

**EARLIER KNOWLEDGE OF  
THE AMERICAN CAVES REPORTED IN  
VALVASOR'S  
"DIE EHRE DESS HERZOGTHUMS CRAIN"  
(1689) - FROM 1513**

**ZGODNJE POZNAVANJE AMERIŠKIH JAM  
(OD 1513 DALJE)  
O KATERIH POROČA VALVASOR V  
"DIE EHRE DESS HERZOGTHUMS CRAIN"  
(1689)**

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**Izvleček**

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**Trevor R. Shaw: Zgodnje poznavanje ameriških jam (od 1513 dalje) o katerih poroča Valvasor v "Die Ehre Dess Herzogthums Crain" (1689)**

Pri iskanju podatkov o štirih ameriških jamah, ki jih opisuje Valvasorjev soavtor Francisci v *Die Ehre dess Herzogthums Crain* (1689), so bili ugotovljeni opisi treh zgodnjih obiskov jam - v Gvatemali pred 1625, v Mehiki med 1612 in 1621 in na Hispanioli okoli 1513. Četrta jama, v Andih, je nedoločljiva in verjetno plod domišljije. Za opis jame na Hispanioli, izšel 1516, kaže, da je najstarejša omemba kake ameriške jame sploh.

Ključne besede: speleologija, zgodovina speleologije, Valvasor, Amerika, Gvatemala, Mehika, Zahodna Indija

**Abstract**

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**Trevor R. Shaw: Earlier knowledge of the American caves reported in Valvasor's "Die Ehre dess Herzogthums Crain" (1689) - from 1513**

In tracing the information provided on four American caves by Valvasor's co-author Francisci in *Die Ehre dess Herzogthums Crain* (1689), three early cave visits are described - in Guatemala before 1625, in Mexico between 1612 and 1621, and in Hispaniola about 1513. The fourth cave, in the Andes, is unidentifiable and probably imaginary. The description of the Hispaniola cave, published in 1516, seems to be the earliest account known of any American cave.

Key words: speleology, history of speleology, Valvasor, America, Guatemala, Mexico, West Indies

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## INTRODUCTION

One of the reasons why Valvasor's descriptions of Slovenia in his *Die Ehre dess Herzogthums Crain* (1689) are so accurate and dependable is that they are written from his own direct knowledge and based on his own travels and researches. It is therefore worth examining some of those other parts of the book that were written by his collaborator Erasmus Francisci, because they are usually derived from earlier writings and so are liable to retain any errors that these might have contained.

The investigation has uncovered some interestingly early records of caves being visited in America, in the 16th and 17th centuries.

Francisci was responsible for those parts of *Die Ehre ...* that deal with the early history of Slovenia, and also those additions which serve to provide wider context for Valvasor's descriptions, such as accounts of similar places in other lands. It is usually clear from this which sections were written by him, and Baraga (1990) has given guidance on which ones he wrote.

Not only were his sources various, and therefore of different intrinsic reliability, but the information in them was often taken at second- or even third-hand from earlier books, thus introducing greater possibilities of error. This is not to say that he was a poor scholar - probably Valvasor would not have made him his collaborator if he had been - but the greater opportunities for error in the information Francisci provided necessarily makes it less dependable.

For this reason the present paper investigates the sources of the statements made in *Die Ehre ...* about caves in Central and South America and in islands of the Caribbean. At the very least this will date the information more exactly. In addition it may give more facts about the caves concerned; and it may also uncover errors or anomalies that might throw doubt on its truth.

A very brief preliminary note on these American sources has already been published (Shaw 1993), and a detailed analysis of the origins of the *Die Ehre ...* statement on the Bonewell karst spring in England (Shaw 1994) showed that it derived ultimately from a book published in 1607, some 80 years earlier.

