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THE CLASSICAL KARST AND ITS CAVES AS KNOWN TO THE REST OF THE WORLD BEFORE 1914

SUMMARY

The word Karst appeared first on a map by Lazius printed in 1545 and published in 1561.

Although the cave of Vilenica was shown to paying visitors from the 17th century, the caves of the classical Karst were not prominent in foreign literature until the 1880s. Travellers' books recorded their visits to them, international guidebooks noted them fairly briefly and Schmidl was notable for reporting his 1850 explorations in newspapers and popular handbooks as well as learned journals. Otherwise only one book among the many 19th century popular compilations of natural "wonders" mentioned even one of these caves.

From the 1880s and 1890s all was different, due very largely to the internationalisation of speleology inspired and promoted by Martel, who himself visited the region in 1893 and 1896. Trieste explorers joined the Paris - based Société de Spéléologie and wrote papers for its journal, "Spelunca", thereby reaching readers in 3 continents. Textbooks and treatises on caves and karst used features from this area as case studies and it was recognized, together with the Postojna karst, as one of the classic sites for karst study.

RIASSUNTO

LA CONOSCENZA DEL CARSO CLASSICO E DELLE SUE GROTTI NEL RESTO DEL MONDO ANTERIORMENTE AL 1914

Il termine "Carso" apparve ufficialmente per la prima volta su una carta geografica di Lazius, stampata nel 1545 e pubblicata nel 1561.

Sebbene la Grotta di Corgnale (Vilenica) fosse già aperta ai turisti a partire dal XVII secolo, nella letteratura straniera le grotte del Carso classico furono trascurate o poco menzionate fino al 1880.

Visite di cavità sotterranee sono brevemente citate nei libri di viaggi e nelle guide turistiche internazionali; in questo contesto Schmidl divenne noto, tra i primi, per le sue accurate relazioni sui quotidiani e sui libri di vasta divulgazione.

Peraltro un solo libro, tra i molti contenenti le descrizioni delle "meraviglie della natura", e pubblicati nel XIX secolo, menzionava accuratamente una di queste grotte.

Tutto cambiò tra il 1880 ed il 1890 con la diffusione internazionale della conoscenza della speleologia a seguito dell'attività ispirata e promossa dal Martel, che visitò la regione tra il 1893 ed il 1896.

Gli esploratori locali aderirono alla Société de Spéléologie, con sede a Parigi, e pubblicarono numerosi articoli per la rivista "Spelunca" (rivista ufficiale della stessa Società) con diffusione in tre continenti.

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Trattati e monografie sul Carso classico e sulle sue grotte trasformarono rapidamente quest'area particolare, insieme al carso di Postumia, in uno dei siti classici mondialmente riconosciuti per gli studi del fenomeno carsico.

POVZETEK

SVETOVNO POZNAVANJE KLASIČNEGA KRASA IN NJEGOVIH JAM PRED LETOM 1914

Beseda kras se je prvič pojavila na Laziusovem zemljevidu, ki je bil natisnjen leta 1545, objavljen pa 1561.

Čeprav je bila Jama Vilenica na ogled obiskovalcem že od 17. Stoletja, je tuja literatura o jamah klasičnega krasa poročala zelo skopo vse do leta 1880.

Dotlej so turistični vodniki omenjali možnost ogleda, pisanje mednarodnih vodnikov je bilo jedernato, le Schmidl si je pridobil določen sloves po objavi svojih raziskav iz leta 1850 v popularnem, a tudi strokovnem tisku. Sicer je kraške jame v 19. Stoletju omenjala le ena izmed takrat številnih knjig o naravnih čudesah.

Med letoma 1880 in 1890 pa je postalo povsem drugače, pri čemer ima velike zasluge Martel, ki je sam obiskal kraško deželo v letih 1893 in 1896. Tržaški raziskovalci so se povezali s pariškim jamarskim društvom in za njegovo glasilo "Spelunca" pripravili nekaj člankov, kar je vedenje o Krasu in kraških jamah razširilo na tri celine.

Kraške jame so se tako končno uveljavile in ob Postonjski jami postale neobhodno poglavje v študijah o krasu.

Introduction

This paper aims to consider how the caves of the classical Karst were known to people elsewhere in the world – to what extent and by what means.

The classical Karst is defined as a gently sloping limestone plateau running north-west from Divača and Lokev for about 40 km, with a total area of about 440 km². Thus the region around Postojna is excluded but it does contain such well-known caves as Vilenica, Škocjanske jame, Padriciano and Trebiciano, the main explorations of which were led by people from Trieste.

The word karst is derived from a pre-Indo-European word meaning stone, and came to mean barren ground (GAMS, 1973: 45-50). The prominence of the barren limestone plateau ahead as travellers and wagon drivers left Trieste for Wien and central Europe made the area memorable and it grew to be called "the Karst". A typical traveller's comment is that of Carl Küttner in 1799:

That part of the way is particularly dreary which goes over the Karst, a considerable mountainous tract of which naked rocks compose by far the greater portion.

(KÜTTNER, 1801: 111)

"Karst" from 1545

The first known use of the word Karst is on maps of the 16th century. The earliest example is on one by Wolfgang Lazius (1514-1565) (Fig. 1), published in 1561 (Fig. 2) as part of the atlas *Typi Chorographici Prouin: Austriae ...*. It had, however, been prepared and engraved at least 16 years earlier for, in a letter dated 30 September 1545, Lazius notes that single prints of the map had already been made. (BERNLEITHNER, 1972: xi).



