον ἐν οἴνῳ διδόναι πίνειν.

In this example, the action of removing the legs, wings and head of the cantharides is expressed by a feminine participle in *Nature of Women* 8, whilst epithets agreeing with κανθαρίδας are used in *Diseases of Women* 2.135. In other cases, a version of a recipe can have feminine participles, whilst the other has masculine participles or infinitival imperatives. It is impossible to tell whether the model of these two recipes had feminine participles or not; the ancient compilers of recipes did not hesitate to modify the grammar of recipes.

<sup>105</sup> *Nat. Mul.* 15 (Trapp 81.3-4; L7.334.3-4). Translation: 'If you want, let her hide a pomegranate under ashes; let her drink it in wine. Let him add barley groats and flour upon it and let her bathe as little as possible.'

<i>Nat. Mul.</i> 8 (Trapp 76.1-4; L7.324.1-4)	<i>Mul.</i> 2.135 (L8.306.17-20)
Let her drink four cantharides: <u>let her remove</u> the legs, the wings and the head; <add> five black grains of peony, eggs of cuttle-fish, a little †linseed†, <let her drink> in wine.	Four cantharides, without wings, legs and head, and five black grains of peony, eggs of cuttle-fish and a little seed of parsley; give to drink in wine.

Moreover, there are variations in the gender of participles in our manuscripts and papyri. For instance, the text of P.Antinoopolis differs from the medieval manuscripts:<sup>107</sup>

P. Antinoopolis 184, fr. 10 (a), l. 3-4	<i>Diseases of Women</i> 2.205
<p>Η ελ[αφου μυελον και]  [στεαρ <u>τη</u>ξασα εν [ροδινω ελαιω α]  [ναφορι]σσων ει[ριον μαλθακον]  [προστι]θεσθω</p>	<p>Ἡ ἐλάφου μυελὸν καὶ στέαρ τήξαι, ἐν  ρόδινῳ ἐλαίῳ ἀναφορύξασα* εἴριον  μαλθακὸν προστιθέσθω.</p> <p>*ἀναφρύξασα ΘΜ: ἀναφορύσσειν V</p>

Instead of the feminine participle τήξασα, present in P.Antinoopolis, the text of the main medieval manuscripts has an infinitive (τήξαι).<sup>108</sup> In addition, the masculine participle ἀναφορίσσων of P.Antinoopolis is not attested in the medieval manuscripts, where one can find either a feminine participle (ἀναφορύξασα) or an infinitive (ἀναφορύσσειν).

But despite all these issues, one cannot stress enough the presence of feminine participles in the gynaecological Hippocratic treatises. Feminine participles are extremely rare in later medical literature, although there are several exceptions. For instance, Paulus of Aegina reports the following recipe designed by an anonymous woman:

Γυνή δέ τις ἐπὶ τῶν ἡμικρανικῶν καὶ τούτῳ χρωμένη θαυμασίως ἠὺδοκίμει· τὴν ρίζαν τοῦ ἀγρίου σικύου χλωρὰν εἰς λεπτὰ κατακόπτουσα καὶ ἀψινθίαν ἤψει ἐν ὕδρελαίῳ ἕως τακηρώσεως καὶ τῷ μὲν ὕδρελαίῳ θερμῷ μετρίως κατηόνει τὸ πεπονθὸς μόριον, τὴν δὲ ρίζαν καὶ τὴν ἀψινθίαν τρίβουσα λεῖα κατέπλαττεν αὐτό, καὶ τούτῳ μόνῳ τούς τε σὺν πυρετῷ καὶ ἄνευ πυρετοῦ ἡμικρανικοὺς ἐθεράπευσεν.<sup>109</sup>

<sup>107</sup> Translation:

P.Antinoopolis	<i>Mul.</i> 2.205 (L8.394.3-5)
Or let her melt deer marrow and grease; let him mix well in rose oil. Let it be applied <in> soft wool.	Or melt deer marrow and grease; <u>let her mix well</u> in rose oil. Let it be applied <in> soft wool.

<sup>108</sup> See Hanson (1970): 219.

<sup>109</sup> Paulus 3.5.4 (Heiberg 1.142.6-12). Translation: 'A certain woman, having used this wonderfully on people suffering from migraine, became highly esteemed. Having cut into small pieces the fresh root of the squirting cucumber, she boiled it with wormwood in a mixture of water and oil until it became soft, and with the warm mixture of water and oil she moderately fomented the affected part, while crushing the root

Another later recipe including feminine participles is for is an ointment allegedly invented by Cleopatra Berenice, Queen of Egypt. It is found in a heterogeneous collection of recipes preserved in a single manuscript (MS 75.3 of the Laurentian Library) under the heading Ἐκ τῶν Μετροδώρας, περὶ τῶν γυναικείων παθῶν τῆς μητρῆς:

Πρόσωπον λαμπρὸν ποιῆσαι. Τοῦτο ἐχρήσατο Βερονίκη ἡ βασίλισσα τῆς Αἰγύπτου, ἡ μετακληθεῖσα Κλεοπάτρα. Ἐλάφειον κέρας, βαλοῦσα εἰς χύτραν καινήν, ὤπτῃσεν εἰς καμίνιον καὶ ἐξελοῦσα εὔρε κατάλευκον· τοῦτο λειώσα<σα> μετὰ γάλακτος ἐχρίετο.<sup>110</sup>

The recipes recorded by Paulus and ‘Metrodora’ have a point in common: they are allegedly the invention of a woman; to use masculine participles after emphatically claiming that these recipes had been created by women would have made very little sense grammatically. On the other hand, when Galen quotes ‘the exact words’ of Cleopatra’s *Cosmetics*, he uses masculine participles:

Καὶ τὰ τῇ Κλεοπάτρᾳ πρὸς ἀχῶρας γεγραμμένα ἐφεξῆς εἰρήσεται κατὰ τὴν ἐκείνης αὐτῆς λέξιν... Ἄλλο καὶ πρὸς πίτυρα ποιοῦν. νίτρου, χαλκάνθου ἀνὰ < α΄. λειώσας ἔλαιον κατάχριε καὶ ἔγχριε. Ἄλλο πρὸς ἀχῶρας. σμύρναν καὶ μυρσίνης λευκῆς χλωρὰ φύλλα λειᾶ, ἐν οἴνῳ λειώσας κατάχριε.<sup>111</sup>

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and the wormwood till smooth she applied it as a poultice. With this only, she cured people suffering from migraine, either accompanied by fever or without fever.’

<sup>110</sup> Metrodora 57 (Kousis 57.14-16). Translation: ‘To make the face bright: Berenice, the queen of Egypt, later called Cleopatra, used this. Having thrown the horn of a deer in a new vase, she roasted it on in oven and, having removed it, she found it whitened. Having crushed it with milk, she anointed herself.’ See Chapter Seven, Section Four for more details on this collection and its date.

<sup>111</sup> Galen, *Comp.Med.sec.Loc.* 1.8 (K12.492.15-18). Translation: ‘Cleopatra’s prescriptions against dandruff are reported in order in her exact own words... Another, working also against scurf: soda, flower of copper, of each one *drachma*; having reduced to oil, smear and anoint. Another against dandruff: myrrh and fresh leaves of white myrtle; crush well in wine and anoint. On the involvement of Queen Cleopatra in science and medicine, see Marasco (1995); (1998).



In the Imperial period, women wrote medicinal books on subjects relevant to women – or male authors used female names as pseudonyms when writing these books – but they did not use feminine participles, preferring masculine participles and imperative second person singular. These authors may have considered masculine as a ‘common’ gender, referring to either women or men, but their choice is nonetheless significant. Language is not a neutral entity; by using masculine forms only, medical authors conferred to gynaecology or the art of cosmetics the aspect of a ‘male science’, in the hands of men. On the other hand, by ‘letting slip’ a few feminine participles, the Hippocratic writers give us an insight into what was more probably the reality in the ancient world: a fluidity of knowledge and a collaboration between men and women.

## 6.5 Conclusions

The experience of reading recipe books in antiquity must have differed deeply from our modern experience: it was a time-consuming, linear reading, close to what we would call ‘studying’. Those most likely to have had the time and skill necessary to read ancient recipe books were *iatroi*, people who practiced medicine for a living; but once a text was ‘published’ there was no way of controlling its audience, and laymen – non-medical practitioners – may at times have read and attempted to learn from the recipe books.

One of the most salient characteristics of the Hippocratic recipes is that they leave out many elements of information; information such as quantities, utensils to be used, and times of application are left to the appreciation of the reader. The Hippocratic recipes are conceived as short *aide-mémoires*, which needed to be supplemented through oral explanations; these recipes could not, and did not intend to, replace the oral word.

Although a theoretical knowledge of pharmacology was necessary to read the Hippocratic collections of recipes, their reader could delegate some pharmacological tasks involved in the preparations of remedies. This reader could buy herbs from the drug-seller, and could entrust the preparation of some remedies to his patients. The presence of feminine participles in the gynaecological recipes implies that women, most probably women patients, were involved in the preparation of drugs. These women indirectly benefited from the reading of the Hippocratic gynaecological collections of recipes.

## 7 The afterlife of Hippocratic recipes

### 7.1 Introduction

The Hippocratic collections of gynaecological recipes and the *Pharmakitis* were among the first extended recipe compilations written in Greek, inaugurating a vigorous tradition of medical recipe writing. Most authors active in the centuries following Hippocrates' death are known to have composed pharmacological treatises: Diocles, Dieuches, Praxagoras, Herophilus, to name only a few. Unfortunately, none of their treatises survives in full; we know them only through quotations in medical authors such as Celsus, Pliny, Galen and Soranus. The first recipe book preserved in full, after a gap of at least three centuries, is Scribonius Largus' *Compositions* (time of the Emperor Claudius).

The recipes recorded by Scribonius, and by many of his successors, differ from the Hippocratic remedies in several ways. First, whereas Hippocratic recipes rarely included more than six ingredients, the recipes recorded by Scribonius rarely have less than seven. Some of Scribonius' recipes have well in excess of twenty ingredients, this is particularly the case for recipes for antidotes, i.e. panaceas designed to cure all ailments.<sup>1</sup> For instance, the antidote of the physician Marcianus has forty ingredients, many of which are exotic and/or rare:

*Antidotus Marciani medici, cui quia nihil deest, telea dicitur Graece, id est perfecta. Facit ad omnia haec una, ad quae superiores antidoti omnes. Haec Augusto Caesari componebatur: cinnami ℞ p. VIII, amomi ℞ p. VI, cassiae nigrae ℞ p. XXV, croci ℞ p. XVI, schoeni ℞ p. V, thuris ℞ p. V, piperis albi ℞ p. II, myrrhae ℞ p. X, piperis longi ℞ p. X, nardi Indicae ℞ p. XS, nardi Celticae ℞ p. XVI, rosae aridae ℞ p. VI, costi albi ℞ p. II, opobalsami ℞ p. IIII, laseris Cyrenaici uictoriati pondus uel Syriaci ℞ p. I, stycados ℞ p. VI, gentianae ℞ p. V, trifolii acuti radicis ℞ p. IIII uel eisudem seminis ℞ p. III, scordii ℞ p. XII, polii ℞ p. V, asari ℞ p. II, acori ℞ p. III, phu ℞ p. XXXII, misy ℞ p. II, dictamni ℞ p. XII, ammoniaci guttae ℞ p. III, agarici ℞ p. duum semis, balsami seminis grana numero XX, petroselini ℞ p. VI et uictoriati, rutae siluaticae ℞ p. trium semis, feniculi seminis ℞ p. trium semis, dauci Cretici ℞ p. IIII, anesi ℞ p. II,*

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<sup>1</sup> See Totelin (2004).

*cumini Aethiopici* ꝥ p. II, *rapae seminis* ꝥ p. V et *uictoriati, napi siluatici seminis* ꝥ p. III, *anatis feminae* <sanguinis> *recentis* ꝥ p. II, *anatis masculi sanguinis aridi* ꝥ p. III, *haedi masculi sanguinis aridi* ꝥ p. III, *testudinis marinae sanguinis aridi* ꝥ p. VI S, *anseris masculi sanguinis aridi* ꝥ p. III, *mellis Attici quod satis erit. Facit ad omnia.*<sup>2</sup>

I have argued that the Hippocratic recipes were the reflection of a *Haute Médecine*, based on luxury and exotic ingredients; however, compared to this type of antidotes, they seem terribly cheap. The spread of the Hellenistic and Roman Empires, and the impact this spread had on the price and availability of ingredients, certainly contributed to the multiplication of ingredients in pharmaceutical recipes. Internal pressures were also at work. A ‘trickle-down’ effect is often observable in the history of luxury goods: social emulation leads to a higher demand for a good, which then slowly loses its prestige.

In the recipe for Marcianus’ antidote, exact quantities are given for each ingredient. Most recipes listed by Scribonius and his successors specify quantities. This is in stark contrast with the Hippocratic recipes which left quantities to the readers’ appreciation.<sup>3</sup>

The antidote in our example is attributed to the physician Marcianus. Other recipes collected by Scribonius are attributed to Mithridates (170), Ambrosius the physician of Puteoli (152), or the surgeon Aristus (209), to name only a few. In addition, Scribonius gives the recipe for a toothpaste regularly used by the princess Messalina (60). Attributions of recipes to people, famous or not, are an important

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<sup>2</sup> Scribonius, *Compositiones* 177. Translation: ‘Antidote of the physician Marcianus, which is called *telea* (that is perfect) in Greek, because it lacks nothing. This single <antidote> works against all <ills> against which all the best antidotes <work>. This <antidote> will be composed by the August Caesar: 8 *denarii* of cinnamon, 6 *denarii* of amomum 25 *denarii* of black cassia, 16 *denarii* of saffron, 5 *denarii* of rush, 5 *denarii* of frankincense, 2 *denarii* of white pepper, 10 *denarii* of myrrh, 10 *denarii* of long pepper, 10 *denarii* and a half of Indian spikenard, 16 *denarii* of Celtic nard, 6 *denarii* of dried rose, 2 *denarii* of white costus, 4 *denarii* of opobalsamum, half a *denarius* of Cyrenaic silphium, or one *denarius* of Syrian <silphium>, 6 *denarii* of cassidony, 5 *denarii* of gentian, 4 *denarii* of the root of sharp tree-foil, or 3 *denarii* of the seed of this plant, 12 *denarii* of scordium, 5 *denarii* of germander, 2 *denarii* of hazelwort, 3 *denarii* of sweet flag, 32 *denarii* of valerian, 2 *denarii* of copper-ore, 12 *denarii* of dittany, 3 *denarii* of drops of *ammoniacum*, two times a *semis* of *agaricum* <sc. a fungus>, 20 drops of balsam, 6 *denarii* and a half of parsley, three times a *semis* of wild rue, three times a *semis* of fennel seeds, 4 *denarii* of Cretan *daucus*, 2 *denarii* of anise, 2 *denarii* of Ethiopian cumin, 5 *denarii* and a half of turnip seeds, 3 *denarii* of wild mustard seeds, 2 *denarii* of fresh blood of female duck, 3 *denarii* of dried blood of male duck, 3 *denarii* of dried blood of kid, 6 *denarii* and a half of dried blood of sea-turtle, 3 *denarii* of dried blood of male goose, and a sufficient amount of Attic honey. It works against everything.’