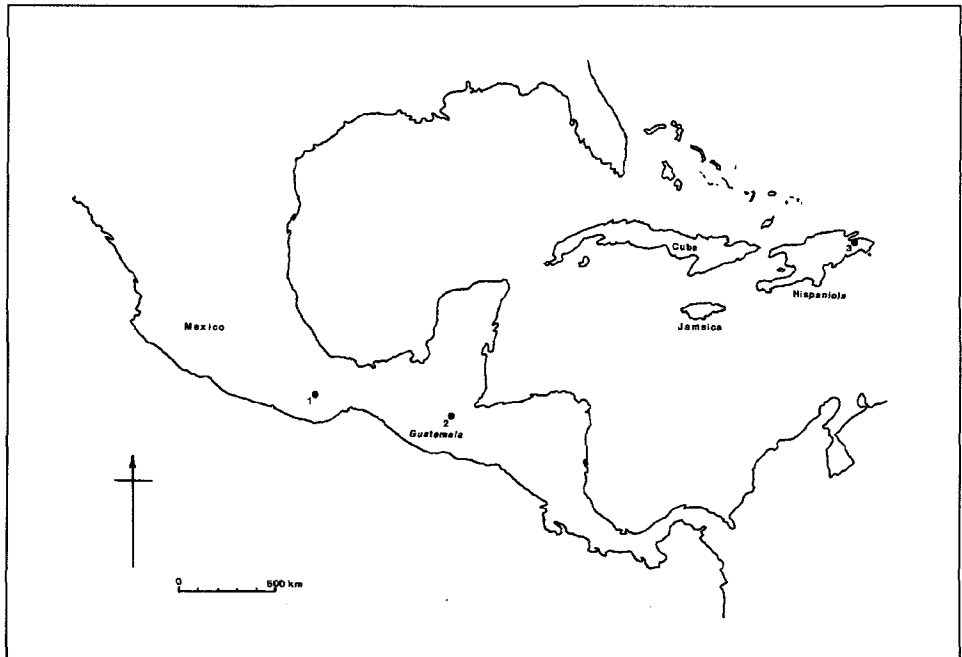
The caves considered here were all introduced by Francisci to provide a world-wide background for Valvasor's own descriptions of karst phenomena in Slovenia. He describes two caves in Central America, one in a Caribbean

island and one in South America (Fig. 1). Other foreign caves mentioned by him, but not of concern here, include ones in Austria, France, Germany, Greece and Switzerland (Kranjc 1989).

It will be shown that Francisci's accounts of the four American caves in *Die Ehre ...* can be traced back to earlier ones dating variously between 1513 and 1665.

These dates should be seen in the context of European discovery of the region and the other early descriptions of caves there. It was in 1492 that Columbus first saw land in the western hemisphere at what is now San Salvador island in the Bahamas. His first voyage, in 1492 and 1493, saw the discovery of many of the Caribbean islands. In his second voyage (1493-1496) he discovered many more, and set up the first European colony that survived, in Hispaniola. The first landing on the mainland, on the north coast of what is now Venezuela, took place in 1498; Honduras and other parts of Central America were reached in 1502 (Morison 1974).

Caves in America were, of course, known to man long before the



*Fig. 1. American caves referred to in Die Ehre . . .*

1. cave near Oaxaca in Mexico.
2. Gruta Lanquin, Guatemala.
3. Cueva Infierno, on the island of Hispaniola. The cave in the Andes is unidentifiable.

Europeans landed there. In the dry region of Yucatan in Mexico they were the sole permanent sources of water and so were of great importance to the Maya people living in the area. Remains of pottery as early as 200 A D have been found in the caves there (Brainerd 1953). In the Nan Tunch cave in Guatemala, a group of Mayan calendar glyphs or symbols painted on the wall is interpreted to mean 18 December 738 A D (Stuart 1981), and pottery from around 850 or 900 A D has been found in Gruta Seamay, also in Guatemala (Gould 1968).

Of the European accounts of American caves, the earliest now appear to be those of Peter Martyr, published in 1516, on caves in Hispaniola. One of these is the ultimate source of Francisci's information, and is considered in detail later.

It was in 1548 that Diego Ruíz de Vallejo went into a cave near Escuque in Venezuela, and in 1579 a cave near the city of Trujillo was mentioned by Alonso Pacheco (Urbani 1993). The first record of the well-known Cueva del Guacharo in Venezuela appears to be in a letter of 21 July 1660 by Agustín de Frias, a Capuchin priest, and the first published mention of it was in a book by José de Carabantes printed in 1666 (Urbani 1989).

Caves and karst springs in Yucatan were referred to in a manuscript of 1566 by the Spanish priest Diego de Landa (1941) who travelled extensively in several parts of Mexico.