Fig. 1 – Wolfgang Lazius at the age of 40, in a portrait engraved by H.S. Lautensack in 1554. Reproduced by permission of the British Library (shelfmark Maps. 33.e28).



Fig. 2 – The western half of Lazius’s map “Dvcatvs Carniolae et Histriae vna cvm Marcha Windorvm” published in 1561. No. 49/24 in KARROW (1993: 342). The word KARST is between Wipach and Goercz.

This map is excessively rare, with only about seven copies known, but the whole atlas has been reprinted in facsimile (LAZIUS, 1972).

The better-known revised version of this map was published in 1573 as part of a supplement to the famous 1570 atlas of Ortelius, published in Antwerp, thus making the word Karst more widely known. This 1573 map is sometimes misdated as 1561 in recent publications and this error has been perpetuated on information boards in the Škocjanske jame World Heritage Site. By 1573, however, the word Karst had already appeared again on a map of 1570 (Fig. 3) by Augustin Hirschvogel (1503-1553) who had lived in Ljubljana from 1536 to 1543 (Karrow, 1993: 294) and who knew Lazius. In these maps the word is printed a little too far to the north, but locations were often vague on maps of that period and this is clearly a case of word being printed in a convenient rather than an accurate position. The name continued to be used on maps by Mercator and others in the next century.

“Karst” must have already been a well-known regional name long before it was recorded on these maps. No doubt SANTONINO (1943) knew it by that name in 1485-1487, although he himself preferred the easier route from Aquileia through Cividale and Tolmin to Ljubljana.

Another of Lazius’s 1561 maps (no. 49/25 in Karrow, 1993: 342) indicates Škocjanske jame with the phrase: “S. Kazan, Recca flu. absorbetur, qui in Timaus fontibus erumpit” (Škocjan, the river Reka sinks, which bursts forth at the Timavo springs).

The Quiet Period, until the 1880s

Apart from this use of the word Karst on early maps, the area was little noticed for its karst features until the 19th century, and then not widely until the 1880s and 1890s. It had no equivalent of Wookey Hole in England (famous already in 1480), Baumannshöhle in Germany (a plan of which was made in 1656) or the karst lake of Cerknica (known before 1537). Inscriptions in the caves at Postojna and Predjama show that they had been visited since the 14th and 16 centuries respectively, although they were not described then. Early descriptions of those places were later reprinted or copied in popular books with titles like “Wonders of the World” and led to a succession of similar compilations right through the 19th century. But that was not to be for the caves of the classical Karst.

In contrast, the Karst for a long time was known only for its negative characteristics, its bareness and its exposure to the Bora wind. Nor did the caves that were already known there have a VALVASOR (1687, 1689) to report on them. Even Alberto Fortis from Italy, who visited Vilenica, reported it only in most obscure journals (FORTIS, 1778a: 259-261, 1778b: 13-18).

But there were some caves that were described (and so made known to foreigners) in a limited way before the burst of publication inspired in the 1880s and 1890s by the exploration of Škocjanske jame and by Martel’s policy, at the same period, of internationalising cave study. They were sometimes reported on in books written by travellers but most of these were not widely read. They were also mentioned in varying detail in international guidebooks such as those of Murray and Baedeker.

Vilenica

The cave of Vilenica must have had a significant number of paying visitors even before 1633, for by a document of that year Count Petazzi transferred ownership of it to the church at Lokev, together with half the income from visits (KRANJC, 1995: 62). It can thus be regarded as the first commercial tourist cave in Slovenia. Its location only 11 km from