<sup>3</sup> On the importance given by Galen to accurate quantities in recipes, see von Staden (1997): 68-71.

characteristic of recipe books produced from the first century AD – and this may already have been the case for recipe books composed in the Hellenistic period. With the multiplication of written recipe collections, it became increasingly important for compilers to ‘prove’ that the remedies they compiled were efficacious: attaching a name (either of its inventor or of a user) to a recipe could show readers that the remedy had been ‘tested and approved’, that it was not produced by an ‘armchair physician’. Recipes attributed to Hippocrates can be found in the works of, for instance, Pliny the Elder, Soranus, Galen, and Aetius. Each of these authors uses Hippocratic material for different reasons: for emulation or for criticism. These various motives are examined in the two first sections of this chapter.

Anonymous recipes that bear striking similarities to the recipes of the Hippocratic Corpus are found in the works of medical authors active in the first centuries of the Common Era. In the third part of this chapter, I address the difficult question of determining the boundary between unacknowledged borrowing of Hippocratic material and coincidental similarity between written recipes. I stress the fact that a thriving oral pharmacological tradition existed alongside the written tradition.

In the final sections of this chapter, I examine the Latin translations or adaptations of the Hippocratic treatises *Diseases of Women I* and *II*. Whilst the translation of *Diseases of Women I* was introduced by a prologue stressing the extraordinary role of Hippocrates in the history of medicine, in some manuscripts, the adaptation of *Diseases of Women II* (*De Diversis Causis Mulierum*) does not include a single mention of Hippocrates.

## **7.2 Hippocrates as an authority in the field of pharmacology**

Scribonius Largus’ *Compositions* is the first recipe book preserved in full after a gap of at least three centuries following the production of the Hippocratic gynaecological and nosological treatises. In the prologue to the *Compositions*, Hippocrates appears as an authority in the field of pharmacology: he is called ‘the founder of our profession’ (*conditor nostrae professionis*), and is praised for his *Oath*, in which he forbade physicians to prescribe abortifacients.<sup>4</sup> Scribonius, however, does not attribute any of

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<sup>4</sup> Scribonius, *Compositiones*, epistula 5: *Hippocrates, conditor nostrae professionis, initia disciplinae ab iureiurando tradidit, in quo sanctum est, ut ne praegnanti quidem medicamentum, quo conceptum*

his recipes to Hippocrates, contrary to many of his successors. In the following paragraphs, I will illustrate the ways in which three authors (Pliny the Elder, Galen and Aetius), differed in their use and presentation of Hippocratic pharmacological material.

Pliny the Elder (AD 23–79) has a rather ambiguous attitude towards Hippocrates the pharmacologist. On the one hand, he reports Varro’s story that Hippocrates had ‘stolen’ remedies from the temple of Asclepius.<sup>5</sup> On the other hand, he considers Hippocrates, the founder of the discipline of medicine, as an important authority in the field of pharmacology: *Hippocratis certe, qui primus medendi praecepta clarissime condidit, referta herbarum mentione inuenimus uolumina*.<sup>6</sup> In the table of contents to his *Natural History*, Pliny lists Hippocrates as one of his sources for books 20-28 and 31,<sup>7</sup> and pharmacological material clearly identified as Hippocratic appears in books 20 and 22. In these books, Pliny does not quote full Hippocratic recipes, but adapts the Hippocratic material so that it fits his own organising principle, i.e. an organisation by plant. For instance, in the chapter on radish (*raphanus*), Pliny says the following about Hippocrates: *Hippocrates capitis mulierum defluuia perfricari raphanis et super umbilicum imponi contra tormenta uoluae*.<sup>8</sup> Such advice is indeed found in two different chapters of *Diseases of Women* II:

Καὶ ἦν μαδήση, κύμινον ἔμπλασσε, ἢ πελιάδων κόπρον, ἢ ράφανον τριπτήν, ἢ κρομμύω τριπτῶ ἢ τεύτλω, ἢ κνίδη.<sup>9</sup>

Ὅταν ὑστέρη πνίγη... τὴν κεφαλὴν ξυρῆν ὅτι τάχιστα, καὶ ταινίη ἀποδιωθέειν, ὑπὲρ ὀμφαλὸν δὲ εἰλέειν· διδόναι δὲ καστόριον καὶ κόνυζαν καὶ πηγάνου ὕδωρ, κύμινον Αἰθιοπικόν, ραφάνου σπέρμα, θεῖον, σμύρνην.<sup>10</sup>

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*excititur, aut detur aut demonstratur a quoquam medico, longe praeformans animos discentium ad humanitatem.* Translation: ‘Hippocrates, the founder of our profession, recorded the foundations of the discipline in an oath, in which it is established that no drug to destroy the foetus should be given to a pregnant women, nor mentioned by any doctor, thereby inclining the minds of students towards a humane conduct.’

<sup>5</sup> Pliny, *H.N.* 29.1.4. See Chapter Four, Section Three for more details on this anecdote.

<sup>6</sup> Pliny, *H.N.* 26.6.10. Translation: ‘Indeed, we find the books of Hippocrates, who first established the precepts of medicine most brilliantly, filled with information on plants.’ On the ambiguous attitude of Pliny towards Hippocrates, see Byl (1994).

<sup>7</sup> Pliny, *H.N.* 1. See Chapter Six, Section Two for more details on this table of contents.

<sup>8</sup> Pliny, *H.N.* 20.7.27. Translation: ‘Hippocrates <advises> to rub the head of women with radishes when the hair falls off; and to place them on the navel against pains of the womb.’

<sup>9</sup> *Mul.* 2.189 (L8.370.3-5). Translation: ‘And if she loses hair, apply as a cataplasm: cumin or excrement of pigeons, or crushed radish, or <rub?> with crushed leeks, or beet, or nettle.’

Sometimes, however, the Hippocratic passages mentioned by Pliny are less easy to localise. For instance, in his chapter on the nettle (*urtica*), Pliny attributes the following to Hippocrates: *Hippocrates uuluam purgari poto eo pronuntiat* (1), *dolore leuari tosto acetabuli mensura, dulci poto* (2) *et imposito cum suco maluae* (3), *intestinorum animalia pelli cum hydromelite et sale* (4), *defluuia capitis semine inlito cohonestari* (5).<sup>11</sup> Parallels for uses (1), (2), (3) and (5) can be found in the Hippocratic Corpus: nettle is mentioned as a purgative for flux in several chapters of *Diseases of Women* II (use 1);<sup>12</sup> roasted nettle is recommended against pains of the womb in *Diseases of Women* 1.63 (use 2), where no quantities are mentioned;<sup>13</sup> nettle and mallow enter in the composition of a pessary against ulcerations of the womb, listed in *Diseases of Women* 1.74 (use 3);<sup>14</sup> and a recipe against hair-loss including nettle is listed at *Diseases of Women* 2.189 (use 5).<sup>15</sup> On the other hand, nowhere in our preserved Hippocratic texts is nettle prescribed against worms (use 4). Pliny is either mistaken in his attribution of the material to Hippocrates, or he had at his disposal ‘Hippocratic’ material that is lost today. Another example in which Pliny might be quoting lost ‘Hippocratic’ material is his description of the marsh mallow (*althaea*):

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<sup>10</sup> *Mul.* 2.201 (L8.384.1 and 3-6). Translation: ‘When the womb causes suffocation... Shave the head as fast as possible, and push back <the womb> with a bandage that you roll over the navel. Give also castoreum, henbane, water of rue, Ethiopian cumin, seed of radish, brimstone and myrrh.’

<sup>11</sup> Pliny, *H.N.* 22.15.34. Translation: ‘Nettle... Hippocrates states that, taken as a drink, it purges the womb; that, roasted and taken in a sweet drink in the amount of one *acetabulum*, or applied with juice of mallow, it alleviates the pain; that it expels intestinal worms <when taken> with hydromel and salt; and that when its seed is smeared onto the head, it repairs hair loss.’

<sup>12</sup> *Mul.* 2.117 (L8.252.18 and 21-22). ‘Ρόου λευκοῦ θεραπείη... Ταύτην μήκωνα πιπίσκειν λευκήν, καὶ κνίδης καρπὸν. Translation: ‘Cure for white flux... Give her to drink white opium poppy and the seed of nettle.’ *Mul.* 2.119 (L8.258.4 and 260.13-15). ‘Ρόος ἄλλος... Τὰς δὲ μεταξὺ ἡμέρας τῶν κλυσμῶν πινέτω ἀκτῆς καρπὸν καὶ λαγωῦ πτυίην καὶ μήκωνος τὸ κέλυφος καὶ κνίδης καρπὸν, ροιῆς τε γλυκεῖης τὸν φλοιὸν, τρίβων ἴσον ἐκάστου. Translation: ‘Another flux... In the days between the injections, let her drink the fruit of the elder-tree, hare’s rennet, shell of opium poppy, nettle seed, rind of pomegranate; crush the same amount of each.’

<sup>13</sup> *Mul.* 1.63 (L8.126.20 and 130.18-20): “Ἦν δὲ αἱ μήτραι ἐλκωθέωσιν... Πίνειν δὲ μετὰ τὰ φάρμακα λίνου σπέρμα ἀποπεφωσμένον, καὶ σήσαμον, καὶ κνίδης καρπὸν, καὶ γλυκυσίδης ρίζαν τὴν πικρὴν τρίβων ἐν οἴνῳ εὐώδει μέλανι κεκρημένῳ. Translation: ‘If the womb is ulcerated... after the remedies, give to drink roasted linseed, sesame, seed of nettle, bitter root of peony; crush in sweet-smelling, mixed, black wine.’

<sup>14</sup> *Mul.* 1.74 (L8.156.15 and 17-18): “Ἐτερον καθαρτικόν... Ἦ κνίδης καρπὸν καὶ μαλάχης χυλὸν καὶ χηνὸς στέαρ ἅμα συμμίξαντα προσθεῖναι. Translation: ‘Another purgative... Or seed of nettle, juice of mallow and goose suet; mix together and apply.’

<sup>15</sup> See above.

*Hippocrates uulneratis sitientibusque defectu sanguinis radice decoctae sucum bibendum dedit et ipsam uulneribus cum melle et resina, item contusis, luxatis, tumentibus; et musculis, neruis, articulis imposuit ut supra; spasticis, dysintericis in uino bibendam dedit.*<sup>16</sup>

It is interesting to note that Dioscorides (first century AD) describes the uses of the marsh mallow in very similar terms to Pliny, without acknowledging his source:

Ἄλθαία· οἱ δὲ ἀλθίσκον, οἱ δὲ μαλάχη ἀγρία, Ῥωμαῖοι ἐβίσκουμ... Ἐψηθεῖσα γὰρ ἐν μελικράτῳ ἢ οἴνῳ ἢ καθ' ἑαυτὴν κοπεῖσα ποιεῖ πρὸς τραύματα, παρωτίδας, χοιράδας, ἀποστήματα, μαστοὺς φλεγμαίνοντας, <φλεγμονὰς> δακτυλίου, θλάσματα, ἐμφυσήματα, συντάσεις νεύρων... Ποιεῖ δὲ καὶ πρὸς δυσεντερίαν, αἵματος ἀναγωγὴν, διάρροϊαν.<sup>17</sup>

Undoubtedly, the concordance between the descriptions of the uses of marsh mallow by Pliny and Dioscorides is due to their exploiting the same source. Now, the word ἄλθαία used by Pliny and Dioscorides does not appear in any of our Hippocratic treatises. Erotian, however, explained this plant name in his Hippocratic glossary. This suggests that a treatise attributed to Hippocrates included pharmacological information (and maybe recipes) on this plant at one stage.<sup>18</sup>

To sum up, Pliny presents Hippocrates as an authority in the field of botany, even though no treatise specifically devoted to botany, it seems, was ever transmitted under Hippocrates' name in antiquity.

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<sup>16</sup> Pliny, *H.N.* 20.84.230. Translation: 'Hippocrates gave to drink a decoction of its root-juice to wounded people thirsty because of blood-loss; and applied the mallow itself onto wounds with honey and resin; similarly onto contusions, luxations and swellings; and as above onto muscles, sinews and joints; and he gave it to drink in wine to people suffering from spasms or dysentery.' See Byl (1994): 167 for other examples of 'Hippocratic' material mentioned by Pliny which cannot be located in any of our Hippocratic treatises.

<sup>17</sup> Dioscorides, *Mat. Med.* 3.146. Translation: 'Marsh mallow (*althaia*), others <call it> *althiskon*, others wild *malache*, the Romans <call it> *ebiscoum*. Boiled in *melikraton* or wine or chopped on its own, it works against wounds, tumours of the parotid gland, swellings in the glands of the neck, abscesses, inflamed breasts, inflammations of the finger, bruises, swellings, tensions of the sinews. It works also against dysentery, blood loss and diarrhoea.'

<sup>18</sup> Erotianus, *Glossarium* (Nachmanson 76.1-2): 'Ῥίζη ἀλθαίης· τῆς ἀγρίας δηλονότι μαλάχης, ἣν Ῥωμαῖοι ἰβίσκον καλοῦσι. Translation: 'Root of marsh mallow: that is to say <the root> of the wild mallow, which the Romans call *ibiscon*.'

Hippocrates the pharmacologist is also an important figure in the pharmacological writings of Galen of Pergamum (AD 129–199/216).<sup>19</sup> In the prologue to the sixth book of his *Simple Medicines*, Galen praises Hippocrates for not having mixed magic (γοητείας) and imposture (ἀλαζονείας) into the art of pharmacology:

Ἡ δὲ πλείστη τῶν φαρμάκων χρήσις ἐν αὐταῖς ταῖς θεραπευτικαῖς πραγματείαις ὑπὸ τε τῶν παλαιῶν γέγραπται καὶ προσέτι τῶν νεωτέρων ἀπάντων σχεδόν· καὶ γὰρ πρὸς Ἴπποκράτους εἴρηται πολλὰ καὶ πρὸς Εὐρυφῶντος καὶ Διεύχους καὶ Διοκλέους καὶ Πλειστονίκου καὶ Πραξαγόρου καὶ Ἡροφίλου, καὶ οὐκ ἔστιν οὐδεὶς ἀνὴρ παλαιὸς ὃς οὐ συνεβάλλετό τι τῇ τέχνῃ μείζον ἢ μείον εἰς ἐπιστήμην φαρμάκων, ἄνευ γοητείας τε καὶ ἀλαζονείας, ἣν ὕστερον Ἀνδρέας ἐπεδείξατο.<sup>20</sup>

Galen sees the history of pharmacology as a regression from a rational science (*episteme*), incarnated by authors such as Hippocrates and Herophilus, to an art spoiled by magical practice, incarnated by Andreas (third century BC, personal physician of Ptolemy Philopator). Galen lists his authorities in the field of pharmacology chronologically, starting with Hippocrates, the *protos eures*.