Vázquez de Espinosa (1942, 1948) visited caves in Mexico between 1612 and 1621. Besides his description of one near Oaxaca, from which Francisci derived his account, he reported others in the Chiapas district of Mexico and (between 1617 and 1619) in Peru.

## ERASMUS FRANCISCI

So as to understand Francisci's contribution to *Die Ehre ...* it is necessary to know a little about the man himself and the extent of his scholarship. In view of his importance, both in this paper and as the associate of Valvasor, two engravings of him are reproduced here (Figs. 2 and 3).

He was born at Lübeck on 19 November 1627 and died in Nürnberg on 20 December 1694 (i. e. 1 January 1695 according to the new style Gregorian calendar used in Catholic countries) (Baraga 1990). He lived in Nürnberg, the city in which *Die Ehre ...* was published.

Francisci wrote or edited more than 53 books on a very wide range of subjects, including biographies, histories, religious books and compilations of travel writings. As Baraga has pointed out, the range of subjects that he wrote about makes him one of the first professional generalist German writers. Many of his works are compilations. He never went to Carniola but the nature of his contribution to *Die Ehre ...* is such that this is not a disadvantage.



Fig. 2. Erasmus Francisci, from an engraving printed after his death in 1694, in the Department of Prints and Drawings of the British Museum. Height of original portrait 130 mm. Reproduced by courtesy of the Trustees of the British Museum

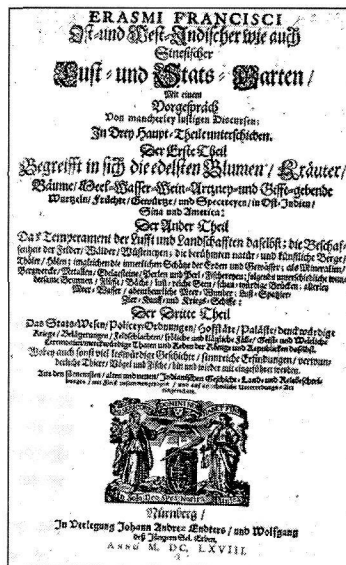


Fig. 4. The title page of Francisci's book of 1668, reproduced by permission of the British Library (shelfmark 572. i. 19). Height of original 310 mm.



Fig. 3. Erasmus Francisci, from an undated engraving in the library of the Theological Seminary in Ljubljana, reproduced with permission. Copy made by Carmen Narobe of SAZU. Height of original portrait (within oval) 87 mm.

Not surprisingly, when he needed to insert information on American caves in *Die Ehre ...*, Francisci made use of his own previous book on the region, *Ost- und West-Indischer wie auch Sinesischer Lust und Stats-Garten ... die berühmten natür- und künstliche Berge, Thäler, Hölen ...* (Francisci 1668); the full title can be seen in Fig. 4. The fact that this book was compiled from already existing information was quite usual at this time. It was like a textbook, drawing on other relevant publications. This is not to minimise its value either to his contemporaries or to historians, since the 17th century and earlier sources that he used were not all readily available even then. The very fact that such compilations existed in relatively large numbers shows that they fulfilled a purpose. Dapper's regional descriptions, one of which plays a significant part in this study, were also compilations.

Although much of the content of such books came from earlier sources, this did not make them out of date. Often the information used was all that was available, and this is particularly true where explorations of the New World were concerned. People did not waste time rediscovering and describing the same places. Thus such 17th century compilations were different in nature and purpose to those popular ones of the 19th century with titles such as *The Wonders of Nature and Art* (Smith 1803-04) or *Facts from the World of Nature* (Loudon 1848), which were produced for popular reading or to instruct children.

## A CAVE IN GUATEMALA

The cave near Verapaz in Guatemala described by Francisci in *Die Ehre ...* (1689, I: 487) is undoubtedly Gruta Lanquin (2298 m long) close to the town of the same name in Alta Verapaz, at 15° 35' N, 90° 03' W. There are modern descriptions of the cave by Gurnee (1962) and Courbon et al. (1989).

The 1689 description is almost identical to that of Dapper, first published in 1670, but Francisci's own earlier account had a little more information in it. In its turn, this was derived from that of Laet in 1625.