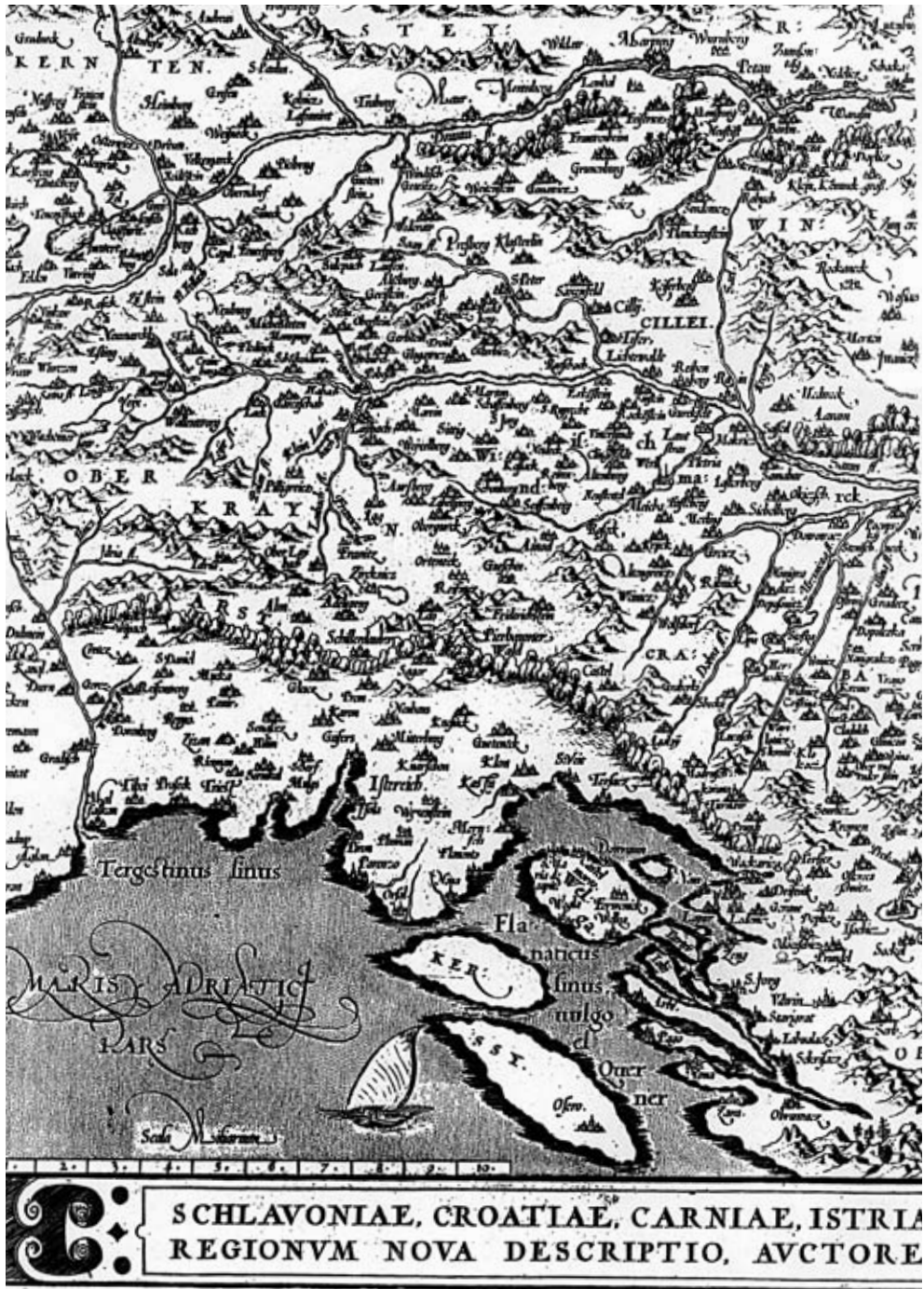


Fig. 3 – The western half of Hirschvogel’s map “Schlaponiae, Croatiae, Carniae, Istriae, Bosniae...” published in 1570. No. 40/9.2 in KARROW (1993: 300). KARST is printed just above a line of trees above Wipach.

A handwritten signature in black ink on a light background. The signature reads 'Joseph Eggenhöfner' in a cursive script, with '1820' written below it. The ink is slightly faded and there are some smudges around the signature.

Fig. 4 – The signature of Joseph Eggenhöfner, written in the Postojnska jama visitors' book on 26 or 27 September 1820.

Trieste and, until 1780, 1,5 km from the main Trieste-Wien road, made it easily accessible.

The king of Napoli is known to have visited it on 3 September 1790 (ANON., 1790). He did not record his impressions but at least 18 other travellers did so before 1880. Some provided useful information; some did not. Most descriptions are a mixture of both, remarking for example on the guides, the lighting and the state of the handrails amidst a catalogue of stalagmites seen. All such accounts known by 1999 were selectively reprinted by SHAW (2000).

Entries in guidebooks, though short, were available through out the world in three languages and did serve to some extent to make the caves known. Those of John Murray devoted 14 lines to Vilenica from the first edition in 1837. This remained the same in subsequent editions until 1867 when it increased to 27 lines:

... The innkeeper Mukow has the key and the Grotto Book. Fee, 15 kr. each person; 1 hr. sufficient. It is about 900 ft. deep, and is entered at the base of a small Dolina. ...

(MURRAY, 1867: 456)

Baedeker guidebooks, on the other hand, started with only three lines in 1868, reducing to only one from 1871.

Adolf Schmidl's little handbooks on the main karst areas near Postojna and Trieste, however, described it in some detail in German (SCHMIDL, 1853: 66-70) and in French (SCHMIDL, 1854: 59-63). He also had newspaper articles on it in Leipzig (SCHMIDL, 1852a) and Wien (SCHMIDL, 1852b).

Foreign visitors who had already come to Postojnska jama, only 20 km from the classical Karst, had their attention drawn to the caves of Vilenica, Škocjan and Trebiciano by a 13-line paragraph in HITZINGER's (1863: 7) introduction to the Postojna cave guidebook. This remained unchanged up to the 1874 edition; from 1876 to 1885 it continued to appear, in both German and Italian editions, but with depths and distances updated.

Škocjanske jame

As mentioned above, the sinking of the Reka at Škocjanske jame was noted on one of Lazius's maps published in 1561, probably the first reference since Poseidonius's famous statement before 50 B.C.

The 160 m deep collapse dolines there attracted attention in the 18th century and Tominčeva jama was visited by travellers before the main river cave was accessible. Nine travellers published their accounts of the place. Svetina's attempts to explore the main

cave in 1839 and 1840 were reported to the Société Géologique de France by WEGMANN (1841). Schmidl's more successful exploration in 1851 was much more widely reported: besides his main scientific paper (SCHMIDL, 1851a), the cave was also described in his little handbooks in German (SCHMIDL, 1853: 51-65) and French (SCHMIDL, 1854: 45-58), and also in his long articles in Wien newspapers (SCHMIDL, 1851b, 1861).