In other places, Galen emulates the Hippocratic pharmacological method. For instance in the prologue to his *Composition of Medicines according to Types*, he praises Hippocrates for his art of mixing drugs, mentioning a recipe taken from *Regimen in Acute Diseases* as an example:

Ἐφ' ἐτέρων πάλιν διαθέσεων, χρειὰ ἐνὸς φαρμάκου μόνου τῶν αὐτοφυῶν ἐστίν, ἐπιμίγνυμεν δ' αὐτῷ τινὰ, ποτὲ μὲν ἀμβλύναι τὸ σφοδρὸν τῆς δυνάμεως αὐτοῦ βουλευόμενοι, ποτὲ δὲ τὴν ἀηδίαν παρμυθήσασθαι, καθάπερ Ἴπποκράτης ἐν τῷ περὶ διαίτης ὀξέων ἔφη κατὰ τήνδε τὴν ῥῆσιν· ἦν δ' ὑπὸ

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<sup>19</sup> On the role of Hippocrates in the pharmacological writings of Galen, see Jouanna and Boudon (1997).

<sup>20</sup> Galen, *De simplicium medicamentorum temperamentis ac facultatibus* 6.1 (K11.795.8-796.2). Translation: 'The major part of the use of drugs is treated in the therapeutic treatises of the ancients, and in addition in those of almost all the moderns. Indeed many things have been said by Hippocrates, and also by Euryphon, Dieuches, Diocles, Pleistonius, Praxagoras and Herophilus; and there is no ancient who has not contributed in some way, more or less, to the science of drugs without magic and imposture, which later Andreas exhibited.' On this text, see Jouanna and Boudon (1997): 217; van der Eijk (2001): 279-281.



φρένας ἢ τὸ ἄλγημα, ἐς δὲ τὴν κληῖδα μὴ σημήνη, μαλθάσσειν χρὴ τὴν κοιλίην ἢ μέλανι ἐλλεβόρω ἢ πεπλίω, μέλανι μὲν δαῦκον ἢ σέσελι ἢ κύμινον ἢ ἄνισον ἢ ἄλλο τι τῶν εὐωδέων μίσγοντα, πεπλίω δὲ ὀπὸν σιλφίου. Ἐν ταύτῃ τῇ ῥήσει σαφῶς ὁ Ἱπποκράτης ἐνεδείξατο χρεῖαν μὲν εἶναι τοῦ καθαίροντος φαρμάκου, τὴν δ' ἀηδίαν αὐτοῦ κατὰ τὴν πόσιν καὶ τὴν ἐν τῇ κοιλίᾳ μόνην ἠδύσματος δεῖσθαι.<sup>21</sup>

Galen praises Hippocrates for having mixed sweet-smelling ingredients to purgative remedies, ignoring the numerous instances in which purgative plants are prescribed on their own in Hippocratic texts. This recipe, which Galen repeats in his *Composition of Medicines according to Places*, is the only Hippocratic recipe quoted in full by the physician from Pergamum.<sup>22</sup> Interestingly, this Hippocratic quote is extracted from a treatise which does not include many recipes: *Regimen in Acute Diseases*. In his pharmacological treatises, Galen does not list any of the numerous recipes of the Hippocratic gynaecological and nosological treatises. On the other hand, in his *Glossary*, Galen explicates numerous words used in these Hippocratic recipes, as in the following example, where both *Diseases of Women I* and *Diseases II* are mentioned: Ἄλφιστα· οὐ μόνον τὰ ἀπὸ τῶν κριθῶν οὕτως καλεῖται· ἔν τε γὰρ τῷ πρώτῳ τῶν γυναικείων ἄλφιστα πύρινα εἴρηται· ἐν δὲ τῷ περὶ νούσων δευτέρῳ τῷ μείζονι καὶ φακῶν καὶ ὀρόβων πεφρυγμένων.<sup>23</sup>

These glosses indicate that, for Galen, the Hippocratic recipes were still worth citing. However, in his pharmacological writings, Galen preferred to list the recipes of more recent authorities in the field of pharmacology, such as Apollonius, Heras,

<sup>21</sup> Galen, *Comp. Med. per Gen.* 1.3 (K13.372.16-373.10). Translation: 'For other conditions, on the contrary, there is need for only one drug among the natural things, but we mix something with it, sometimes because we want to dull its excessive power, sometimes to soften its unpleasantness, like Hippocrates said in *Regimen in Acute Diseases*, in these words: "If the pain occurs below the diaphragm, and does not point to the collarbone, it is necessary to relax the belly with black hellebore or wild purslane, adding to the black <hellebore> *daukos* or hartwort or cumin or anise or any other sweet-smelling drug, and adding to the purslane the juice of silphium." In these words, Hippocrates has shown that there was a need for a purgative remedy, but that its unpleasantness needed a seasoning for its absorption and for its stay in the belly.' The Hippocratic recipe can be found at *Acut.* 23 (Joly 46.3-7; L2.274.1-6): "Ἦν δ' ὑπὸ φρένας ἢ τὸ ἄλγημα, ἐς δὲ τὴν κληῖδα μὴ σημήνη, μαλθάσσειν χρὴ τὴν κοιλίην ἢ μέλανι ἐλλεβόρω ἢ πεπλίω, μέλανι μὲν δαῦκος ἢ σέσελι ἢ κύμινον ἢ ἄνησον ἢ ἄλλο τι τῶν εὐωδέων μίσγοντα, πεπλίω δὲ ὀπὸν σιλφίου. For other examples of passages in which Galen emulates the Hippocratic pharmacological method, see Fabricius (1972): 203-205.

<sup>22</sup> Galen, *Comp. Med. sec. Loc.* 8.3 (K13.149.6-11).

<sup>23</sup> Galen, *Glossarium* (K19.76.1-4). Translation: 'Groats (*alphita*): it is not only the <groats> from barley which are so called. Indeed in the first book of *Diseases of Women* wheat-groats (*alphita purina*) are mentioned. In the second small book *On Diseases*, <mention is made of alphita made of> roasted lentils and bitter vetches.'

Andromachus, Criton, Asclepiades, etc. Hippocrates' character plays the role of a model in Galen's pharmacological writings: the Coan deserves to be praised as the founder of the discipline, and his method is to be imitated. On the other hand, Hippocrates' recipes have only a historical interest for Galen; they had long been superseded and replaced by better recipes.

More than three centuries after the death of Galen, on the other hand, Aetius of Amida (*fl. c.* AD 530–560) listed Hippocratic recipes in his *Medical Collection*, not to illustrate a methodological point, but because he found them useful and efficacious. For instance, Aetius tells us that he has used, and modified, the following recipe against haemorrhoids, which we find in the Hippocratic treatise *Haemorrhoids*:<sup>24</sup>

Aetius, <i>Medical Collection</i> 14.6	<i>Haemorrhoids</i> 7
Ἰπποκράτους πρὸς αἰμορροΐδας. Κηκίδων οὐγγ. β' σμύρνης οὐγγ. β' στυπτηρίας σχιστῆς οὐγγ. γ' μελαντηρίας οὐγγ. γ'. κόψας σήσας λειώσας χρῶ ξηρῶ. Ἐγὼ δὲ ἀπορήσας μελαντηρίας σῶρι ἐνέβαλον καὶ ἐποίησε θαυμασίως. Ἐν γὰρ ἡμέραις ὀλίγαις ἀδήκτως χωρὶς ἐλκώσεως ἀφανεῖς ποιεῖ τὰς αἰμορροΐδας.	Σμύρναν τρίψας λείην καὶ κηκίδα, καὶ στυπτηρίην Αἰγυπτίην κατακάυσας, ἔν καὶ ἥμισυ πρὸς τᾶλλα, καὶ μελαντηρίης ἄλλο τοσοῦτον, τούτοισι ξηροῖσι χρῆσθαι· ἡ δὲ αἰμορροῖς τούτοις τοῖσι φαρμάκοισιν ἀποστήσεται, ὥσπερ σκύτος κατακεκαυμένον· ταῦτα ποιεῖν μέχρις ἂν πάσας ἀφανίσῃς.

The main difference between the versions of the recipe is in the quantities: Aetius gives exact amounts for each ingredient, whereas the Hippocratic recipe does not. Aetius also recommends this remedy, without giving its recipe, in the sixteenth book of the *Medical Collection*, i.e. the book devoted to gynaecology.<sup>25</sup> Hippocrates is mentioned several times in this gynaecological book, but no Hippocratic

<sup>24</sup> Translation:

Aetius, <i>Iatrika</i> 14.6 (Ieraci Bio (1999): 458).	<i>Haem.</i> 7 (Joly 149.25-150.4).
From Hippocrates, against haemorrhoids. Two ounces of oak-gall, two ounces of myrrh, three ounces of cloven alum, three ounces of black pigment; chop, sift, crush, and use dry. Because I did not have black pigment, I added <i>sori</i> and it worked wonders. Indeed, in a few days, it makes the haemorrhoids invisible, without biting and without causing ulceration.	Translation: Crush well myrrh, oak-gall, burnt Egyptian alum, one and a half times the amount of the others, and the same amount of black pigment; use these dry. With such medicaments, the haemorrhoid will detach itself like burnt hide. Do this until they have all disappeared.

On the role of Hippocrates in Aetius' work, see De Lucia (1999); Ieraci Bio (1999).

<sup>25</sup> Aetius, *Iatrika* 16.109 (Zervos): Χρῶ δὲ καὶ πρὸς τὰς ἐν ἔδρᾳ αἰμορροΐδας προγεγραμμένους, καὶ μάλιστα τῷ τοῦ Ἰπποκράτους. Translation: 'I also use the remedies prescribed above against the haemorrhoids in the bottom, especially the <remedy> of Hippocrates.'

gynaecological recipe is recommended. One may wonder whether Aetius knew the collections of recipes appended to the Hippocratic gynaecological treatises. The only recipe of the Hippocratic gynaecological treatises quoted by Aetius is a remedy against children's cough, which he lists in book four of the *Medical Collection*. However, this is not conclusive for the Hippocratic recipe occurs at *Diseases of Women* 1.92, one of the chapters (1.92-109) deemed spurious (νόθα) in some medieval manuscripts:<sup>26</sup>

Aetius, <i>Medical Collection</i> 4.18	<i>Diseases of Women</i> 1.92
Πρὸς βήχα παιδίων... Ἄλλο. 'Ἱπποκράτειον' λέκιθον ὠοῦ ὀπτὴν καὶ σησάμου διπλασίονα ὄγκον καὶ ἀλὸς χόνδρον ἓνα σύμμετρον λεάνας ἰκανῶς μετὰ μέλιτος δίδου ἐκλείχειν.	Βηχὸς παιδίου... Ἔτερον ὠὸν ὀπτήσαντα, τὴν λέκιθον ἐξελόντα, τριῖψαι καὶ σήσαμον λευκὸν πεφρυγμένον καὶ ἄλες, ἐν μέλιτι ἐλλείχειν.

Aetius may have read this recipe in another context, either in a 'Hippocratic' treatise now lost, or in a compendium including Hippocratic recipes.<sup>27</sup>

Pliny, Galen and Aetius consider Hippocrates as an important authority in the field of pharmacology: he is the *protos eureses*, the human founder of the discipline. But these three authors use Hippocratic pharmacological material in different ways: Pliny adapts the material to his own organising principle; Galen uses a Hippocratic recipe as an example of method; and Aetius recommends Hippocrates' remedies for their efficacy and usefulness. They sometimes, seemingly, consulted Hippocratic treatises under a format different to the one we are familiar with, and they had access to 'Hippocratic' material lost today.

<sup>26</sup> Translation:

Aetius, <i>Iatrika</i> 4.18 (Olivieri 366.25 and 28-30)	<i>Mul.</i> 1.92 (L8.222.1-3)
Against children's cough... Another, of Hippocrates: roasted egg yolk, twice as much of sesame, an equal amount of salt grains; crush well with honey. Give as an electuary.	Child's cough... Another: cook an egg, having removed the yolk; crush. <Add> roasted white sesame and salt grains; give as an electuary in honey.

<sup>27</sup> De Lucia (1999): 450 believes the use of the word 'Ἱπποκράτειον (Hippocratic) and not 'Ἱπποκράτους (of Hippocrates) is not gratuitous.

### 7.3 *Hippocrates as a negative influence in the field of pharmacology*

The authors mentioned in the previous section considered Hippocrates as a highly respectable authority in the field of pharmacology; other ancient medical authors had a more reserved judgement towards him. Celsus, for instance, considered Hippocrates to be an important authority in the field of surgery, but mentioned him only once in the pharmacological books of his *On Medicine*, in rather critical terms: *Curari uero oculos sanguinis detractio, medicamento, balneo, uino uetustissimus auctor Hippocrates memoriae prodidit: sed eorum tempora et causas parum explicuit, in quibus medicinae summa est.*<sup>28</sup>

The medical author most critical towards Hippocrates was the Methodist Soranus, whose negative judgement towards Hippocratic pharmacology (and towards the pharmacology of most of his predecessors) can be observed in his only work preserved in Greek: his *Gynaecology*.<sup>29</sup> For instance, Soranus criticises Hippocrates for using sternutories (a type of remedy recommended in several Hippocratic treatises) to expel the afterbirth:

Ἴπποκράτης μὲν οὖν παρμικοῖς χρῆται καὶ συνάγει τὰ πτερύγια τῆς ῥινός, ἵνα διὰ τῆς τοῦ πνεύματος εἰς τὸ βάθος ἐμπτώσεως ἐκπέσῃ τὸ χόριον... Πάντα δὲ μοχθηρὰ τὰ προειρημένα. Διὰ μὲν γὰρ τῶν παρμικῶν ὁ πλείων σπαραγμὸς παραυτικά μὲν τὸν ἐξ αἰμορραγίας, ὕστερον δὲ τὸν ἐκ νευρικῆς συμπαθείας ἀποτελεῖ φόβον.<sup>30</sup>

The sternutories are condemned for their violent effect, both immediately after administration and later on. Soranus also criticises the drugs promoting a quick birth recommended by οἱ περὶ τὸν Ἴπποκράτην for being too violent. The formula οἱ περὶ τὸν Ἴπποκράτην, literally 'those around Hippocrates', is difficult to translate and

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<sup>28</sup> Celsus, *De medicina* 6.6.1e. Translation: 'According to Hippocrates, the oldest authority, the eyes are treated by bloodletting, medicaments, bathing and wine; but he gave little explanation of the times <of application> and reasons for these remedies, things which are of the uttermost importance in medicine.'