The *Die Ehre ...* account is as follows:

In der Guatemalischen Gegend Vera paz, hart am Flecken S. Augustin findt sich zwischen zween Bergen eine steinerne Höle mit einem weiten Munde: in derselben trifft man einen grossen geraumen Platz an mit vielen Winckeln. Durch den Felsen tröpfelt eine versteinemde Feuchtigkeit hinem: die in selbiger Hölen viel Bildnissen mancherley Gestalten figurirt derer schöner Glantz mit dem weissesten Alabaster um dem Preis ringet. Man vernimt aber auch daselbst ein furchtsames Geräusch so von einem Wasser sich erregt und von allen Ecken zivo Picquen hoch hinunter fällt in einen Wasser-Pfuhl: welcher eine unergründliche Tieffe hat hohe Wellen wirfft und einen mächtigen Strom von sich heraus schiesset.

Rather than translate the German text of *Die Ehre ...* into English at this point, it is compared with an earlier text, also in German, from which it is derived.

The immediate predecessor of the *Die Ehre ...* account, though not necessarily its source, is by Olfert Dapper. A copy of the 1673 German edition of Dapper's book survives in Valvasor's own library in Zagreb, and it is included (without date) in the list of sources printed at the beginning of *Die Ehre ...* Further confirmation that this was the edition used is that it is cited by page number for the Mexican cave description discussed later.

The equivalent description of the Guatemalan cave in this 1673 edition is:

Dichte bey dem Flecken des heiligen Augustiens liegt zwischen zween Bergen eine steinerne Höhle mit einem weiten Munde und in derselben eine grosse Fläche vol Winckel. Aus dem stätigen durchtröpfelen entstehen vielerhand Wunderliche Bilder weiche vor keinen weissen Albaster weichen. Man höret ein erschröckliches rauschen des Wassers welches an allen enden zwo Picken hoch niederfället in ein Meer darinnen der unmäslichen tieffe wegen grosse Wasserwogen sich erhöhen. Aus diesen Meere komt ein grosser Strohm geschossen.

(Dapper 1673: 305)

The same facts and comments appear in the same sequence as in *Die Ehre ...* and with many of the same words and similar phrases presented in the same order, though the 1689 account is a little longer. A contemporary



English translation (Ogilby 1671: 228) renders Dapper's text as:

... St. Augustines; near unto which there is said to be a Cave and Fountain within Ground, which converts the Water that falleth into it out of several lesser Springs, into a kind of Alabaster or Stone, perfectly white, and fashions it likewise into Pillars, Statues, and other artificial Forms of very curious Workmanship, as Laet reporteth.

We shall come to Laet's description in due course.

Because Dapper's writing was so similar to that in *Die Ehre ...* on three of the four caves considered in this paper, and evidently was its direct source in at least one of these cases, the somewhat complex matter of the publication and disputed authorship of his book is summarised here.

Olfert Dapper was born at Amsterdam in 1636 and died in December 1689 (Brugmans 1927). He was a medical doctor but was particularly interested in geography and history (Hoefler 1855). From 1670 to 1688 he published a 12-volume collection of voyages and descriptions of foreign countries in Dutch. In this collection, the volume on America was attributed on the title page to Arnoldus Montanus (1671) and the description of the Guatemala cave is found on page 271. An English version of this was printed in 1670 as though the author was John Ogilby, and reissued in 1671. The German edition of 1673, already mentioned, was translated by J. C. Beers from the Dutch but Dapper is named on the title page as the author. This information is summarised by Sabin (1873, 1880) in his bibliography of books on America, where he calls Ogilby's and Dapper's books "impudent plagiarism" of Montanus's work. The actual authorship is still disputed (see Schuller 1907). For simplicity I have followed the practice of *Die Ehre ...* and of the British Museum library catalogue, and referred to the 1673 edition as by Dapper; the others are cited under the author's name given on the title page.

Whoever the author was, the books are regarded as "careful compilation(s) by a scholar ... including ... material from unpublished manuscripts which have since been lost" although he never visited the places described (Tye and Jones 1993).

It is clear too that the German edition cited in *Die Ehre ...*, and even the first printing in 1670, appeared after the publication of Francisci's 1668 book. Furthermore, Francisci (1688: 1091) includes some information not present in Dapper's account - a remark on extreme cold in the cave - which shows that he could not have borrowed from a draft of Dapper's book before its publication, but must have used the much earlier description by Laet (see later).