The international guidebooks were enthusiastic, even before the great extensions of the 1880s

- MURRAY (1863: 404) *“4 m[iles] from this is the wonderful cave of St. Canzian, which some prefer to Adelsberg but more difficult of access”*
- MURRAY (1867: 452)-1881 *Divača is “not far from the great Dolina of St. Canzian, the finest in the Karst... [go] to Nakle (good Inn) ... and while dinner is preparing, the Dolina can be seen.”*
- BAEDEKER (1868: 344)-1880 *“The Recca Caverns of St. Canzian are not less remarkable and even more imposing than those of Adelsberg, but much more difficult of access”*

Padriciano

Although ignored by the guidebooks, the Grotta di Padriciano was an early tourist cave. It became known abroad early in the 19th century from the description by the German botanists, HOPPE & HORNSCHUCH (1818: 105-110). Explored about 1808 by Joseph Eggenhöfner and prepared as a show cave soon afterwards, it was shown to them by him on 5 March 1816. Eggenhöfner (Fig. 4), a Trieste innkeeper, regularly acted as guide to German and Austrian scientists visiting the Karst. Thus, although he did not publish himself, he did aid in spreading knowledge of the area.

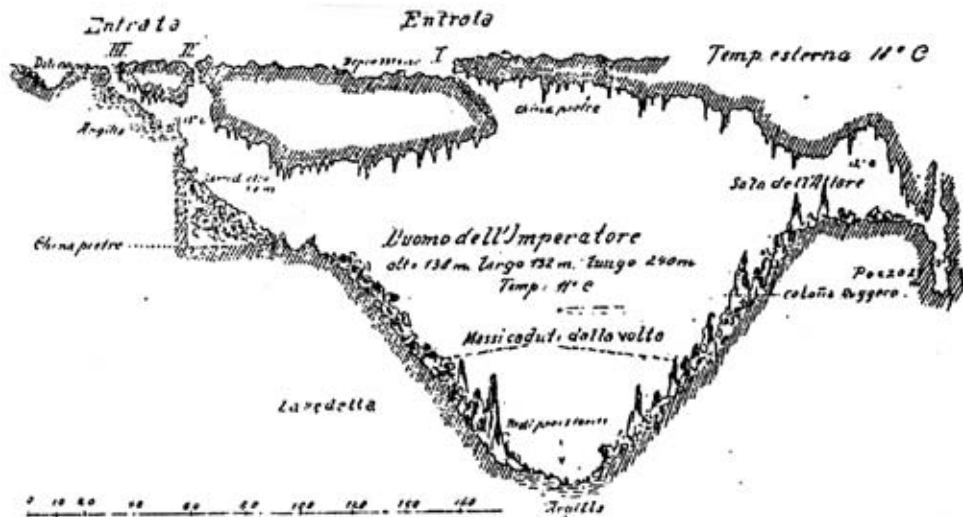
The cave is now known to be 744 m long and 242 m deep, and the bottom was first reached in 1839 by Lindner and Svetina (the Trieste water engineer whose assistant Eggenhöfner was at one time (FARAONE, 1993: 47) as part of the search for an improved water supply for the city. The Hoppe & Hornschuch book is the source of almost all that is known about Eggenhöfner. The full text is available elsewhere (SHAW, 2000: 105-109) but the following extracts give some information on this remarkable man:

Although not really scientifically educated, Eggenhöfner is a man with a lot of knowledge and ability. He had been concerned specially with hydraulic and mechanical engineering. ...

When his father was still alive and he did not have to manage the inn alone, he was occupied with the actual cave that he himself had chanced to discover. He spent a lot of money making it easy and safe to enter, and especially in trying to reach the far end of the cave. But although he penetrated for 100 klafter [190 m] into it, he did not reach the end. ...

Mr. Eggenhöfner did not enjoy the triumph of his efforts for long. Robbers broke down the locked doors and carried away all the movable and fixed items. Not only were benches, chairs and tables lost in this way, but also the supports of the walls which now collapsed easily, blocking the paths again and causing the former chaos to return. Our industrious and unfortunate innkeeper now has nothing left except the title “king of the caves” (Grottenkönig) with which the inhabitants of this region had honoured him.

(HOPPE & HORNSCHUCH, 1818: 106-7, 110)



COUPE DE LA GROTTA-GIGANTE (d'après M. G.-A. Perko).

Fig. 5 – A section of Grotta Gigante, reproduced from *Il Tourista* IV (5) 1897, p.36, in MARTEL'S (1897: 393) annotated bibliography entry for that journal.

Trebiciano

Grotta di Trebiciano was explored by a team led by Anton Lindner in 1840 and 1841, as part of his investigation for the Trieste water supply. A short report on this by the United States consul in Trieste was published in Washington (MOORE, 1842). The cave also featured in the widely distributed and popular book *Die Unterwelt mit ihren Schätzen und Wundern* of 1863 by HARTWIG (1863: 127) which was published also in at least six English editions (up to 1892), two editions in USA and one in Danish.

Rather surprisingly, this 329 m deep cave was open to tourists for many years. The following account first appeared in the 1867 edition of Murray's guidebook and remained unchanged in later editions up to 1881:

The nearest point to visit the Lindner or Trebitsch Cavern, the deepest in the Karst.