<sup>29</sup> On Soranus' attitude towards Hippocrates, see Gourevitch (1992); Hanson (1971): 180-200; Mazzini (1999).

<sup>30</sup> Soranus 4.14-15 (Ilberg 144.21-23 and 145.14-16). Translation: 'Now Hippocrates uses sternutories and draws together the wings of the nostrils, so that the afterbirth may fall down because of the pressure of the descending breath... All the things mentioned above are bad. For the increased spasm provoked by sternutories causes danger, immediately of haemorrhage, and later of sympathetic affection of the nerves.' In the Hippocratic Corpus, sternutories are recommended at *Aph.* 5.49 (Jones 170.13-15; L4.550.3-4) and *Epid.* 2.5.25 (Smith 80.5-7; L5.132.10-12).

could mean ‘Hippocrates’ followers’, ‘Hippocrates and his followers’, or simply ‘Hippocrates’: in any case, the formula does not distinguish the followers as a separate group from Hippocrates.<sup>31</sup> The recipes promoting a quick birth attributed to the followers of Hippocrates by Soranus have close parallels at *Diseases of Women* 1.77:<sup>32</sup>

S = Soranus, <i>Gynaecology</i> 4.13 [65] (Ilberg 144.2-7)	DW = <i>Diseases of Women</i> 1.77 (L8.170.9-172.4)
Τὸ δὲ ὠκυτόκια προσαναγράφειν, ὡς ἄλλοι καὶ οἱ περὶ τὸν Ἱπποκράτην ἐποίησαν, σχεδιάζοντός ἐστιν.	
1. Οὔτε γὰρ δάφνης φύλλα ξηρὰ μετὰ θερμοῦ ὕδατος·	1. Ὦκυτόκια δυστοκεύσῃ· δάφνης ῥίζην ξύσας ἢ τοὺς κόρους ὅσον ἡμισυ ὄξυβάφου, ἐφ’ ὕδατι δὸς πειν θερμήνας.
2. Οὔτε δίκταμνον ἢ ἀβρότονον καὶ κεδρία καὶ ἄνισον μετὰ γλυκέος καὶ παλαιοῦ ἐλαίου·	2. Ὦκυτόκιον· δικτάμνου ὅσον δύο ὀβολοὺς τρίψας ἐν ὕδατι θερμῷ πινέτω. 3. Ἡ ἀβροτόνου δραχμὴν καὶ κεδρίδας καὶ ἄνησον ἐντρίψας ἐν γλυκέος οἴνου κύαθῳ, παραχέας ὕδατος παλαιοῦ κύαθον, δὸς πειν· τοῦτο καλὸν δίδοται, ἦν πρὸ τῶν ὠδίνων δοθῆ.
	4. Ἡ δικτάμνου ὀβολὸν, σμύρνης ὀβολὸν, ἀνήσου δύο ὀβολοὺς, νίτρου ὀβολόν· ταῦτα τρίψας λεία, γλυκέος οἴνου ἐπιχέας κύαθον καὶ ὕδατος θερμοῦ κύαθους δύο, δὸς πειν, εἶτα λούσον θερμῷ.
	5. Ὦκυτόκιον· ῥητίνην τερμινθίνην, μέλι, ἔλαιον διπλάσιον τούτων, οἶνον εὐώδεα ὡς ἡδιστον, ταῦτα ξυμμίξας, χλιήνας, δίδοναι ἐκπειν πλεονάκις· καταστήσει δὲ καὶ τὰς μήτρας, ἦν φλεγμῆνωσιν.
3. Οὔτε καρπὸς ἀγρίου σικύου κηρωτῆ προσπλασσόμενος φοινικίνη καὶ ὄσφύι περιαιπτόμενος ὠκυτοκίαν παρασκευάζει.	6. Ἐτερον ὠκυτόκιον· τοῦ σικύου τοῦ ἀγρίου, ὅστις ἂν ἤδη λευκὸς ἦ, τὸν καρπὸν ἐμπλάσας κηρῷ, εἶτα εἰρίῳ ἐνελίξας φοινικέῳ περιαιπτον περὶ τὴν ὄσφυν.

There are several differences between the recipes presented by Soranus and the recipes we read in *Diseases of Women* I. Soranus simply lists ingredients, and never gives the quantities mentioned in the Hippocratic recipes. In addition, S1 mentions dried leaves of sweet bays (δάφνης φύλλα ξηρὰ), whereas DW1 mentions root or sprouts of sweet bay (δάφνης ῥίζην ξύσας ἢ τοὺς κόρους). S2 is a combination of

<sup>31</sup> See Hanson (1971): 186. See also van der Eijk (2001): ix-x for the expression οἱ περὶ Διοκλέα.

<sup>32</sup> See Appendix for translation. For ease of reference I shall refer to these series as Series S and Series DW respectively.

DW2 and DW3. S3 specifies that wild cucumber should be mixed with date salve (φοινικίνη), whereas DW6 indicates that the medication should be rolled in red wool (φοινικέω). Soranus' mistake is easily explained paleographically, but it seriously affects the meaning of the recipe; it was important for this amulet to be red in colour.<sup>33</sup> Finally, the Hippocratic series has more recipes than the series given by Soranus. Hanson interprets this as 'evidence for the tendency of this kind of text to be constantly expanding'.<sup>34</sup> However, Soranus may simply have chosen not to list these two recipes.

As suggested by Hanson, Soranus may have read the gynaecological treatises in 'pre-digested', shortened format.<sup>35</sup> Alternatively, he may have quoted from memory, in a not very accurate manner.

Soranus' criticism of Hippocratic pharmacology was not limited to gynaecological remedies. Caelius Aurelianus' (fl. c. 420) translation/adaptation of *Chronic and Acute Diseases* preserves some of Soranus' comments on non-gynaecological Hippocratic recipes, as in the following example:

*Ex antiquis autem Erasistratus et Herophilus de ista passione nihil dixerunt. Hippocrates uero libro Regulari, quem Dieteticum uocauit, peripneumonicae inquit remedium aptandum ex cocco atque galbano atque Attico melle uel abrotono ex aceto mulso atque pipere admixto et helleboro nigro. 'Summum', inquit, 'est etiam panacem in mulso ex aceto confecto decoquere et liquatum dare bibendum.' Sed haec somnia Soranus esse iudicauit et propterea reprobanda adiciens, quod mulsum ex aceto factum constringat et sit inconueniens tumori.*<sup>36</sup>

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<sup>33</sup> See Hanson (2004a): 276.

<sup>34</sup> Hanson (1971): 194. See Hanson (1998): 83-84 and Hanson (2004a): 277.

<sup>35</sup> Hanson (1971): 258.

<sup>36</sup> Caelius Aurelianus, *Acut.* 2.154 (Bendz 236.5-13). Translation: 'Among the ancients, Erasistratus and Herophilus did not say anything about this affliction <sc. peripneumonia>. Hippocrates, on the other hand, in his book *Rules for Guidance*, which he called *Dieteticum*, says that one must prepare a remedy against peripneumonia, made of <Cnidian?> berry, galbanum, and Attic honey or wormwood, in vinegar mixed with honey, to which are added pepper and black hellebore. "It is excellent," he says, "to boil all-heal in mixed-wine made with vinegar and give it to drink liquefied. But Soranus judged these to be harmful, and therefore to be condemned, adding that mixed-wine made with vinegar is binding, and therefore unsuitable for the swelling.' On Caelius Aurelianus' translation/adaptation of Soranus, see Pigeaud (1982).

Soranus/Caelius Aurelianus is here quoting, rather accurately, a series of remedies found in the *Appendix to Regimen in Acute Diseases*, a treatise deemed spurious in some of the medieval manuscripts.<sup>37</sup> These remedies are condemned for being too binding, and therefore unsuitable for the treatment of peripneumonia.

There is an interesting contrast between the Methodist attitude towards Hippocratic remedies, on the one hand, and Galen's attitude, on the other. As a pioneer in the field of pharmacology, Hippocrates plays an important role in Galen's writings; but Hippocratic recipes are passed over in silence, most probably because Galen found more recent recipes to be more useful. Soranus, on the other hand, criticised the Hippocratic remedies as if they had been written by one of his contemporaries, and as if they were still commonly used in the first century AD – and this may well have been the case, as I will show in the following paragraphs.

#### **7.4 Unacknowledged borrowing or coincidental similarity?**

Cases of unacknowledged borrowings of Hippocratic material are common in the medical literature. Some authors consciously quoted Hippocratic material without acknowledging it. For instance, in the twentieth book of the *Natural History*, Pliny recommends cyperus in a drink to open the womb, without acknowledging his source: *Cyperos... uuluas aperit pota*.<sup>38</sup> Now, cyperus is prescribed as a pessary to open the womb at *Barren Women* 2.235: Προσθετὸν ὑστερέων, ἣν ξυμμεμύκη ἢ σκληρὸν ἢ τὸ στόμα... Θεραπεία ἐπὶ τὸ αὐτὸ νόσημα: ἴριν εὐώδεα κόψας καὶ διασήσας χωρὶς, κυπεύρου ἴσον, καὶ ἔκμαγμα ὅσον μαγίδα, οἴνω ἀνθοσμὴ διεῖναι.<sup>39</sup> The Hippocratic text may well be Pliny's source for this gynaecological use of cyperus; in his table of contents, Pliny lists Hippocrates as a source for the twentieth book of his *Natural History*, but the name of the Coan physician does not appear anywhere in this book.

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<sup>37</sup> *Acut.Sp.* 11 (Joly 85.4-9; L2.464.12-466.4): Περιπνευμονίης ἐκλεικτὸν· χαλβάνη καὶ κόκκαλος ἐν μέλιτι Ἀττικῶ· καὶ ἀβρότονον ἐν ὄξυμέλιτι πιεῖν <καὶ> πέπερι. Ἐλλέβορον μέλανα ἀποζέσας πλευριτικῶ ἐν ἀρχῇσι περιωδύνω ἐόντι δίδου· ἀγαθὸν δὲ καὶ τὸ πάνακες ἐν ὄξυμέλιτι ἀναζέσαντα καὶ διηθέοντα διδόναι πίνειν. Translation: 'Electuary for peripneumonia: galbanum and <Cnidian?> grain in Attic honey; and drink wormwood in *oxymeliton* with pepper. Boil black hellebore; give it to the person suffering from pleurisy at the beginning, when he is in great pain. It is also excellent to boil up all-heal in *oxymeliton*, to filter it, and give to drink.'

<sup>38</sup> Pliny, *H.N.* 21.71.119. Translation: 'Cyperus... as a drink it opens the womb.'

<sup>39</sup> *Steril.* 235 (L8.450.3 and 15-17). Translation: 'Pessary for the womb, if the mouth <of the womb> is closed and hard... Therapy for the same disease: Chop sweet-smelling iris and sift separately, the same amount of cyperus and one *magis* of saffron paste; soak with sweet-smelling wine.'

Other medical authors may have been unaware of the Hippocratic nature of the material they were quoting. For instance, in a late-antique collection of recipes, included in the twelfth-century MS Laurentianus 75.3,<sup>40</sup> one can read a non-attributed recipe, which is parallel almost word-for-word to a recipe listed in *Diseases of Women* 1.91:<sup>41</sup>

<i>Diseases of Women</i> 1.91	Recipe collection 28
Ἦν κύουσαν χολή λυπέη, πτισάνης χυλὸν δίδου, ῥόον ἐπιπάσσων τὸν ἐρυθρὸν ἢ τὸν ἐκ τῆς συκαμίνου, ψυχρὸν δὲ ῥοφεέτω, καὶ καταστήσεται.	Ἔγκυον γυναῖκα ὑπὸ χολῆς ἀσθενοῦσαν θεραπεύειν. Πτίσανης χυλὸν ἐπίπασσον ῥοῦν Συριακὸν, ἢ τὸν ἐκ τῆς συκαμίνου καὶ ψυχρὸν ῥοφάτω καὶ καταστήσει.

This recipe remains anonymous, whereas other recipes in this compilation are attributed to Alexander <of Tralles>, Galen, Archigenes, Andromachos, Damokrates, and Cleopatra.<sup>42</sup> Calling upon the authority of past medical actors was important for the compiler of this collection of recipes: had he known this recipe was ‘Hippocratic’, he would certainly have mentioned it.

Similarities between versions of recipes cannot always be ascribed to unacknowledged borrowing, however. For instance, Anna Maria Ieraci Bio may be too hasty when she argues that Oribasius and Paulus were borrowing from the Hippocratic *Epidemics* when they wrote down the following recipe for whitlow:<sup>43</sup>

<sup>40</sup> This heterogeneous collection of recipes (Kousis 57.11-67) follows immediately, without break, the gynaecological treatise of Metrodora (Kousis 48-57.11). Since this collection includes two recipes attributed to Alexander of Tralles, this compilation must be dated to at least the sixth century AD. It is not necessary, however, to assume that Metrodora’s treatise was written at such a late date (see below).

<sup>41</sup> Translation:

<i>Mul.</i> 1.91 (L8.74.18-21)	Recipe collection 28 (Kousis 61.31-32)
If bile distresses a woman in childbirth, give juice of <i>ptisane</i> , sprinkle it with red sumach or with the <berry> of the mulberry-tree; let her drink it cold as a soup and she will recover.	To cure a pregnant woman weakened by bile. Sprinkle the juice of <i>ptisane</i> with Syrian sumach, or with the <berry> of the mulberry-tree; let her drink it cold and she will recover.

On this recipe, see Ieraci Bio (1999): 464.

<sup>42</sup> Alexander: Kousis 61.25-30; 63.11-14; Galen: Kousis 63.11-14; Archigenes: Kousis 58.36-39; Andromachos: Kousis 58.8-26; Damokrates: Kousis 59.11-13; Cleopatra: Kousis 57.14-17. I could not find any exact parallel to Alexander’s recipes. However, we may well have here a reference to Alexander of Tralles because the recipe in chapter 104 contains lemon, an ingredient that Alexander of Tralles includes in several of his prescriptions.

<sup>43</sup> Ieraci Bio (1999): 464.

Translation:

<i>Epid.</i> 2.6.27 (L5.138.4)	Oribasius, <i>Synopsis ad Eusthatium</i> 7.18 (Raeder 222.11-12)	Paulus 3.81 (Heiberg 1.312.18-19)
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<i>Epidemics</i> 2.6.27	Oribasius, <i>Synopsis for Eustathius</i> 7.18	Paulus 3.81
Παρωνυχίης· κηκίς μέλαινα ἐν μέλιτι.	Τὴν παρωνυχίαν μικρὰν οὖσαν ἔτι ἀρχομένην κηκίς μετὰ μέλιτος καταστέλλει καὶ κωλύει συστήναι·	Μικρὰν μὲν οὖν οὖσαν ἔτι τὴν παρωνυχίαν καὶ ἀρχομένην κηκίς μετὰ μέλιτος καταστέλλει καὶ συστήναι κωλύει.