Nevertheless it remains that the *Die Ehre ...* text, although supplied by Francisci, is so similar to Dapper's that in 1689 Francisci must have used that rather than his own previous account.

Tantalisingly, Francisci (1668) refers to "Franciscus de Ulloa, in seiner Schiffabriss Verzeichniss bezeugt" ("in his ship's log book") as if as a source for the cave description. Ulloa, with three ships, was exploring on the west coast of Central America in 1539 and 1540, so this suggests an early origin

for the information. However, all the published versions of his account traced (Ulloa 1556; 1809; Wagner 1929) and other references to his travels (e. g. Morison 1974) describe only coastal explorations, with no journeys far inland and no reports of caves. So, either a now lost Ulloa manuscript was seen by Francisci (as will be seen later, Francisci's knowledge of a cave in Mexico was derived from a manuscript which was not published until 1942) or the citation arose from a copying error.

Whichever was the case, Francisci's own source was clearly one of the editions of Johannes de Laet's "The New World and a Description of the West Indies". The content and sequence of the description are very similar in both books. Laet writes:

Near the town on S. Augustin and between two mountains, there can be seen a cave in the rock which can contain many men. Inside its large entrance it is low and dark, like several others close by, and a certain liquor drips continually, turning into a white stone like alabaster and forming many columns and statues by an unusual process of nature: inside, there is a cold so gripping & acute that it is said to get into the bones: also one can hear there a confused murmuring of running water which comes from various streams, falling first of all into a pool in a deep pit where they combine and then flow off as a river which is large enough to carry boats, once it has left the cave.



*Fig. 5. Johannes de Laet at the age of 60 in 1642. An engraving by I. van Brouckhorst. Height of original portrait 211 mm. Reproduced by courtesy of the Trustees of the British Museum.*

This translation has been made from the French edition of 1640 (p. 247). The book was published first in Dutch in 1625, with a second edition in 1630; a Latin version appeared in 1633 followed by the French one in 1640. So it was a popular book and one that was easily accessible in the 17th century. In a copy of Kircher's (1665) *Mundus Subterraneus* a contemporary owner has inserted a marginal note in ink about Laet's mention of this cave.

Johannes de Laet (Fig. 5) was born at Antwerp in 1581 and died at Leiden in 1649 (Bekkers 1970). Other sources (Brugmans 1930; Elaut 1962) give different years for his birth but Bekkers argues convincingly that it must have been towards the end of 1581. Laet studied philosophy and theology at Leiden, but after being appointed one of the 19 directors of the Dutch West India Company in 1621 his chief interests were in geography, history and languages. He was a prolific writer and his best-known book is the one quoted here.

In the same way that Laet's description was repeated and recycled in the 17th century, it was again summarised a hundred years later by Rosenmüller and Tillesius (1799: 69-70), and as late as 1887 Schwalbe in turn cited their publication in referring to the extreme cold in the inner part of the cave.

### A CAVE NEAR OAXACA IN MEXICO

The cave close to Cuertlavaca near Oaxaca in Mexico, described in *Die Ehre ...*, has not been identified as there are many caves in that area. Perhaps the present publication will stimulate investigation locally.

Tracing the source of the 1689 information here is less complex than it was for the Lanquin cave in Guatemala. The cave is not mentioned at all in Francisci's earlier book and the 1689 text is taken almost verbatim from Dapper's 1673 edition. The information contained there came, via Laet's 1625 book, from Vázquez de Espinosa's then unpublished manuscript of about ten years earlier.

The *Die Ehre ...* text reads:

Lust Beschaffenheit der Mexicanischen Höle Kuertlavaka

Keines mittelmässigen Lobs mag auch berechtigt seyn die Höle bey dem Mexicanischen Flecken Kuertlavaka, an einem hohen Berge in Neu Spanien (oder Mexico) Sie hat einen gar engen Eintritt: der sich aber bald nachdem man ein wenig hineingekommen zu einem vierecktem funfftzig-schuhigem Platz erweitert: An dessen Ende eine Brunn-Grube mit hohen Treppen (oder Stafeln) gefunden wird: woselbst ein krummer und insamer Weg angeht und eine gantze Meile weit lausst; aber fast auf Art der Irrgarten gerichtet ist. Nachmals trifft man noch einen andren grossen Platz an welchen ein Spring-Brunn frisches Wassers belustiget und nicht weniger ein nechst dabey rinnender lieblich-schöner Bach recommendirt. Wie aber die übrige Theile dieser Hölen gestaltet

senn mögen weiss bisshero die Verborgenheit für sich allein nur: weil noch zur Zeit sich Niemand hat weiter hinein erkühnt.<sup>(b)</sup>

