The Origin and evolution of the term “Karst”

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Abstract

Even some recently published works including manuals, textbooks and lexicons, related to this topic contain inexact, not precise, discordant or wrong statements. Recent linguistic studies provide some new results regarding the word karst. The paper repeats some well known facts about the origin of the term karst but at the same time it gives some new results and interpretations. The name of the plateau in the background of the Trieste Bay (the Adriatic Sea) which the Slovenes call Kras, Italians Carso and Germans Karst is of pre-roman origin and Latinised into Carsus. The original name had the base *Karus- (Ptolemy wrote Καροσόου ὁ παλαιός) from the root *kar- meaning rock, stone. From the Latinised form Carsus developed Slovene, Italian and German names according to the rules of their languages. From the Central Europe the easiest and practically the only way leading to the Mediterranean was the road from Vienna to the port of Triest. Travellers across the Karst described this unusual country and its natural phenomena, mostly with negative connotation and subsequently other limestone landscapes were compared to Karst. In 1830 F. J. H. Hohenwart wrote that “karst is not on the Karst only, but it stretches from the plain of Friuli to the Greek islands. Most of the descriptions of the Karst from that period were published in German language and this is the reason why the German form of the name became the international karstological term, the karst.

Keywords: Karst Terminology, Etymology of the Term Karst, Term Karst, History.

1. Introduction

(The international scientific term karst derived from the name of the plateau called Kras in Slovene, Carso in Italian, and Karst in German language. The plateau is well distinguished, limited by the Gulf of Trieste (Adriatic Sea), alluvial plain of Soča (Isonzo) river, Eocene flysch Vipava river valley, and flysch hills of Brkini. It covers about 550 km² (40 km long and 13 km wide) at 450 45’ N and 140 E. The altitude is between 150 m on the NW and rising to 450 m in Dinaric direction towards SE. The geological structure are Cretaceous and Tertiary carbonate rocks with main tectonic lines in Dinaric (NW-SE) direction [10].

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1.1. The origin of the name Kras/Karst

During the centuries B.C. the plateau Kras was settled by Illyrian tribes which were subjugated by Romans following two military missions in 178 and 177 B.C. when the Romans conquered the kingdom of Histrians [13]. The original pre-Roman (pre-Latin, probably Illyrian) name of the plateau is not known but only its Romanised form Carsus in Classical Latin. The base of the name was *Karus-, with the root *kar- that is stone or rock. The proof is the Ptolemy’s Greek version of this name, that is Kar(υ)sádios oros (το Καροσαδίῳ ὄρος) [18],[19]. The original was the Latinised form Carsus, from the accusative form of which (Carsum) the modern Italian Carso developed as an inherited name. From the same accusative form the pre-Slovenian form *Kars(u) was taken, and this changed via liquid metathesis into the modern form (Kras) at the beginning of the 9th century at the latest. That was the time when each pre-Slovenian ‘r’ or ‘l’ occurring between a vowel and a consonant changed its position before the vowel. The same process gave birth to the Slovene word kralji “king”, after the name of the Franconian sovereign Karl (Charles) the Great (died 814). The German form Karst was taken from the Italian one. Its final ‘t’ is secondary, following the German phonetic tendency that the words ending in ‘s’ are extended by ‘t’, e.g. the German Axt ("axe") compared to the English ax(e). From the considerations above it follows that all the names mentioned originated from the Latinised Carsus which has the root *kars-. The variants Kras, Carso and Karst must have evolved from the same origin. According to mentioned Ptolemy’s written record, it seems that the root *kars- developed by letter omission (syncope) from *karus [11].

Looking through the literature there is a lot of examples of the names derived from the pre-Indo-European root kar(r)a/gar(r)a meaning rock, stone throughout the Europe. In 1935 G. Alessio started to study this base seriously. The same one covers different forms as *kal-, *gal-, *kar-, *gar-, also *al- and *ar- after the fall of the first consonant, and even like in Greek *l- or *r-. The same radical can be in the full form *kal- or in the reduced one *kl-. To the mentioned eight forms for the same base *kl-, *gl-, *kr-, *gr- can be added. From this it can be seen what perspectives are given by this system to the field of toponymic research.

According to Rostaing [16] *kal- initially meant stone, later shelter made of stone, and finally a house, a fortress or a village. In France there are numerous examples like Chelles, Challes, Chalo, Chalou, Caille, Challans, etc. Typical forms of Mediterranean karst coast are small bays called calanque in French, calanco in Provençal and calanche in Corse language. The prototype was *kal-anc-us. Causses, the name of well known karst plateaus in France, has the origin in *kal- too. In the name of the town Carcassonne appears *kar-. From the karstological point of view more interesting are toponyms La Cra and La Crai and specially La Cras, all from Burgundy. It seems that Kras in Slovenia and La Cras in Burgundy are quite the same. In the delta of Rhone the name of the well known stone plain Crau derived from the form of *kr-. But not the toponyms only, from the mentioned base derived also other karst terms: karren from *kar- and French term for karren clapier, from the form *kl-. The term garrigue, typical karst vegetation cover from the south of France came from *gar-. The base *kr-app- is known also from Slavic, Albanian and “Piemontian” languages. Does the Slovene term for karren, škraplje, came from the same base, the *kr-app-? In the Slovene language the most of the study of this base was carried out by Bezlaj. The Slovene words like kar (protruding rock) and names as Karavanke Mts. (karuant = rocky, stony) and Carniola (Kranjska) have probably the same root *kar- [2].