It is ½ hr. of bad road from Sessana to the village Orlik; thence to the Cave, between Orlik and Trebitsch, ¼ hr. Also ½ hr. E. of Opschina. From Trieste, therefore, the hamlet of Fernetitsch is the best point from which to turn off the post-road.

Permission from the engineer of the Trieste Waterworks is requisite, usually addressed to some one in Trebitsch who has already made the descent. For this reason, unless the permission has been already obtained by written application it will be more convenient to visit it from Trieste. Inquire if the ladders are in good condition. ¾ hr. to descend, and 1½ hr. to ascend.

In the course of Herr Lindner's endeavours to procure a supply of water for Trieste, he came, in 1840, upon this Cavern at the bottom of a Swallow-hole 885 ft. deep, the entrance to which is in a small Dolina, 1120 ft. above the sea. Along this Cavern lies the underground course of the Recca – last visible in the Dolina of St. Canzian.

The mouth of the shaft is kept closed; the descent is by 66 ladders – mostly wet and muddy – generally 12 ft long, separated from each other by stages. The passage laborious, but not dangerous. The last ladder lands the visitor upon a sand and mud-hill down which is a descent of 170 ft to the Recca. Its surface is thus not more than 65 ft above the sea.

The Cavern is 1182 ft. long; about the middle it is separated into 2 basins by masses of fallen rock. At each end the rock dips deep below the water. Its dark colour requires good lighting. In flood-time the water has risen 356 ft. up the shaft.

(MURRAY, 1867: 452)

Adolf Schmidl had described it earlier, both in German (SCHMIDL, 1853: 47-50) and French (SCHMIDL, 1854: 41-44) versions of his handbook and also in a Wien newspaper (SCHMIDL, 1851c).

So, in summary, until the 1880s the classical Karst was known mainly to those who had personal contact with it, either as travellers experiencing its barrenness and its winds, or as visitors to the four caves that were shown to the public in that period. A few of these people wrote about their travels and their books were accessible to those who read the languages they were written in. From 1837 guidebooks were widely available containing brief entries on the caves but these would be read mainly by people who were already interested or in the region. The original explorations in Trebiciano seem to have been hardly reported at all outside the region at the time. Schmidl's work in the area was something of an exception, for he reported on three of the caves in his popular handbooks as well as in Wien and Leipzig newspapers.

But all was about to change.

International Speleological Links

Although the greatly increased foreign interest in the caves of the Karst was due partly to the remarkable discoveries made in Škocjanske jame, it was all part of the growing international study of caves. Owing much to E.A. Martel (1859-1938) who actively promoted it, it was manifested here by Trieste explorers becoming members of foreign speleological societies, by publication in foreign specialist journals, and by visits to the region by distinguished speleologists such as Martel himself, Kraus and Cvijić who then incorporated their knowledge of the Karst in their publications.

Martel's International Policy

Martel's visits to regions outside France were not made solely for new exploration and to advance his own knowledge of caves and karst. Their purpose was also to inspire and encourage cave work by others throughout the world. There can be no doubt about the extent of Martel's links with speleology in other countries. Of his 26 annual "campaigns" of exploration, 19 went outside France in what are now 20 countries and in addition he made lecture tours and other visits abroad. It was in Italy that the first study of his overall achievements was published (MUSONI, 1912), and more information on this aspect is provided by SHAW (1994).

Keeping closely in touch with activities in the Karst even before his first visit there in 1893, Martel brought the Abisso di Trebiciano to the world's attention by an article in the French scientific journal *La Nature* (MARTEL, 1888). Both Trebiciano and Škocjanske jame were described in his first major book, *Les Cévennes* (MARTEL, 1890: 163, 356, 357).

His own visits to Škocjan are best described in his own words:

... On 23 September 1893, with Putick, Marinitsch and Müller, I wished to measure the height of the Rinaldi-Dom (1100 m from the entrance), by using a Montgolfier balloon made of paper: the humidity of the air prevented this from rising more than 45 m; it had not reached the roof which was not, at this point, the highest in the cave ...

Because of the level of the water, I was only able, on 23 September 1893, to reach on foot the 20th cascade (1150 m), under the guidance of Pазze, Marinitsch, Müller and Novak. Only 700 m of the footway with hand-rail were then completed ... I consider that Hanke, Marinitsch and Müller have carried out the most dangerous cave exploration that has ever been made (MARTEL, 1894: 467-469).

He visited Škocjanske jame again three years later, on 16 October 1896, with Marinitsch (PUC, 1999: 24).

His findings of 1893, what he learned as well as what he saw, were given very wide publicity in the speleological world by the 14 pages he devoted to this area in his classic work *Les Abîmes* (MARTEL, 1894: 464-477). This was in addition to the 31 pages there on the Postojna karst. The wider scientific world in France was later told about the ongoing study of the underground Reka in *La Nature* (MARTEL, 1909a) and he referred to Trebiciano in a popular book published in London (MARTEL, 1905?: 278).