<sup>(b)</sup> Sihe das 2 Buch Americae c. 15. p. 287

(Valvasor 1689, I : 490)

Again, the *Die Ehre* ... text is left untranslated here, the better to compare it with the description it acknowledges as its source (Dapper 1673: 287):

Bey den Flecken Kuertlavaka lieget ein hoher Berg darinnen eine wunderseltsame Höhle zu finden. Der Eingang dieser Höhle ist sehr änge. Wan man ein wenig hineingelanget ist siehet man einen viereckichten Platz von fünfzig Fützen. Am ende desselben stehen Brunnen oder Gruben mit hohen Treppen; bey denen ein krummer Weg der auf die weise der Irrgarten sich eine Meile lang erstreket beginnet. Hierauf folget noch ein ander grosser Platz mit einem Springbrunnen vol guhten Wassers versehen; bey welchem einer schöne Bach fliesset. Weil aber niemand sich weiter in gemeldte Höhle hinein begeben so ist das übrige bis nochzu verborgen geblieben.

The same description appears in the Dutch version (Montanus 1671: 254), and the English translation (Ogilby 1671: 269) reads:

Not far from the Village Cuertlavaca, lies a high Mountain, remarkable for a strange Cave, whose Entrance is very narrow, at the end whereof appears a square Place of fifty Foot; upon one side whereof stand Pits with Steps; near which begins a crooked Way of a League long; at the end of which is a spacious Place with a Fountain of good Water; from the Foot of which flows a small Brook: But because none have made any farther discovery of this Cave, the other parts of it remain yet unknown.

In turn, this Dapper/Montanus/Ogilby description is clearly taken from de Laet's account first published in Dutch (1625: 164), and repeated in the subsequent Latin and French editions:

On the borders of the villages of Cuertlavaca and Tequicistepeque there is a wonderful place under a high mountain which was entered in the past by a Jacobin monk with some natives; the descent into it is so narrow that they could only go in one at a time, inside there is a place 50 feet square, where there are some pits with steps; from thence one goes by a route with many bends, and with twists like a labyrinth, to a large space in the middle of which a spring wells up and forms a stream on one side: having walked there for an hour, as they could find no end, they came back by following a thread which they had fixed at the cave mouth.

(translated from Laet 1640: 175)

Laet's description of 1625 was the earliest one to be printed but he must have obtained his information, perhaps in his capacity as a director of the Dutch West India Company, from the Spanish traveller Antonio Vázquez de

Espinosa, whose own nearly identical account was written about the same time but not published until the 20th century:

In the villages of Cuertlavaca and Tequixtepec there is a very high sierra, and on its slopes there is another cave with a mouth so narrow that a man can hardly get through it; immediately one enters a square room over 50 feet high, and beyond this reception chamber there are flights of steps; next there is a passage with many turns like a labyrinth, through which one walks following a cord which serves as a guide to keep one from getting lost and which is fastened at the entrance. Beyond this labyrinth there is a large plaza and in the midst of it a spring of excellent water; the heathen did not venture to drink it, for they considered that it was sacred and that those who drank of it, would die; at one side of this spring runs a little stream. The cave goes much farther; they have never found the end of it; the heathen considered it a holy place.

(Vázquez de Espinosa 1942:182)

Vázquez de Espinosa was a Carmelite friar and Spanish writer born in Jerez de la Frontera in the last third of the 16th century and who died in Seville in 1630. He travelled in America from 1612 or before until about 1622 when he returned to Spain. He was certainly in Mexico in 1612; from 1614 to 1619 he is known to have been in Ecuador and Peru for at least part of the time; and in 1620 and 1621 he was in Guatemala. His information on the cave, which seems to be based on a visit to it, therefore dates probably from 1612 or 1613 and this is supported by the position of the description in his manuscript.