Paulus of Aegina (fl. c. 640<sup>AD</sup>) has clearly borrowed the recipe and its formulation from Oribasius. However, it is not certain whether Oribasius borrowed from the Hippocratic Corpus, or even from a compendium including Hippocratic recipes. The use of an unguent composed of oak-gall (*kekis*) and honey – two readily available and cheap ingredients – may have been widespread for the cure of whitlow. The combination oak-gall and honey appears in recipes for emollient unguents transmitted in the Galenic Corpus, as in the following example: Πρὸς νεμομένας ἄφθας. Κηκίδων ἀφέψημα εἰς ἴσον μέλιτι μίξας καὶ ἀναζέσας χρῶ.<sup>44</sup>

By implying that Oribasius had quoted Hippocrates, Ieraci Bio made the mistake of forgetting that behind each written recipe there is some actual therapeutic knowledge that can be transmitted either by writing or orally. This recipe against whitlow may have been transmitted orally and written down at different times in history in similar ways – there is not an infinity of ways in which a two-ingredient recipe can be formulated.

The similarities, both in theoretical exposition and in practical recommendations, between Metrodora's treatise (first century AD?) and the Hippocratic gynaecological treatises pose a more complex problem.<sup>45</sup> There are examples of recipes prescribed by 'Metrodora' that bear <sup>some</sup> similarity to Hippocratic

Against whitlow: black oak-gall in honey.	Oak-gall with honey reduces the whitlow when it is small and still incipient, and it hinders its growth.	Oak-gall with honey reduces the whitlow when it is still small and incipient, and hinders its growth.
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See also Oribasius, *Ad Eunapium* 2.33.1 (Raeder 415.21-22).

<sup>44</sup> Galen, *De Remediis Parabilibus* 10.7 (K14.363.3-4).

<sup>45</sup> For this date, see Deichgräber (1932); Nutton (1995): 49. For a date in the Byzantine period, see Congourdeau (1993); Kousis (1945); Rubio Gómez (1996); Touwaide (2000).

recipes, although they are never formulated in exactly the same words, and often present small variations in ingredients.

For instance, Metrodora recommends two pessaries against inflammation of the mouth of the womb: one made with milk of a woman who has borne a male child and rose perfume, another composed of the yolk of an egg and rose-perfume: Λαβῶν γυναικὸς ἀρρενοτόκου γάλα καὶ μύρον ρόδινον, ἴσα ἅμα ἀνακόψας καὶ θερμάνας, ἐν πεσσω ἀναλαβῶν πρόσθε<ς> ἐν τῷ στόματι τῆς ὑστέρας ἢ ὡοῦ τὸ πυρρὸν λειώσας μετὰ ροδίνου ἐν πεσσω ἀναλαβῶν ἐπιθές.<sup>46</sup>

Similar emollient recipes for the hardened mouth of the womb are found at *Diseases of Women* 2.158:

Ἦν δὲ μὴ ἐσδέχηται τὸ στόμα τῶν ὑστερέων τὴν γονὴν, ἀλλὰ στερωδὲς ἢ καὶ ζυμμεμύκη... Ἦ ἐκλέψας κόκκους πεντεκαίδεκα, ἔστω δὲ καὶ Ἰνδικοῦ ποσὸν, ἦν δοκέη δεῖν, ἐν γαλάκτι δὲ γυναικὸς κουροτρόφου τρίβειν, καὶ παραμίσειν ἐλάφου μυελὸν καὶ τᾶλλα ὀκόσα εἴρηται, καὶ μέλιτι ὀλίγω μίσειν· τὸ δὲ εἴριον μαλθακὸν καθαρὸν ἔστω, καὶ προστίθεσθαι τὴν ἡμέρην. ἦν δὲ βούλη ἰσχυρότερον ποιέειν, σμύρνης σμικρὸν τι παραμίσειν· ἄριστον δὲ ὡοῦ τὸ πυρρὸν καὶ αἰγὸς στέαρ καὶ μέλι καὶ ἔλαιον ρόδινον, τουτέοισιν ἀναφυρῆν, παραγλαίειν δὲ παρὰ τὸ πῦρ καὶ τὸ ἀποστάζον εἰρίω ξυλλέγειν καὶ προστιθέναι.<sup>47</sup>

The recipes listed by Metrodora appear to be simplified versions of our Hippocratic recipes: they contain fewer ingredients and do not give detailed rules of procedures. In addition, there is a difference of vocabulary: the first Hippocratic recipe uses the words γαλάκτι γυναικὸς κουροτρόφου, whereas the equivalent recipe in Metrodora's

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<sup>46</sup> Metrodora 4 (Kousis 51.12-16). Translation: 'Take the milk of a woman who has borne a male child and rose perfume; chop together the same amount of each, heat, take up into a pessary and apply to the mouth of the womb. Or crush the yolk of an egg with rose oil, take up into a pessary and apply.'

<sup>47</sup> *Mul.* 2.158 (L8.334.17-18 and 336.7-15). Translation: 'If the mouth of the womb does not take up semen, but is hard and closed... Or peel fifteen <Cnidian?> grains, let there also be, if it seems necessary, a portion of Indian <grains>; crush in the milk of a woman who has borne a male child, and mix with deer marrow and all the other <ingredients> that have been listed, add a little honey. Let the wool be soft and clean, and apply for the day. If you want to make it stronger, add a little myrrh. What is best: yolk of an egg, goat suet, honey, rose oil, mix these, warm slightly over a fire, and collect the drops onto wool; apply.'

collection talks about γυναικὸς ἀρρενοτόκου γάλα. Maybe ‘Metrodora’ was here replacing a rare expression by a more familiar one.

Examples of similarities between Metrodora’s treatise and the Hippocratic gynaecological writings could be multiplied. However, since Metrodora does not mention the name of Hippocrates, or any other name, it is unclear whether s/he consulted written Hippocratic material (in the format known to us, or in an abbreviated version). Metrodora may have written down gynaecological pharmacological knowledge that was transmitted orally, and s/he could have been unaware of the fact that this oral tradition had once been influenced by the Hippocratic writings. In any case, Metrodora’s treatise testifies to the continuing success of the gynaecological recipes: at least 300 years after being included in *Diseases of Women*, these prescriptions could still form part of a gynaecological treatise. We are faced with a tradition, the strength of which was not exclusively linked to the authority of Hippocrates, the founder of medicine. My argument can be strengthened by a study of the late-antique Latin translations or adaptations of *Diseases of Women* I and II: whereas the translation of *Diseases of Women* I was strongly linked to the authority of Hippocrates, some copies of the Latin adaptation of *Diseases of Women* II circulated without any reference to the founder of medicine.

### ***7.5 Latin translations of the Hippocratic gynaecological recipes***

*Diseases of Women* I and II were among the eight Hippocratic treatises translated into Latin in late antiquity, the six others being *Airs, Waters and Places*; *Weeks*; *Prognostic*; *Regimen* I and II; and *Aphorisms*.<sup>48</sup> Innocenzo Mazzini pointed out a series of similarities shared by these translations: 1) morphological similarities: oscillation in the gender and in the declension of nouns and in the conjugation of verbs; 2) syntactical similarities: variation in the use of prepositions and conjunctions, and extended use of the accusative; 3) lexical similarities: use of Greek and Latin lexical forms typical of late antiquity, and particularly of the fifth and sixth centuries AD; and 4) similarities in the techniques of translation: the translators generally translate the Greek literally, but at times they take liberties with their Greek model, adding, removing, or modifying the material.<sup>49</sup>

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<sup>48</sup> See Kibre (1985) for a repertory of Hippocratic texts in Latin.

<sup>49</sup> Mazzini (1985): 66-68.

Mazzini suggested that these eight translations were produced in Ravenna in the sixth century AD. He advanced two arguments in favour of this hypothesis. First, MS Ambrosianus gr. 108 inf. (end of ninth century AD), which includes translations of the Hippocratic treatises *Prognostics*, *Airs Waters and Places*, and *Weeks*, contains Latin commentaries on four Galenic texts (*Sects for Beginners*; *Medical Art*; *Pulses for* <sup>ἰατρικῶν</sup>; *Method of Healing for Glaucon*) that can be attributed to Ravenna.<sup>50</sup> Indeed, the explicit to three of these commentaries specify that the physician Simplicius wrote them down, following the lectures of the iatrosophist Agnellus, active in Ravenna.<sup>51</sup> Second, Mazzini argues that there are linguistic correspondences between the Latin translations of the Hippocratic treatises and the Latin translations of Oribasius, which were produced in Ravenna in late antiquity – the translator of Oribasius reveals that he worked at Ravenna.<sup>52</sup> Mazzini concluded that the eight late-antique Latin translations of Hippocratic treatises were made in Ravenna by bilingual translators, experts in medicine, working for the medical school located in that city.<sup>53</sup>

Mazzini may have exaggerated the characteristics shared by these Latin late-antique translations, however. Manuel Enrique Vázquez Buján showed that the Latin translations of two Hippocratic texts – *Diseases of Women I* and the gynaecological sections of the *Aphorisms* – used different vocabulary to translate technical terms.<sup>54</sup> These variations in vocabulary, he argued, could be interpreted either as personal differences between translators belonging to the same ‘team’ (based in the same place), or as differences in the geographical and/or chronological origin of the translations. Vázquez Buján further suggested that some of the late-antique translations of Hippocratic treatises could have been produced in North Africa, a

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<sup>50</sup> See Beccaria (1956): 288-291 for a description of this manuscript.

<sup>51</sup> MS Ambrosianus gr. 108 inf. fol. 48r: *Ex uoce Agnello iatrosophista ego Simplicius, deo iuuante, legi et scripsi in Ravenna feliciter.* Translation: ‘From the lecture of the iatrosophist Agnellus I, Simplicius, with the help of God, collected and wrote <this> fruitfully in Ravenna.’ Fol. 91r: *Ex uoce Agnello archiatro, deo iuuante, ego Simplicius medicus legi, contuli et scripsi in Ravenna feliciter.* Translation: ‘From the lecture of the iatrosophist Agnellus, with the help of God, I, the physician Simplicius, collected, gathered and wrote <this> fruitfully.’ Fol. 114r: *Ex uoce Agnello iatrosophista ego Simplicius audiui, legi, contuli, deo iuuante, et scripsi feliciter.* Translation: ‘From the lecture of the iatrosophist Agnellus, I, Simplicius, heard, collected, gathered, and wrote <this> fruitfully with the help of God.’ See Ihm (2002): 55-59 for details and bibliography on Agnellus.

<sup>52</sup> See Mazzini (1991): 292. For examples showing that the translator of Oribasius worked in Ravenna, see Morland (1932): 191-192: *Emplastrum immotum quem accepi a Martyrio archiatro Ravenna.* Translation: ‘Immovable plaster which I have received from Martyrius, archiatros at Ravenna.’ *Epithima diaspermaton quem accepi a Maximo pimentario Ravenna.* Translation: ‘Application “through-seed” which I have received from Maximus, pigment seller at Ravenna.’

<sup>53</sup> Mazzini (1985): 68-70. See also Mazzini and Flammini (1983): 45-46. On the medical school of Ravenna, see Mazzini and Palmieri (1991); Palmieri (1994).

<sup>54</sup> Vázquez Buján (1984).

region where a series of Latin authors exploiting and/or translating Greek medical treatises were active at the end of the fourth, beginning of the fifth century AD: Vindicianus (second half of the fourth century), Theodorus Priscianus (fourth or fifth century), Caelius Aurelianus (*fl. c. 420*), and Cassius Felix (*fl. 447*).<sup>55</sup> Since most of these authors produced gynaecological writings based on Soranus' *Gynaecology*, North Africa seems a likely candidate for the production of Latin translations of Hippocratic gynaecological texts.<sup>56</sup> However, the African medical treatises tend to contain fewer graecisms than the translations of the Hippocratic treatises.<sup>57</sup>

In the following pages, I examine the recipes within the Latin translations of *Diseases of Women I* and II. Each of these translations will be studied separately in order to stress their differences.

### 7.5.1 *The Latin translation of Diseases of Women I*

A partial translation of *Diseases of Women I* is known through two early manuscripts: MS Parisinus 11219 and Ms. Petroburgensis Lat. F.v.VI.3.<sup>58</sup>

MS Petroburgensis Lat. F.v.VI.3 was produced at the end of the eighth century or the beginning of the ninth century in France, probably at the monastery of Corbie.<sup>59</sup> It contains ten medical texts, including six anonymous gynaecological works.<sup>60</sup> The first gynaecological text is a fragment of the Latin translation of *Diseases of Women I*, corresponding to the end of chapter 10, chapter 11, and the first sentence of chapter

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<sup>55</sup> Vázquez Buján (1986): 60.

<sup>56</sup> The third book of Theodorus Priscianus' *Euporista* is devoted to gynaecology; Caelius Aurelianus composed a *Gynaecia* based on Soranus' gynaecological writings; Vindicianus' *Genecia* is not dealing with women's diseases but with theories of generation and embryology. Mustio/Muscio, the author of a *Gynaecia* based on Soranus' *Gynaecology*, is also generally assumed to be an African, writing in the sixth century AD, although there is no evidence to support this assumption (see Hanson and Green [1994]: 1046). On gynaecological works produced in North Africa, see Green (1985): 134-140.

<sup>57</sup> Green (2000): 15 suggests that the translation of *Diseases of Women I* was produced in North Africa, but Green (1985): 142-149 follows Mazzini in attributing the Latin translations of the Hippocratic gynaecological treatises to Ravenna.

<sup>58</sup> This translation has known two recent editions: Flammini and Mazzini (1983) and Vázquez Buján (1986). Grensemann (1982): 48-55 gives a transcription of the text of MS Parisinus; Walter (1935) and Egert (1936) reproduce the text of MS Petroburgensis.

<sup>59</sup> See Beccaria (1956): 399-402 for a description of the manuscript. The manuscript was in St. Germain des Prés before being brought to Russia in 1791. At St. Germain, the manuscript was bound together with a collection of hagiographies (now MS Petroburgensis F.v.I.12) that was transferred to St Germain from Corbie in 1638. Although our manuscript is not listed in the inventory of the Corbie library, it may well have been produced in that abbey. MS Petroburgensis F.v.VI.3 is not listed in Ganz (1990); on MS Petroburgensis F.v.I.12, see Ganz (1990): 135; 155.

<sup>60</sup> On the medical texts of this manuscript, see Brüttsch (1922); Diepgen (1933); Egert (1936). Brüttsch edits the text of *De Diversis Causis Mulierum*; Egert edits the text of *Liber de Causis (sic) Feminarum; Liber de Muliebria Causa; Liber de Muliebria*.