The different forms of the name appeared in Medieval documents: 1159 Carsus, Carsi, 1177 Grast, 1200 in Carsto, 1236 de Carstis, 1240 in Karst, in Carsto, 1252 in Carsto, and 1398 Karst [2].

1.2. From the toponym Kras to the international term karst

The invention of print and discoveries of new lands, continents even, was followed by increased production of maps and atlases. It is normal that on “local” maps the name of Kras figures but it seems that it was regionally important enough that it figured also on the maps of larger regions that are in smaller scale. Just to cite some examples. On the Münster’s map of Illyricum (1552) is Kharst, on Zalterius’ of “Ducaetus Carnioliae” (1569) is Charso, on Lazius’ map of “Goritiae, Karstii...” (1573) Karst figures in the title already, the same on Mercator’s “Forum Iulium, Karstia, Carniola...” (1589) [5]. First maps published by
domestic authors [17],[20] marked Kras with the name of Karstia. In his book Valvasor mentioned the Slovene name Kras (Na Krasi), but it was first put on the map by Hacquet [8] who strictly followed the principle that names on maps have to be written in domestic (people) language.

From 16th – 19th centuries the geopolitical situation was quite different than nowadays. Most of the eastern coast was under the Venetian Republic with the exception of the port of Triest, which was under Habsburgs (Austria). Inner parts belonged to Austria (the Duchy of Carniola and so called Military Zone or Military Croatia) and to the Turkish Empire. For the citizens of Austrian Empire (including nowadays Czech and Slovakia also) and a great part of Central and part of Eastern Europe, practically the only possible way to reach Mediterranean was the road from Vienna across Ljubljana and crossing Kras to Trieste. In 1719, when the Trieste was declared the free port the road became even more important. Therefore the “Imperial” road was improved and some parts were even made anew. The travellers and scholars who published their diaries or memoires, geographers, topographers and cosmographers who described the countries and landscapes, all agreed in unusual and often harsh nature of Kras: bare limestone country with caves, no water, no soil, hot in summer, cold in winter, and strong “burja” (bora) wind, sometimes making the passage over the plateau impossible. So Kras, mostly under the name Karst, became soon well known as seen by the example of the emperor Franz I. In 1748 he sent the director of the court’s rarities collection to Carniola to see what are those uncommon phenomena described by many authors. They often compared other limestone landscapes to Kras (Karst). The first as far as we know who definitely wrote that “the karst is not only on Kras (Karst)” is F. H. Hohenwart in the introduction to Postojna Cave guide-book from 1830. He stated: “For the traveller coming from Vienna, Adelsberg (nowadays Postojna) is the beginning of the karst; that is each rocky part of the land which started in the district of Udine and continued through the valleys of Pontafel and Canal del Ferro, reaches the coast near Tibein (Duino) and inland to Adelsberg, from there above Trieste and Fiume through Dalmatia, Ragusa, Albania and part of Bosnia towards Cephalonia.” [9].

The first half of the 19th century was the period when detailed modern studies of Kras started mostly by geologists and geographers. In his description of the geological map of Istria, A. Morlot [1848] used the expressions as Karstland and Karstkalk (karst limestone), A. Boué’s [3] work has the title Karst und Trichterplastik, E. Mojsisovics [14] wrote on geology of “Karsterscheinungen”. The geologists were soon followed by hydrologists too: A. Grund [7] wrote the basic work “Die Karsthydrographie” (Karst Hydrography) and the opponent to his theory F. Katzer (1909) published “Karst und Karsthydrographie” (Karst and Karst Hydrography), while A. Gavazzi [6] describes lakes, that are poljes of the karst: “Die Seen des Karstes”.

As it can be seen from this short presentation, practically all descriptions and professional works were written in German language and it is self-understanding that the German version, the Karst, entered the international terminology. From a still local or regional term of Hohenwart, Morlot and Boué, the word slowly covered larger and larger space. J. R. Lorenz Liburnau [12] complained that when speaking or writing of karst everybody thinks only to the plateau of Kras, while karst reached also far towards east in Croatia, for example.

At the end of the 19th and the beginning of the 20th century it is possible to say that karst was already an international scientific term. One of the most important scholars, who influenced maybe the most that the term karst became international one, was Jovan Cvijić. As a student of Vienna’s university and well known professor of geomorphology A. Penck, it is normal that he used the form karst, already in the title of his the most important work regarding karst, the monograph “Das Karstphänomen” (The phenomenon of Karst) [4].

2. Conclusion

The term karst derived of the name of the plateau in the background of the Bay of Trieste (Adriatic Sea) lying (the great part) in Slovenia and in Italy. The name of the plateau is Kras in Slovene, Carso in Italian and Karst in German. The original (Pre-Roman) name of the plateau which was Latinised in the form Carsus, had the root *kar- that is stone. From the accusative form of the name (Carsum) modern names evolved in the 9th century. During the 19th century when the toponym Karst transformed in the general term, the professional literature was in German language and therefore the German form of the name Karst has been taken into the consideration.
References