The lengthy manuscript account of his travels, now in the Barberini Collection in the Vatican Library (Barb. Lat. 3584), is known to have been written in 1628 and corrected in 1629. It is likely that earlier drafts or at least notes existed and Laet must have obtained his information from these. Vázquez de Espinosa had begun printing his manuscript before he died in 1630, and some of the sheets already printed evidently got into circulation for they are referred to in the 1738 edition of a library catalogue (Leon Pinelo 1737-38). Whether the passage quoted here was in those printed pages is not known. Certainly it was not included in the book he published in 1623. For complete publication in the original Spanish the manuscript had to wait until 1948, but an English translation appeared six years earlier, with an introduction by C. U. Clark from which most of the above information has been obtained.

As was the case with the Guatemala cave, the same information continued to be printed, sometimes without acknowledgement, in the 18th century. Thus Schwabe (1755) used it in his 21-volume description of the world, and it appeared again in Rosenmüller and Tillesius (1799: 70).

## A CAVE IN HISPANIOLA

The origin of the information given in *Die Ehre ...* on a cave in Hispaniola has been traced back to 1513. The identity of the cave is discussed later after the full description contained in the source document has been presented.

The 1689 text is short:

Petrus Martyr zeuget in der Americanischen Insel Hispaniola, (S. Domingo, oder Dominici) sey gleichfalls eine Höle oder holer Erd-Schlund dabey immerfort ein solches Krachen und Stürmen wütet dass biss auf 5 (welsche) Meilen niemand hinzu treten darff sofernn er nicht sterben oder auss weningste um sein Gehor kommen will.

(Valvasor, I:142)

Peter Martyr testifies also to a cave or chasm in the American island of Hispaniola (S. Domingo or Dominica) round which there are always such storms and gales that no-one can come within 5 (foreign) miles of it lest he die or at least become deaf.)

The derivation of this passage is complex, and part of it obscure.

Dapper (1673: 185) does describe a deafening cave in Hispaniola. But his text does not resemble that of *Die Ehre ...* The contemporary translation (Ogilby 1671: 322) reads:

In the said Province of Caizimu is a very remarkable Rock, or vast Stone to be seen, at the Foot of a high Mountain; and underneath the said Stone is a great Cave, into which they go through a large Passage, not unlike a Temple Door; near which conjoyn many deep Rivers, with such a Noise and Foam, that they lose both their Sight and Hearing, whoever approach the same.

In 1668 Francisci gave quite a lengthy account (Fig. 6) of what must be the same cave, but it is very different to his insertion in *Die Ehre ...* As in Dapper's paragraph, there is no mention in the 1668 book of the five-mile radius within which people are injured or killed by the noise; and *Die Ehre ...* says nothing of the sea being nearby, as the 1668 account does. So the precise source of the wording used in *Die Ehre ...*, and in particular of the "five-mile" phrase, is not known. That five-mile statement was perpetuated after Valvasor's time, however, for it is repeated by Derham (1713 and later editions), in a further modified form.

There is no doubt, however, where the 1668 text comes from; it is taken direct from the account by Peter Martyr (1457-1526), being an almost exact translation of the original Latin. Peter Martyr's text is printed here in the English translation of 1555, with spelling updated to 1612. To make it easier to read, the modern letter "v" has also been inserted in place of the original "u".