12 of our Greek text (fols. 8ra-8vb). This text is followed by another gynaecological treatise entitled *De Diversis Causis Mulierum*, which contains Hippocratic material (fols. 9ra-25vb).<sup>61</sup> Finally, MS Petroburgensis includes a text entitled *De Muliebria* (fols. 32ra-37vb), also present in MS Parisinus 11229, where it is attributed to Actius Iustus.

Ms Parisinus was produced in the ninth century in western France, probably at St. Denis. It contains forty-one different medical texts.<sup>62</sup> The gynaecological section of this manuscript contains a fragment attributed to a certain Actius Iustus (fols. 210ra-211vb) and a Latin translation of *Diseases of Women I*, corresponding to chapters 1 and 7-38 of our Greek text (fols. 212ra-221rb). This translation is preceded by a letter 'from Hippocrates to Mecenas' listing three branches of medicine;<sup>63</sup> and is introduced by a prologue stressing the role of Hippocrates in the field of gynaecology:

*Prologus. Praeco ueritatis et sine mendacio didasculus, sicut exinde <d>eorum semine confectus, solus in mundo Ippocrates inluminauit artem medicinae et praestitit generi humano salutem. In tantum cum praeterierat non solum Asclipeum et Sustratum et Ysocratem auum suum et patrem Araclidem et alios multos, ipse et generi mulierum praestitit salutem humanam et locutus est de curis ipsarum propter infirmitates mulierum.*<sup>64</sup>

<sup>61</sup> See below for more detail on this text.

<sup>62</sup> See Beccaria (1956): 166-173; Vázquez Buján (1986): 63-82; Wickersheimer (1966): 112-123 for a description of the manuscript. Glosses in Old German indicate that the manuscript was in German territory in the eleventh and thirteenth centuries.

<sup>63</sup> This text is transcribed by Beccaria (1959): 38. *Incipit epistola Ypocratis ad Mecenam salutem. Prouocas me de studio scolae artis medicinae dicere et tractare de statu corporis generis humani, hoc est de natura nostra, primum de conceptu, secundum de interaneis et uisceribus nostris, tertium de substantia et quibus gubernaculis membrorum sumus expositi et quibus uitiis dediti sumus usque ad aduersa pericula, quae patimur.* Translation: 'Incipit: letter of Ypocrates <sc. Hippocrates> to Mecenas, greetings. You incite me to talk about the study of the art of medicine and to deal about the state of the body of the human genus, that is about our nature: first about conception, second about our internal organs and our viscera, third about <our> substance and with what instruments for controlling our limbs we are set forth, and to what vices we surrender ourselves, right up to the adverse dangers which we suffer.' Beccaria (1959): 39 believes the translation of *Diseases of Women I* is the first part of the programme set out in the letter to Mecenas. Following Beccaria, Mazzini and Flammini (1983): 9 have given the title *De Conceptu* to this translation. Vázquez Buján (1982), however, believes the transmission of this letter is independent of the transmission of the translation. I have therefore chosen not to give a Latin title to the translation of *Diseases of Women I*.

<sup>64</sup> Mazzini and Flammini (1983): 53.1-7. Translation: 'Prologue. Herald of truth and master who does not lie, as if made out of the seed of the gods, unique in the world, Ippocrates <sc. Hippocrates> illuminated the art of medicine and provided good health to the human genus. Not only did he surpass Asclipeus <sc. Asclepius>, Sustratus <sc. Sostratus>, his grand-father Ysocrates <sc. Hippocrates>, his father Araclides <sc. Heracleides>, and many others, but he also provided human health to the female genus, and talked about their cures because of women's weakness.'

In this prologue, Hippocrates appears as a legendary character, not only founder of the discipline, but also almost divine.

MSS Parisinus and Petroburgensis are independent; none seems to be a copy of the other.<sup>65</sup> In addition, Mazzini and Hanson concluded that the Greek manuscript used by the translator could not be identified with any of the three known branches of the Greek manuscript tradition for *Diseases of Women I*.<sup>66</sup> According to Hanson, this translation testifies to a state of the text preceding the division of the *stemma* into its branches Theta, M, and V.

The early date of these two Latin manuscripts serves as a *terminus ante quem* for the production of the Latin translation of *Diseases of Women I*. It may be suggested that a complete Latin translation of *Diseases of Women I* once existed, from which the translation we know was excerpted, and perhaps reworked.<sup>67</sup>

The order of the chapters in the Latin translation of *Diseases of Women I* is the same as in our Greek text.<sup>68</sup> The chapters of the translation that are preserved, like the original Greek, contain relatively few recipes. The Latin recipes against tumours of the womb, corresponding to the end of our Greek *Diseases of Women I* 1.34, will serve as an example to illustrate the translation technique employed:<sup>69</sup>

G = <i>Diseases of Women I</i> 1.34 (L8.80.20-82.12)	L = <i>De mulierum affectibus</i> (Mazzini and Flammini [1983]: 73.566-583 with small modifications)
Ἄσσα δὲ οἰδήματα γίνεται ὑστερικὰ ἐν τόκῳ ἢ ἐκ τόκου, οὐ χρὴ στύφειν, οἷα οἱ ἰητροὶ ποιέουσιν·	Si tumores fiant in matrices tempore partus, in gemitu aut post gemitum, non debemus stiptions uti, quibus et alteri medici utuntur.
1. Φάρμακα δὲ τάδε ἄριστα προσφέρειν, κύμινον Αἰθιοπικόν, ὅσον τοῖσι τρισὶ δακτύλοισι, καὶ τοῦ ἀννήσου, καὶ τοῦ σεσέλιος πέντε ἢ ἕξ, γλυκυσίδης χηραμύδος ἡμισυ τῆς ῥίζης, ἢ καὶ τοῦ σπέρματος, ταῦτα ἐν οἴνῳ λευκῷ ἡδυόδμῳ μάλιστα νήσται διδόναι	1. Farmaca autem utilia sunt haec, ciminum Etyopicum, quantum potest tribus complectere digitis, et anisum et apium et siseleos quinque aut sex, gligesidis parte media, herba est quam alii pionia dicunt, et in uinum album qui praeterea bene olidus est ieiune potui

<sup>65</sup> Mazzini and Flammini (1983): 47; Vázquez Buján (1986): 91-99.

<sup>66</sup> Hanson (1971): 152 considers the three main manuscripts; Mazzini in Mazzini and Flammini (1983): 42 considers only Theta and M).

<sup>67</sup> See Vázquez Buján (1986): 51

<sup>68</sup> For a table of correspondence, see Mazzini-Flammini (1983): 49.

<sup>69</sup> See Appendix for translation. For ease of reference, I shall refer to these series as Series G and Series L respectively.

	dabis.
2. Ἡ δαύκου ρίζην Αἰθιοπικοῦ, σέσελι, γλυκυσίδης ρίζην τὸν αὐτὸν τρόπον·	2. Uel radices dauci uel anetum et siseleos et radicem gligesides <ad> similitudinem, sicut superius dictum est, facis et dabis in potu.
3. Ἡ ἵπποσελίνου καὶ δαύκου Αἰθιοπικοῦ καρπὸν ὡσαύτως·	3. Aliud †et petroselino† <semen> dauci, id est sementia pastenaci, et ciminum Etyopicum dabis in uino potui, quantum oboli quattuor Attici.
4. Ἡ κρήθμου ρίζαν, ἢ κυμίνου Αἰθιοποκοῦ Ἀττικὸν τετράβολον, ἢ πέπερι, ἄνησον, δαῦκος, ἀκτέα, γλυκυσίδης ρίζα· ταῦτα ἐν οἴνῳ τρίβειν καὶ διδόναι πίνειν.	<semen>: addit Totelin 4. Uel piper, anisum, daucum, gligesidis radices, haec omnia in uino potui dabis. anisum Totelin: anisu Mazzini et Flammini
5. Ἡ μυρτιδάνου κλωνία δύο ἢ τρία, καὶ κύμινον Αἰθιοπικόν, γλυκυσίδης ρίζην, ἢ λίνου σπέρμα ὁμοίως, ὃ καὶ τὰ παιδία βήσσοντα ψωμίζουσι ξὺν ὡῶ ὀπτῶ λεκίθῳ, ξὺν σησάμῳ πεφρυγμένῳ.	5. Aliud: myrtæ ramusculus duo uel tria, ciminum Etyopicum, gligesidis radices, semen de lino dabis similiter in uino bibere.
6. Ἦν παιδοῦσα ἀφθᾶ τὰ αἰδοῖα, ἀμύγδαλα τρίψας καὶ βοδὸς μυελὸν ἐν ὕδατι ἐψεῖν. καὶ ἄλητον ἐμβαλὼν σμικρὸν, διαχρίειν τὰ αἰδοῖα, καὶ διακλύζειν τῷ ὕδατι τῷ ἀπὸ τῶν μύρτων.	6. Nam si infans tussit, sisamum frixtum dabis et cum amigdolas tritas et medulla et bubula cocta dabis cum modicum salis et perungues palatum eius et de labiis eius terge murt<e>a.

In three cases, the Latin recipes have more ingredients than the Greek recipes: L1 adds parsley (*apium*); L2 adds dill (*anetum*); and L6 adds ox-tongue (*bubula*) and salt (*modicum salis*). It is impossible to determine whether these ingredients were listed in the Greek recipes at any point of their textual transmission.

In two cases, the boundaries between recipes are different in the Greek and in the Latin text. The boundary between G3 and G4 has shifted in the Latin translation, which, in addition, does not include two ingredients listed in G4 (κρήθμου ρίζαν and ἀκτέα). In the case of the first ingredient (κρήθμου ρίζαν), the Latin text seems to be corrupted, and no firm conclusion can therefore be drawn. On the other hand, the second ingredient (ἀκτέα) seems to not to have been present in the translator's Greek text, or forgotten by this translator, or lost at some point of the transmission of the Latin text.

The boundary between G5 and G6 has also shifted in the Latin translation, which diverges entirely from our Greek text. G5 is a recipe against tumours forming in the womb during childbirth, but it also includes an 'excursus': a recipe against children's cough, including linseed, egg and roasted sesame. G6 is a remedy against



thrush occurring during labour. The Latin has a recipe against tumours in the womb (L5) and a recipe against children's cough (L6), but no recipe against thrush. The last sentence of the Greek text, which reads 'smear over the genitals and inject with water of myrtles', is translated in Latin as 'you will anoint his palate <sc. the child's>, and cleanse his lips with myrtle-decoction'! This appears to be an attempt at creative composition in order to make sense of a corrupted text. It is however impossible to tell whether this transformation of the original text was already in the Greek text used for the translation or whether it was added in the Latin.

In two cases, botanical information is given in the translation: L1 explains that *gligesidis* (peony) is sometimes called *pionia*; L2 specifies that <*semen*> *dauci* is the equivalent of *sementia pastenaci*. This information indicates that the translator (or a commentator) had a knowledge of plant names in both Greek and Latin. On the other hand, the translator does not explain what an Attic obol is (see L3); one may wonder whether late-antique readers were familiar with this weight. In addition, it seems that the translator did not know the meaning of the rare word *χηραμίζ* (G1: a scallop-shell used as a measure), which is not translated into Latin.

To sum up, the variations between the Greek and the Latin are so significant that they deeply alter the meaning of the recipes. Even though Latin equivalents are given for two plant names, other Greek words are not translated (*siseleos*;<sup>70</sup> *oboli attici*). The use of graecisms is one of the most prominent characteristics of this translation of *Diseases of Women I*.<sup>71</sup> This characteristic, undoubtedly, limited the audience for this text. With the regression of Greek knowledge in western Europe, such translation would have lost its appeal: it is no surprise the two known manuscripts for this text were copied so early in the Middle Ages.

### **7.5.2 The Latin adaptation of Diseases of Women II (De Diversis Causis Mulierum)**

A Latin text, entitled *De Diversis Causis Mulierum*, including Hippocratic gynaecological material from *Diseases of Women II*, is found in two medieval

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<sup>70</sup> The Latin equivalent of the Greek σέσελι (hartwort) is *seselis*, but its genitive is *seselis*, not *seseleos*.

<sup>71</sup> See Mazzini and Flammini (1983): 20-21 for other examples.

manuscripts: MS Petroburgensis Lat. F.v.VI.3 and MS Londinensis Sloane 475.<sup>72</sup> In addition, portions of this text are also found in MS Vicenza, Biblioteca Civica Bertoliana, 287 and in MS Londinensis Harley 4977.

In 1922, Walter Brütsch published a transcription of the text found in MS Petroburgensis (fols. 9ra-25vb), failing to notice that it included material of a Hippocratic nature. This was discovered independently by Paul Diepgen (1933) and G. Walter (1935). Diepgen noted the correspondence between chapters 31-35 of the Latin text and chapters 127-131 of *Diseases of Women II*, and Mazzini enlarged this list of correspondences.<sup>73</sup> I believe Mazzini's list can be increased further, and that from chapter 21 of *De Diversis Causis Mulierum*, the material is Hippocratic, although I have not been able to determine a correspondence for each Latin chapter. This is mainly because the Latin does not follow the order of our Greek *Diseases of Women II*, and at times merges chapters separated in our Greek text. Identification of parallels between *Diseases of Women II* and *De Diversis Causis Mulierum* is made possible (and relatively easy) with the help of computers. However, the ancient reader was most probably completely unaware that this text contained Hippocratic material. In my opinion, it would be more correct to see *De Diversis Causis Mulierum* as an adaptation of the Hippocratic *Diseases of Women II*, rather than a translation *stricto sensu*. This adaptation includes unidentified non-Hippocratic material, which may have been transmitted together with a Greek version of *Diseases of Women II*, added by the translator himself, or later added to the Latin translation.

The text of *De Diversis Causis Mulierum* is also found in the medical manuscript Londinensis Sloane 475 (fols. 166r-209r). This manuscript is constituted of two parts: the first (fols. 1-124) dates from the twelfth century AD; the second (fols. 125-231, which includes our text) is from the eleventh century, and is written in several hands. The two parts were probably produced in the British Isles; the recipes in French added in the fourteenth century are not sufficient to contest this attribution (fols. 209-210v).<sup>74</sup> The second part of MS Sloane is one of the earliest medical British manuscripts in Latin. The diffusion of Latin medical texts in the British Isles during

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<sup>72</sup> See Green (2000): 11.

<sup>73</sup> Diepgen (1933): 228-229; Mazzini in Mazzini and Flammini (1983): 10-11.