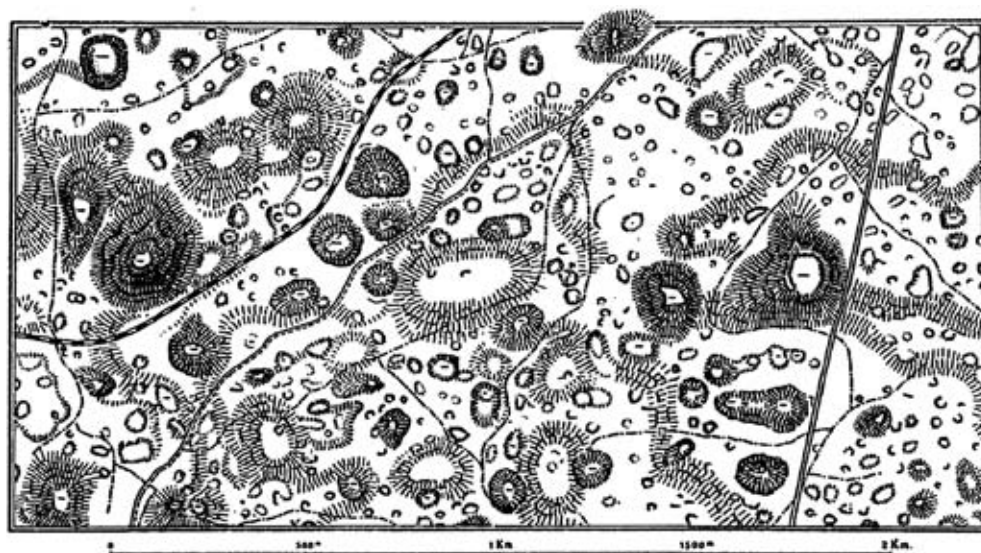
The Société de Spéléologie

Martel's most important means of encouraging and recording cave study, both in France and abroad, was his creation of the Société de Spéléologie in 1895. It enjoyed high scientific standing from the outset and was one of the means by which he contrived the extension of cave study into an international subject.

Foreign membership of the Society was remarkably high. 21% of the founder members lived outside France, indicating the close links already existing before 1895. Between 1895 and 1904 the proportion rose to 29% and in addition three foreign cave societies were members. Among the 119 founder members of the society were Josef Marinitsch, Friedrich Müller, Peter A. Pазze, Ernest Diez and Antonio Valle, all of Trieste, plus the Section Küstenland of the Deutsche und Österreichische Alpenverein (DÖAV). In 1895 these were joined by Antonio Tommasini, Felix Petritsch, J.B. Urban, the Club Touristi Triestini and the Società Alpina delle Giulie. Luigi Picciola was added in 1900.

Many papers by foreign contributors, most of them members, were published in the Society's journal, *Spelunca*. They comprised between 14% and 50% of papers printed in individual years. In the first six years of *Spelunca*'s existence short news reports, "informations", were also printed, some of them summarized from published sources and others contributed by individuals. Of the latter, up to 25% in any one year were sent in by foreigners.

Major papers published there on caves of the Karst by Trieste authors included MARINITSCH (1896a, 1896b) and MÜLLER (1896) on Kačna jama, MARINITSCH (1897, 1904) on Škocjanske jame, BOEGAN (1897) on Vilenica and Padriciano, and MARINITSCH (1895), PERKO (1897) and ANON. (1898) on other caves. A total of 16



Dolinenlandschaft südlich vom Bahnhofe Sessana 1:20.000.
(Nach der Umgebungskarte von Triest, 1:14.400, des k. u. k. militär-geogr. Institutes.)

Fig. 6 – Doline-covered landscape immediately south of Sežana, reproduced from CVJIČ'S (1893: 261) *Das Karstphänomen*. The straight road on the right leads to Basovizza and the one near the railway goes to Orlek.

pages of annotated bibliography of the region were published by MARTEL 1897, 1905). In addition, 10 “short notes” of from 1 to 3 pages each appeared in *Spelunca* between 1895 and 1900. In one of these (MARINITSCHE, 1900): “For 2 years it has not been possible to visit Trebič, for the ladders are not safe”.

All this publication in *Spelunca* was not only directed at the members of the society, about a quarter of whom were not French. It also reached an even larger international readership by an exchange of publications with 100 other societies in Europe, Australia and north and south America. No doubt *Alpi Giulie* also had a system of foreign exchange and one would have supplemented the other.

When Grotta Gigante (Fig. 5) was opened to the public in 1908 it was described in *La Nature*, with illustrations, by MARTEL (1909b): “The Grotta Gigante is certainly one of the principal wonders of the world, as worthy to be visited as the nearby Reka at Škocjanske jame”.

Links with Germany and Austria

The DÖAV whose Trieste section explored Škocjanske jame was, as its name indicates, spread over much of Europe. Its members from Germany and the furthest parts of the Austrian Empire were introduced to the Karst and cave of Škocjan during excursions after the society’s Annual General Meetings in 1885 and 1891. Both these visits were described by PAZZE (1893: 197-200, 315-319) and the 1891 one also by a Schweizer Alpen-Club member Jakob Sigrist-Herder (SHAW, 2005). A member of the British Alpine Club was also present then.

In 1886 one of the 98 members of the Section für Höhlenkunde der Oesterreichischen Touristen-Club, based in Wien, was Emanuele Morpurgo of the “Commissione alle Grotte” of the Società Alpina delle Giulie, in whose *Atti e Memorie* he had described Trebiciano (MORPURGO, 1887). The Section für Höhlenkunde itself published 5 articles and 3 short notes on the classical Karst in its *Mittheilungen*.