<sup>74</sup> For a description of the manuscript, see Beccaria (1956): 255-259; Cameron (1983): 42; Hunt (1990): 82; Liuzza (2001): 225-227. Beccaria (1956): 258; Beccaria (1959): 43; Hanson (1975): 569; and Kibre (1985): 188 have noted the fact that MS Sloane 475 and MS Petro. contain the same text, although the text ends earlier in MS Sloane. Green (2000): 11 believes the manuscript comes from Brittany.

the eleventh century could be linked to an influx of people who knew Latin.<sup>75</sup> Contrary to their predecessors, these people referred to ancient authorities (mostly to Galen) in their manuscripts; MS Sloane includes a recipe attributed to Hippocrates (fols. 131v-132r): *hec est purgatio Ypocratis*.<sup>76</sup>

The differences between MS Petroburgensis and MS Sloane are usually insignificant orthographical variations. MS Petroburgensis may either have served as a model for the gynaecological section of MS Sloane, or the former manuscript could be the ancestor of the latter, the intermediary copy or copies being lost. In both manuscripts, the text is introduced by a table of contents listing 94 items.

In addition, a text entitled *Ad Offocationem uel Stranguriam Mulieris*, found in MS Vicenza 287 (fols. 146r-150v), has passages in common with *De Diversis Causis Mulierum*.<sup>77</sup> MS Vicenza 287 dates from the first half of the thirteenth century, may be Italian in origin, and contains several other gynaecological texts, including the *Epistula Hippocratis de Virginibus* (fols. 141v-142v).<sup>78</sup> Finally, MS Londinensis Harley 4977, a French manuscript of the twelfth century, contains on its last folio (fol. 120v) a fragment of the table of contents of *De Diversis Causis Mulierum*. This table of contents is directly preceded by a version of the *Epistula De Virginibus*, transmitted under the title *Epistula Emogratis (sic)*.<sup>79</sup>

*De Diversis Causis Mulierum* is a collection of recipes in which very little space is devoted to descriptions of diseases. Some of the recipes of *De Diversis Causis Mulierum* are word-to-word translations of Hippocratic material, as in the following example:<sup>80</sup>

<sup>75</sup> See Banham (forthcoming).

<sup>76</sup> This attribution to Hippocrates is most probably a fantasy: no parallel could be found for this recipe in our Hippocratic treatises.

<sup>77</sup> See Green (2000): 3. Unfortunately, I have been unable to consult this manuscript.

<sup>78</sup> The *Epistula* is edited by Fischer (2004). I wish to thank Dr. Fischer for discussing the transmission of *De Diversis Causis Mulierum* with me.

<sup>79</sup> See Fischer (2004): 219-220.

<sup>80</sup> Translation :

<i>Mul.</i> 2.135 (L8.306.17-20)	<i>DCM</i> 36
Four cantharides, without wings, legs and head, and five black grains of peony, eggs of cuttle-fish and a little seed of parsley; give to drink in wine.	Afterwards, four cantharides without legs, wings and head, and five grains of peony, eggs of cuttle-fish, a little parsley; you will give all these to drink in wine.

<i>Diseases of Women</i> 2.135	<i>De Diversis Causis Mulierum</i> 36 (my own edition)
Κανθαρίδας τέσσαρας, ἀπτέρους καὶ ἄποδας καὶ ἄτερ κεφαλῆς, καὶ γλυκυσίδης κόκκους πέντε τοὺς μέλανας καὶ σηπίης ὡὰ, καὶ σελίνου σπέρμα ὀλίγον ἐν οἴνω διδόναι πίνειν.	Postea cantarides IIII sine pedibus, pinnis et caput et glicisidis grana V et oua sepie, appie modice, haec omnia dabis in uino bibere.
	Pedibus S: pedes P    caput S: capud P    sepie S: sebie P <sup>81</sup>

There is only one slight difference between these two versions: the Greek text specifies that the grains of peony should be black, whereas the Latin is silent on the colour of the grains.

At times, our Latin text differs more strongly from our Greek, as in the following example:<sup>82</sup>

DW = <i>Diseases of Women</i> 2.187 and 188 (L8.368.6-16)	DCM = <i>De Diversis Causis Mulierum</i> 51
1. (2.187) Ἐπὴν γυναικὶ ἐν τῷ αἰδοίῳ ἢ ἐν τῷ ἀρχῷ ἀσκαρίδες γένωνται, λύγου καρπὸς μίσηται ἢ φύλλα, καὶ βοδὸς χολὴ παραμίσηται ὅσον ὀβολός· κεδρίνω δὲ ἐλαίῳ φυρῆν, καὶ εἰρίῳ πινόεντι εὐειροτάτῳ ἀναλαβεῖν· ἐντιθέσθω δὲ διὰ τρίτης νύκτα καὶ ἡμέρην, τῇ δὲ ὑστεραίῃ ἀφελομένη λουέσθω θερμῷ, καὶ σκόροδα ἐφθὰ καὶ ὡμὰ ἐσθιέτω, καὶ αἱ ἀσκαρίδες ἐξίασι καὶ θνήσκουσιν· ἄλμη δὲ κλύζειν χρῆ.	1. Ad mulierem, que intra uulua aut intestinis maioris lumbrici late nascuntur, quas greci ascaredas dicunt, et sunt formate, quasi semen cocurbitis. Utile est illis fructus tamaricis et fel taurinum ouolo l cummixto oleo cum lana supponere, et tertia die retolle. Postea lauacris utatur; alia cocta et cruda accipiant et mel calidum bibat; statim lumbrici procedunt mortui.
2. (2.188) Πρόσωπον ἀγλαΐζει ἥπαρ ταύρου, τρίβειν ξὺν ἐλαίῳ, ἀλείφειν δὲ ἐν ἀκρήτῳ οἴνω· χολὴ δὲ χλωροῦ φθείρει.	2. Item epar piscis, qui dicitur saurus, teres cum oleo et unges; et fel ipsius faciem splendidam ostendit.

<sup>81</sup> S = MS Londinensis Sloane 475; P = MS Petroburgensis Lat. F.v.VI.3, in Brüttsch's transcription.

<sup>82</sup> See Appendix for translation. For ease of reference, I shall refer to these series as Series DW and Series DCM respectively.

<p>3. Ἄλλὰ καὶ ὁ χυλὸς τῆς πιτσάνης ὁμοίως λαμπρύνει, καὶ ὠῶν τὸ λευκὸν, καὶ ἄλγητον θέρμων καὶ ὀρόβων, καὶ σῦκον καταπλάσσειν.</p>	<p>3. Item tesana, albumen ouorum, herbam et alfeta cum poma cataplasma babis, ut resanabitur.</p> <hr/> <p>1. Que P: cui S    lumbrici P: lubrici S    asceredas P: esaridas S    cummixto P: cummisces S    supponere S: subponere P    lauacris P: lauacras S    alia cocta et cruda S: alius coctus et crudus P    2. piscis S: ex pisce P    faciem Totelin: facies P, facium S    teres S: teris P    3. ouorum S: ouarum P    herbam S: erbum P   </p>
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The Greek text has a recipe against ascarides (DW1), followed by two cosmetic recipes (DW2 and DW3); the Latin text has three recipes against ascarides – the Latin recipes are separated by the word *item* (similarly), which is generally used to separate recipes for the same purpose. DCM2 has substituted fish liver (*epar piscis*) – an ingredient which does not appear anywhere in our Greek *Diseases of Women* – for bull bile. DCM2 tells us that fish liver is called *saurus*, a word which is not attested in Latin, but which is clearly derived from the Greek word ταύρου. Finally, DCM2 indicates that fish bile can make the face beautiful, contradicting our Greek, which recommends not using fresh bile on the face.

The text of *De Diversis Causis Mulierum* sometimes assembles recipes found at different places in our Greek manuscripts. For instance, in the chapter on the displacement of the womb to the liver, *De Diversis Causis Mulierum* lists four recipes:

*Si matrix ad epar ascendit... Tunc dabis in uino castoreum et nucleum usque dies uiginta: caput uero non oportet ungeri, neque per naris boni odoris aliquid detur. Item lilisfagum, lini semen, alfeta da eis ieiunis in potione cotillas IIII (1). Postea sambuci folia coquis in aqua et calida fomentabis (2). Item ordigo coquis in aqua et fomentabis (3), similiter oui uitello et oleo roseo a foris perungues (4).<sup>83</sup>*

Castoreum S: castorio P || nucleum S: nuclium P || oportet S: oportit P || boni S: bene P || lilisfagum S: lilisfago P || alfeta P: alfecta S || coquis S: quoquis P || uitello S: uitella P

<sup>83</sup> DCM 31. Translation: 'If the womb goes up to the liver... Then you will give her, in wine, castoreum and nut until the twentieth day. It is important not to anoint the head, and that nothing sweet-smelling be given for her to smell. Similarly, salvia, linseed, barley-groats; give in a drink of four *cotillae*, whilst fasting. Then you will boil leaves of elder-tree in water and make a warm fomentation. Likewise, you will boil barley in water and foment. Similarly, anoint the outside with bird-egg and rose-oil.'

The Greek equivalent to the first Latin recipe is found at *Diseases of Women* 2.127, a chapter on the displacement of the womb to the liver;<sup>84</sup> the Greek equivalent to the second and third recipes are found at *Diseases of Women* 2.203, a list of recipes against displacement of the womb;<sup>85</sup> the final Latin recipe has no exact equivalent in our Greek text, although the combination egg and rose oil appears in several Hippocratic recipes.

The compiler of *De Diversis Causis Mulierum* is not the same person as the Latin translator of *Diseases of Women* I. The former never gives botanical explanations or uses geographical epithets (e.g. Ethiopian or Egyptian) to qualify ingredients.<sup>86</sup> On the other hand, he explains technical terms such as ascarides (see above), and often indicates that he has tried a remedy.<sup>87</sup>

But even though *De Diversis Causis Mulierum* and the translation of *Diseases of Women* I were not produced by the same person, they were probably produced in the same place; and could circulate together, as testified by MS Petroburgensis. However, from at least the ninth century, these texts were also circulated separately: MS Parisinus 11219 only includes the translation of *Diseases of Women* I, and MS Sloane 475 only contains *De Diversis Causis Mulierum*. When these texts were separated, *De Diversis Causis Mulierum* lost all connection with Hippocrates and

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<sup>84</sup> *Mul.* 2.127 (L8.272.9 and 274.5-9). Ἦν αἱ μήτραι πρὸς τὸ ἥπαρ τραπῶσιν (...) Τὴν δὲ παρθένον πείθειν ξυνοικεῖν ἀνδρὶ· πρὸς δὲ τὰς ρίνας ἀείρεν <μηδέν>, μηδὲ τὸ φάρμακον πίνειν, νηστὴν δὲ τὸν κάστορα καὶ κόνυζαν ἐν οἴνῳ ὡς εὐωδιστάτω πίνειν ἐς εἴκοσιν ἡμέρας, καὶ τὴν κεφαλὴν μὴ ἀλείφεισθαι εὐώδει, μὴδ' ὀσφραίνεσθαι εὐωδέων. Translation: If the womb turns itself towards the liver, you will advise the virgin to get married to a man. <Advise her> not to bring anything to the nostrils, not to drink any purgative remedy, but to drink, whilst fasting, castoreum and fleabane in wine as sweet-smelling as possible, for twenty days, not to anoint her head with perfume, and not to smell anything sweet-smelling.'

<sup>85</sup> *Mul.* 2.203 (L8.386.21 and 390.23-392.5). Ὅταν δὲ μετακινήθῃσιν αἱ ὑστέραι (...) καὶ τὸ λοιπὸν ἐλελίσφακον, καὶ λίνου σπέρμα, καὶ ἄλφιτον διδόναι δις τῆς ἡμέρης ἐν οἴνῳ κεκρημένῳ, κοτύλας τέσσαρας. Ἐλαίου ἡμικοτύλιου, ἀκτῆς φύλλα χεῖρα πλέην, ταῦτα ἐψείν, καὶ πυρὴν θερμῶ ἢ ὀστράκοισι θερμοῖσιν, ἐπὶ δίφρου καθέζεσθαι, ἀμφικαλύπτειν δὲ εἵμασιν. Ἡ τῆς ἀκτῆς φύλλα ξὺν μυρσίνῃ ἐψείν, καὶ κριθέων ἄχυρα ἐψείν. Translation: When, having moved, the womb causes pressure... And for the rest salvia, linseed, and barley-groats; give twice a day in mixed wine, in the amount of four *kotylai*. Or the leaves of elder-tree, a hand-full; boil these and use as a hot fomentation or with hot posherds; let her seat herself on a seat and wrap herself with clothes. Or boil leaves of elder-tree with myrtle, and boil barley chaff.'

<sup>86</sup> For instance, see *DCM* 26 where the word Αἰθιοπικὸν (found in the original *Mul.* 2.192 [L8.372.13]) is not translated.

<sup>87</sup> See for instance *DCM* 34 (*expertum remedium est*); 65 (*probatum est*).

became an anonymous gynaecological text. MS Sloane testifies to the fact that the gynaecological recipes did not need the authority of Hippocrates to be successful.

## 7.6 Conclusions

The 'Hippocratic' treatises that contain recipes were probably transmitted anonymously before being attributed to 'Hippocrates'. Nevertheless, once these recipes had been ascribed to the Master of Cos, they contributed to building the reputation of Hippocrates in the field of pharmacology; and in turn, the name of Hippocrates conferred authority on these recipes, thus contributing to their preservation. By the first century of the Common Era, Hippocrates was celebrated as the *protos eures*, the founder of the pharmacological discipline; the recipes bearing his name were considered worthy of being quoted, glossed, and re-used in medical practice. This authority of Hippocrates was not uncontested however: Celsus and Soranus voiced their disagreement <sup>for</sup> Hippocrates' remedies.

Even though the recipes were considered to be Hippocrates' invention, later medical authors felt free to modify these remedies to suit their needs. Ancient authors were perfectly able to quote recipes *verbatim*, and they did so on some occasions; for instance, Galen quoted *verbatim* a recipe he found in the Hippocratic *Regimen in Acute Diseases*. However, medical authors usually chose not to quote 'Hippocratic' recipes in this way; instead, they adapted these recipes. They shortened the recipes, changed the quantities (or added quantities where they were not specified), and modified the grammar of the recipes. There always was a certain degree of fluidity in the transmission of recipes: writing did not fix recipes in an inexorable way. Latin translations of recipes, too, are rarely word-to-word translations: there always is a degree of adaptation; for instance, explicative glosses were added. In addition to these deliberate changes, the text of recipes could also become corrupted: a copyist could forget some of the ingredients, or substitute one word for another like-sounding word, thus altering the meaning of the recipe.

In the early Middle Ages, the authority of Hippocrates in the field of pharmacology had grown to such an extent, that it became common to attribute new pharmacological material to the Coan. For instance, we have seen that MS Londinensis Sloane 475 contains a recipe entitled 'Hippocrates' purgation'; this recipe does not have an equivalent in any of our Hippocratic treatises and it was most

probably invented in the Middle Ages. There are numerous examples of such medieval recipes attributed to Hippocrates. For instance, two of the earliest medical manuscripts now extant (MS Londinensis Harley 5792 [fols. 273r-277v], dated to the seventh or eighth century, and MS Parisinus latinus 11218 [fols. 42r-48v and 65r-98v], dated to the ninth century) contain a collection of recipes entitled 'The teachings of Hippocrates, Galen and Soranus'.<sup>88</sup> Finally, one of the illustrations to the thirteenth-century herbal MS Cantabrigiensis Trinity O.2.48 shows a crowned Hippocrates accompanied by his disciples (*Ypocrates et eius discipuli*, fol. 65). Hippocrates' name had the power to confer authority onto new and old pharmacological material alike.

However, the success of pharmacological recipes was not always linked to the name of Hippocrates or another important medical figure. 'Metrodora' had access to material that was very similar to our Hippocratic recipes, but does not ascribe it to anyone. In addition, texts that had once been attributed to Hippocrates could revert to their anonymous state. For instance, the version of *De Diversis Causis Mulierum* included in MS Sloane 475 does not mention the name of Hippocrates.

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<sup>88</sup> See Hanson and Green (1994): 1044.



## Appendix: Translations

S = Soranus, <i>Gynaecology</i> 4.13 (Ilberg 144.2-7)	DW = <i>Diseases of Women</i> 1.77 (L8.170.9-172.4)
But to prescribe in addition drugs promoting quick birth, as did the followers of Hippocrates among others, lacks consideration.	
For neither dried leaves of sweet bay in warm water;	Remedies promoting a quick birth when <labour> is difficult: scrape root or sprouts of sweet bay in the amount of ½ <i>oxybaphon</i> ; give to drink in warm water.
Nor dittany, nor wormwood and cedar resin, and anise with sweet old oil;	Promoting a quick childbirth: dittany, 2 <i>oboloi</i> ; pound; drink in warm water. Or wormwood, one <i>drachma</i> , berries of cedar, anise, crush in a <i>kyathos</i> of sweet wine, add a <i>kyathos</i> of old water; give to drink. It is good to give this before the pains.
	Or dittany, 1 <i>obolos</i> , myrrh, 1 <i>obolos</i> , anise, 2 <i>oboloi</i> , soda, 1 <i>obolos</i> ; crush these well, pour a <i>kyathos</i> of wine and 2 <i>kyathoi</i> of warm water; give to drink, then give a bath with hot <water>.
	Promoting a quick childbirth: turpentine resin, honey, oil in a double amount, sweet-smelling wine, as good as possible; mix together, let it cool down, give to drink often. This will calm down the womb if it is inflamed.
Nor the fruit of the wild cucumber added to a date salve ( <i>phoinikei</i> ) and fastened upon the loins affect quick birth.	Another promoting a quick childbirth: plaster with wax the fruit of wild cucumber which is already white, roll in red wool ( <i>phoinikeoi</i> ); hang around the loins.

G = <i>Diseases of Women</i> 1.34 (L8.80.20-82.12)	L = <i>De mulierum affectibus</i> (Mazzini and Flammini [1983]: 73.566-583)
When swellings of the womb occur, during birth or after birth, do not use astringents as doctors do.	If swelling occur in the womb at the time of childbirth, in labour or after labour, we must not use astringents, which other doctors use.
1. But you must administer these excellent remedies: Ethiopian cumin, as much as a pinch, of anise and of hartwort, five or six <pinches>, half a <i>cheramys</i> of the root of peony (or of the seed); give	1. On the other hand, these remedies are useful: Ethiopian cumin, as much as a pinch, dill, parsley, and five or six <pinches> of hartwort, half of this amount of peony ( <i>gligesidis</i> ) – others call

these in sweet-smelling white wine, above all whilst fasting.	the herb <i>pionia</i> – you will give this to drink in white wine, which is above all sweet-smelling, whilst she is fasting.
2. Or the seed of Ethiopian <i>daukos</i> , hartwort, root of peony the same way.	2. Or the roots of <i>daucus</i> or dill, <the root> of hartwort, and the root of peony; you will prepare <these> in the same way, as indicated above, and give <them> in a drink.
3. Or the seed of alexanders and Ethiopian <i>daukos</i> in the same way;	3. Another you will give †rock-parsley†, <seed> of <i>daucus</i> (that is the seed of parsnip), Ethiopian cumin in a drink of wine, in the amount of four Attic <i>oboli</i> .
4. Or the root of samphire, or four <i>oboloi</i> of Ethiopian cumin, or pepper, anise, <i>daukos</i> , elder-berry, root of peony; crush these in wine and give to drink.	4. Or pepper, anise, <i>daucus</i> , roots of peony; you will give all these in a drink of wine.
5. Or two or three twigs of myrtle, Ethiopian cumin, root of peony, or linseed similarly, which coughing children take by mouth with the white of an egg cooked and with roasted sesame.	5. Another. Two or three twigs of myrtle, Ethiopian cumin, roots of peony, linseed; you will give <these> to drink similarly in wine.
6. If the genitals grow ulcers during childbirth, crush almonds and bull marrow, boil in water, add a little flour; smear over the genitals and inject with water of myrtles.	6. If a child coughs, you will give roasted sesame with crushed almonds, marrow and ox-tongue boiled; you will give these with a little salt and you will anoint his palate, and cleanse his lips with myrtle decoction.

DW = <i>Diseases of Women</i> 2.187 and 188 (L8.368.6-16)	DCM = <i>De Diversis Causis Mulierum</i> 51
When ascarides occur on the genitals or the anus of a woman, mix the seed or leaves of agnus castus, add bull-bile, in the amount of an <i>obolos</i> ; knead with cedar-oil and take up in very-fleecy greasy wool. Let it be introduced every three days, for a night and a day; the next day let her remove it and bathe in warm water. And let her eat cooked and raw garlic, and the ascarides come out and die. It is necessary to inject with brine.	For a woman, if worms appear everywhere inside her womb or large intestines (these are called <i>ascerades</i> by the Greeks and have the shape almost of the seed of cucumber). The fruit of the tamarisk, and bull bile (one <i>obolus</i> ), mixed with oil, apply with wool. Take away again on the third day, then let her use baths. Let her take cooked and raw garlic and drink hot honey. Immediately the worms come out, dead.
Makes the face splendid: crush bull liver with oil; anoint in pure wine. Bile of fresh <liver> spoils the face.	Similarly, fish liver, which is called <i>saurus</i> , crush with oil and anoint. Its <sc. the fish> bile makes the face splendid.
But the juice of barley-gruel similarly makes <the face> bright; and apply egg whites, flour of lupines and bitter vetches, and fig.	Similarly, you will plaster barley-gruel, egg whites, herb, and groats with fruit, so that it is healed again.

## Conclusions: The fluidity of pharmacological knowledge

Μετέστη τῆς πατρίδος, ὡς μὲν κακοήθως Ἀνδρέας φησὶν ἐν τῷ Περὶ  
τῆς ἰατρικῆς γενεαλογίας, διὰ τὸ ἐμπρῆσαι τὸ ἐν Κῶ  
γραμματοφυλακεῖον.  
*Vita Hippocratis secundum Soranum* 4 (Ilberg 175.16-18)<sup>1</sup>

According to a story, which we have already encountered in this thesis, Hippocrates left his native Cos after having burnt the repositories of medical knowledge on the island. Beyond presenting Hippocrates as an ill-intentioned usurper, this story also accounts for a puzzling fact: there were no medical writings pre-dating the time of Hippocrates – the Coan must in some way be responsible for this absence. This tale may well be quite ancient: Andreas may be identified with the personal physician of Ptolemy Philopator, active at the end of the third century BC. If this identification is accepted, it implies that, by the third century, medical writers could not conceive of a past without writing, and that they were already wondering how Hippocrates had managed to write so many medical texts.

The lack of medical writings before the fifth century BC and the importance of Hippocrates' name in the transmission of medical treatises are as puzzling now as they were in the Hellenistic period. Were there medical texts written before the fifth century BC? Why did physicians start to use the written medium? What was the relation between the oral and the written word in the transmission of medical knowledge? Had the texts included in the 'Hippocratic Corpus' circulated under another authorial name before being attributed to Hippocrates? In this thesis, I have attempted to tackle these questions, taking the recipes found in the Hippocratic Corpus as a case in point.

The Hippocratic collections of recipes – almost 1500 recipes in total – are the most extensive written source for the study of pharmacology in the fifth and fourth centuries BC. However, these collections may only represent a portion of the written recipes produced in the classical period. In addition, much of the ancient

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<sup>1</sup> Translation: 'He <sc. Hippocrates> left his fatherland, as Andreas says spitefully in *The Medical Genealogy*, because of his burning the archive on Cos.'

pharmacological knowledge might have been transmitted only orally, and might never have been written down in the form of recipes. Finally, some aspects of the transmission of ancient pharmacological knowledge, such as gestures, cannot be translated into texts. Since so many elements of the transmission of ancient pharmacological knowledge are irrecoverable, it is essential to assess the role of writing in this transmission, as well as its impact on the pharmacological body of knowledge.

Recipes are texts; they are a written genre and must be studied as such. Writing transforms pharmacological knowledge in the sense that it formalises it. Before Greek physicians started to use the written medium, pharmacological knowledge was most likely transmitted through apprenticeship, in a face-to-face situation, and this transmission was accompanied by the actual preparation of the drug. In this context, the master and his apprentices discussed which ingredients to include in their compositions and in what amount, as well as the utensils to use for this preparation. They could adapt their *recettes de base* to environmental circumstances and to the state of the patient. Writing, on the other hand, condenses all these aspects into written recipes, short formulae, which start with an enumeration of ingredients, and end with a verb referring to the action of administering the drug. However, although writing fixes pharmacological knowledge, it does not do so in the same way as it fixes literary texts. There are numerous examples of parallel redactions of recipes in the Hippocratic Corpus, but no example of *verbatim* repetitions of recipes. Compilers of collections of recipes did not attempt to copy their written sources *verbatim*; they freely modified the grammar of the recipes. The text of a recipe was fluid, save for one particular aspect that remained stable, i.e. the order in which the ingredients were listed.

Writing also allowed structuring the pharmacological body of knowledge into the form of catalogues. However, here again, writing permitted a certain degree of fluidity; the catalogue format is extremely flexible: recipes can be added to or removed from a catalogue, small catalogues can be gathered together in order to form larger collections of recipes, and ultimately they can be integrated into the structure of medical treatises.

Although writing allows pharmacological knowledge to be fixed, it does not necessarily prevent written texts from being lost. The recipe book entitled *Pharmakitis*, mentioned in the Hippocratic treatise *Affections*, may well have been

already lost in the Hellenistic period. We know, through citations in the works of later medical authors, that many recipe books were composed in the Hellenistic period, which are also irremediably lost. Recipe books are ephemeral, they are constantly rewritten in order to make place for new recipes that are more in agreement with new medical theories, or even with new fads. Perhaps, the best chance of survival for recipe collections was to be integrated into the structure of a medical treatise, as was the case for the catalogues of recipes found within and at the end of the Hippocratic gynaecological treatises. Arguably, the best way of dealing with these gynaecological recipes is as a papyrologist would deal with medical papyri: consider them as small fragments that have come down to us by chance, preserved thanks to exceptional 'environmental' conditions. <sup>It may be that</sup> it is better to deal with the gynaecological recipes as if they were the exception rather than the rule with regard to their preservation.

Writing may fix knowledge, but it does not reduce the importance of the oral word in the transmission of pharmacological knowledge. The recipes of the Hippocratic Corpus leave out many elements of information (about quantities, utensils, and ingredient particulars); these elements had to be supplied through oral communication. The Hippocratic recipes are short formulised *aide-mémoires*; they do not – and cannot – replace 'the real thing', i.e. the oral word.

Modern scholars generally assume ancient healers started to use writing for practical reasons: because they needed teaching devices for their pupils. However, these healers might have chosen to write for symbolic reasons; for instance, they might have seen writing as a way to display the extent of their pharmacological knowledge: once written down under the form of recipes, the extent of this knowledge becomes more tangible, less abstract. Healers might have used the written medium in this way as early as the sixth century BC, only realising later the teaching potential of written medical treatises.

In addition to being a way of displaying knowledge, writing was also a means to appropriate knowledge. In archaic and classical Greece, there were many pharmacological practitioners: root-cutters, priest-healers, midwives, as well as laymen and women, practising medicine in their households. It is very likely that the boundaries between the methods of these various pharmacological practitioners were overlapping and diffuse; knowledge must have flown freely between these different groups of healers. However, by using writing, some healers could differentiate

themselves from the others; they could select recipes and therapies in order to create their own brand of medicine. This medicine was a *Haute Médecine*, a dietetic medicine which regimented all aspect of the patients' lives. Pharmacology – recipes relying heavily upon exotic and expensive drugs – was only one aspect of this new type of *Médecine*. In the classical period there was no strict boundary between dietetics and pharmacology, the line of demarcation was rather between internal and external medicine.

The recipes thus selected through writing offer us an insight into the world-vision of their compilers. These compilers were biased in their choices, and this bias was in line with the orientaling tendencies discernible in ancient Greek culture. The compilers selected recipes that included eastern ingredients, from places such as the Levant, Arabia, and Egypt, rather than ingredients from the western Mediterranean.

Commerce, colonization and physicians' travel increased the amount of pharmacological knowledge available to medical writers. Parallels between Greek recipes, on the one hand, and Mesopotamian and Egyptian recipes, on the other, are difficult to locate. However much we can expect neighbouring civilisations to use the same pharmacological methods and the same ingredients, attempts to find parallel recipes in the written material have failed to convince. One should not forget that only a small portion of the ancient medical texts has survived, and that only a small portion of the ancient pharmacological knowledge was transmitted through writing. The most important medium for the circulation of knowledge across civilizations was the oral word, with each civilisation consigning its own selection of recipes to writing.

The earliest preserved collections of Greek recipes have been transmitted to us <sup>in works</sup> under the name of Hippocrates. However, before being attributed to the master of Cos, some of these recipes might have circulated under another authorial name, for instance under the name of Euryphon. Modern scholars have attempted to attribute the recipes preserved in the Hippocratic Corpus to known medical authorities; but this is a gratuitous exercise. Recipes are rarely the 'invention' of an 'author'; they are only the written manifestations of shared practices and knowledge. Several different authors could include the same recipe in their writings; they could appropriate these recipes for themselves. In addition, recipe collections could circulate anonymously; many Greek pharmacological ostraca and papyri do not bear name-tags.

Modern scholars are not alone, however, in finding it difficult to deal with anonymity, or with the fact that the same text could be attributed to several different authorities; scholars in the Hellenistic period dealt with this difficulty by attributing a series of medical texts to Hippocrates. The master of Cos probably invented none of the 'Hippocratic recipes', but he was certainly responsible for their continuing success. From the Hellenistic period, medical texts, including the recipes, attributed to Hippocrates were commented and glossed. If the gynaecological treatises, including their recipes, had not been ascribed to the Coan, they would probably never have survived; the name of Hippocrates has served as an anchor for the preservation of this pharmacological material.

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