The *Geographisches Jahrbuch*, published in Gotha, also carried short notes on Trebiciano, Škocjanshe jame, Kačna jama and Kosova jama (Grotta del Merlo near Divača) in the 1890s.

Several books published between 1893 and 1906 achieved international status as textbooks on caves and karst, conveying information about the Karst near Trieste, as one of the classic karst areas of the world, to those who were interested wherever they lived. Its caves became “text-book examples”.

Martel’s *Les Abîmes* (1894) has been mentioned already. *Höhlenkunde* by Martel’s friend Franz Kraus (KRAUS, 1894), published in Wien, devotes 14 pages to the area. The Braunschweig - published book by Walther von Knebel (VON KNEBEL, 1906), also called *Höhlenkunde*, has 9 pages on it. *Das Karstphänomen* by Jovan Civič (CVIJIČ, 1893) of Beograd is less a descriptive book but rather a treatise on the origin of caves and other karst features (Fig. 6), using examples from the classical Karst as case studies on 15 pages. Trebiciano is referred to as the *locus typicus* for a particular kind of shaft.

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IL CARSO CLASSICO E LE SUE GROTTE COME ERANO CONOSCIUTE NEL RESTO DEL MONDO PRIMA DEL 1914

RIASSUNTO ESTESO

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L'autore di questo articolo compie una analisi storica sulla prima comparsa, su mappe e scritti, della parola Carso, qui intesa come quella zona che più tardi sarà recepita come Carso Classico, e delle sue cavità naturali. Citando vari autori e varie pubblicazioni, si comprende come siano stati due in sostanza i periodi storici ai quali si fa riferimento, e come i medesimi si siano tra di loro integrati. La prima comparsa in assoluto del termine “Carso”, è dovuta ad una mappa di Wolfgang Lazius (1514-1565), pubblicata nel 1561 come componente dell'atlante “*Typi Chorographici Prouin: Austriae*”: oggi tale mappa è eccezionalmente rara, con soltanto sette copie in circolazione e in ogni caso era pronta ed incisa almeno 16 anni prima della sua pubblicazione. Dal 1573, tuttavia, la parola Karst era anche presente su di una mappa del 1570 di Augustin Hirschvogel (1503-1553), e su di un'altra mappa del 1561 di Lazius che indica tra l'altro le Grotte di S.Canziano con la frase: “*S. Kazan, Recca flu. absorbetur, qui in Timaus fontibus erumpit.*”, (S. Canziano, lì dove il fiume Recca sprofonda, prorompendo in uscita dalle fonti del Timavo). Successivamente, per due secoli la zona fu in realtà ignorata per tali caratteristiche carsiche almeno fino all'ultimo ventennio dell'Ottocento, a parte singoli casi come le descrizioni del VALVASOR (1687, 1689) e di Alberto Fortis sulle Torri di Lipizza e la Grotta Vilenica (FORTIS, 1778). In alcune guide turistiche internazionali come quelle di Murray e di Baedeker alcune cavità erano altresì state descritte.

Sulla Vilenica e Torri di Lipizza: “*Il locandiere Mukow ha le chiavi ed il libro della Grotta. Tassa ingresso, Kr 15. ogni persona; sufficiente 1 ora per la visita. È profonda circa 900 piedi e si apre alla base di una piccola dolina.*” (MURRAY, 1867). Sulla Vilenica di più scrisse Adolf Schmidl sia in tedesco che in francese. Altre informazioni comparvero a cura di Leipzig e di Itzinger (1863).

Sulle Grotte di S.Canziano: “*le caverne della Recca di st. Canzian non sono meno notevoli ed imponenti di quelle di Adelsberg, ma decisamente di più difficile accesso.*”, (BAEDEKER, 1868). Come detto precedentemente, l'ingresso del Timavo a S.Canziano era stato segnato sulle mappe di Lazius nel 1561, ed a livello esplorativo i tentativi del Svetina di esplorare il sistema principale nel 1839 e nel 1840 furono segnalati dalla Société Géologique de France dal WEGMANN (1841). I successi esplorativi dello Schmidl nel 1851 ebbero ampio riscontro tramite i suoi lavori in tedesco e francese (SCHMIDL, 1851, 1853) e i lunghi articoli pubblicati sui giornali viennesi (SCHMIDL, 1851, 1861).

Sulla Grotta di Padriciano: “*..Eggenhöfner è un uomo di tante conoscenze e molte abilità. (...) Ha speso molti soldi che rendono più facile e sicura la visita della grotta (...) Il sig. Eggenhöfner non ha goduto il trionfo dei suoi sforzi (...) i ladri hanno rotto i cancelli d'ingresso ed hanno portato via tutti gli articoli mobili e fissi. (...) Il nostro industrioso e sfortunato locandiere ora non ha niente in mano tranne il titolo di “re delle grotte., (Grottenkönig) con cui gli abitanti di questa regione lo hanno onorato.*” HOPPE & HORN-SCHUCH (1818)

E ancora sulla Grotta di Trebiciano: “*(...) la discesa è fatta da 66 scalette bagnate e fangose di lunghezza generalmente 12 ft, separate l'una dall'altra da piazzole. (...) L'ultima scaletta depone l'ospite su una collina di sabbia e fango dalla quale parte una discesa di 170 ft al Recca. Il fiume è così a non più di 65 ft sopra il mare (...) Il colore scuro*

degli ambienti richiede una buona illuminazione. *In tempi di piena l'acqua è aumentata fino 356 piedi sopra i pozzi.*" (MURRAY 1867) Da segnalare che le esplorazioni di Lindner del 1840 e 1841 a Trebiciano furono inserite in un rapporto del consolato degli Stati Uniti a Trieste pubblicato a Washington nel 1842. La grotta fu anche descritta nel famoso libro "Die Unterwelt mit ihren Schätzen und Wundern" del 1863. Pure Adolf Schimdl scrisse a riguardo di Trebiciano, sia in tedesco (SCHIMDL, 1853) che in francese (SCHIMDL, 1854) ed anche in un pezzo pubblicato su un giornale viennese (SCHIMDL, 1851).

Legami internazionali

Grazie alle scoperte fatte a S.Canziano ed all'incremento degli studi internazionali sul carsismo, l'interesse estero verso il Carso Classico era aumentato. Ciò si deve in gran parte a E.A. Martel (1859-1938). Antecedentemente al 1893, anno della la sua prima visita al Carso, egli portò la Grotta di Trebiciano all'attenzione mondiale pubblicando un articolo nel 1888 sulla rivista scientifica francese "La Nature", sebbene anche le grotte di S.Canziano e di Trebiciano fossero descritte nel suo primo libro, "Les Cévennes" nel 1890.

Sulle esplorazioni a S.Canziano scrisse: "(...) a causa del livello dell'acqua, soltanto il 23 settembre 1893 raggiunsi a piedi la ventesima cascata, sotto la guida di Pазze, Marinitsch, Müller e Novak. (...) io credo che Hanke, Marinitsch e Müller hanno effettuato qui l'esplorazione più pericolosa che sia mai stata mai fatta in una grotta" (MARTEL, 1894). I risultati del 1893 a S.Canziano dettero molta pubblicità alla speleologia locale, soprattutto grazie alle 14 pagine dedicate a questa zona nel suo classico "Les Abîmes". Altri lavori del Martel sul Carso Classico apparvero in "La Nature" e in un libro pubblicato a Londra nel 1905 sulla Grotta di Trebiciano.

Gli sforzi del Martel nell'incoraggiare lo studio delle grotte si concretizzarono con la creazione della "Société de Spéléologie" nel 1895. Il numero degli iscritti stranieri della società era alto: il 21% dei membri fondatori vivevano fuori dalla Francia e tra il 1895 e il 1904 tale rapporto aumentò fino al 29%. Fra i 119 fondatori, risultavano soci Josef Marinitsch, Friedrich Müller, Peter Pазze, Ernest Diez ed Antonio Valle, tutti di Trieste, più la sezione Küstenland del Deutsche und Österreichische Alpenverein (DÖAV). Nel 1895 alla "Société" si unirono Antonio Tommasini, Felix Petritsch, J.B. Urban, del Club Touristi Triestini e la Società Alpina delle Giulie. Luigi Picciola diventò socio aggiunto nel 1900.

Anche "Spelunca", la rivista della società, rifletteva tale tendenza: nei diversi anni, fra il 14% e il 50% dei lavori pubblicati provenivano da soci esteri e tra i maggiori lavori comparsi sulle grotte del Carso triestino troviamo autori come MARINITSCH (1896) e MÜLLER (1896) sull' Abisso dei Serpenti, MARINITSCH (1897, 1904) su S.Canziano, BOEGAN (1897) sulle Torri di Lipizza e sulla Grotta di Padriciano e MARINITSCH (1895), PERKO (1897) ed ANON. (1898) su altre cavità.

Tutte queste pubblicazioni apparse su Spelunca ebbero una divulgazione internazionale tramite lo scambio di pubblicazioni con altre 100 Società in Europa, Australia e il Nord e Sud America.

Collegamenti con Austria e Germania

Nel 1886 uno dei 98 soci della "Section für Höhlenkunde der Oesterreichischen Touristen-Club", con sede in Vienna, era Emanuele Morpurgo della "Commissione alle Grotte,,

della Società Alpina delle Giulie, società che pubblicava “Atti e Memorie” dove lui aveva descritto la grotta di Trebiciano. La “Section für Höhlenkunde” stessa pubblicò 5 articoli e 3 note brevi sul Carso Classico nella rivista “Mittheilungen”.

Parecchi libri pubblicati fra il 1893 e il 1906 acquisirono lo status internazionale di “manuali sulle grotte e il Carso” riportando informazioni proprio sulla zona di Trieste, facendo sì che venisse considerata come una delle zone carsiche ad interesse mondiale. Le relative grotte ivi descritte dunque, si sono trasformate in “*in esempi da manuale*”,. “*Les Abîmes*” (MARTEL, 1894) è già stato citato. “*Höhlenkunde*” di Franz Kraus (KRAUS, 1894) pubblicato a Vienna, dedica 14 pagine alla zona. “*Höhlenkunde mit Berücksichtigung der Karstphänomene*” il libro pubblicato da Walther von Knebel (VON KNEBEL, 1906), contiene 9 pagine sulla zona, mentre “*Das Karstphänomen*” di Jovan Cvijič (CVJIČ, 1893) è meno descrittivo ma più orientato come trattato sull’origine delle grotte e della geologia carsica, usando come “casi studio” fenomeni del Carso Classico cui dedica espressamente 15 pagine.