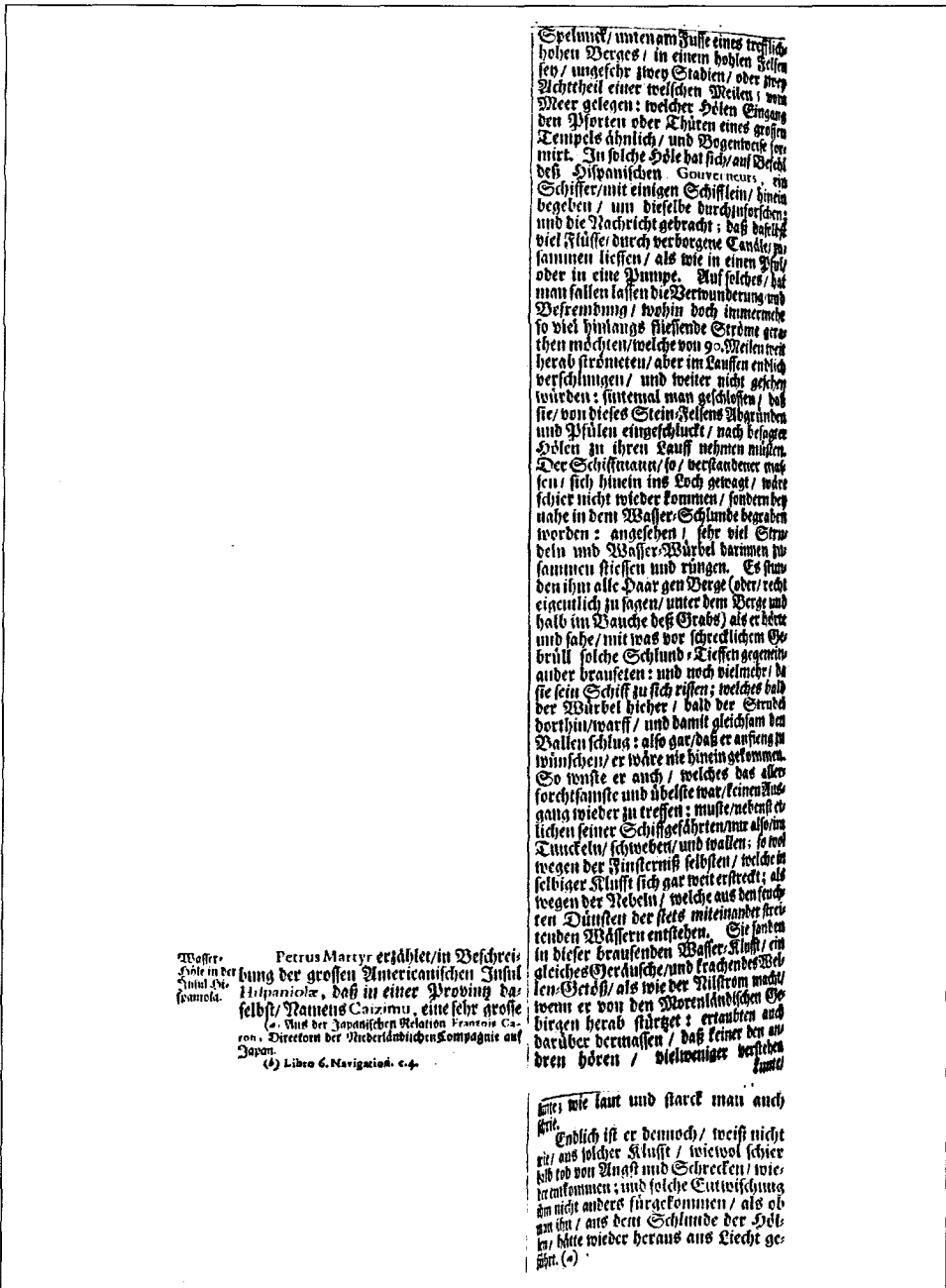


Fig. 6. Francisci's account of the cave in Hispaniola, from pp. 1092-1093 of his 1668 book (reduced in size).

In the province of Caizcimu, within the great gulfe of the beginning, there is a great cave in a hollow rocke under the root of a high mountaine, about two furlonges from the sea, the entry of this cave is not much unlyke the doores of a great temple, being very large, and turnyng many wayes. Andreas Moralis the shypmaister, at the commandement of the governour, attempted to search the cave with the smallest vessels. He sayth that by certayne privie wayes many ryvers have concourse to this cave, as it were a synke or chanel. After the experience hereof, they ceased to marvaile whither other ryvers ranne, which comming fourscore & ten myles were swallowed up, so that they appeared no more, nor yet fel into the sea by any knowne wayes. Nowe therefore they suppose that ryvers swallowed up by the hollow places of that stony mountayne, fall into this cave. As the shypmaister entred into the cave, his shippe was almost swallowed. For he sayth, that there are many whirlpooles and rysinges or boylinges of the water, which make a violent conflict and horrible roryng, one encounteryng the other: also many huge holes and hollow places, so that what on the one side with whirlpooles, and on the other side with the boyling of the water, his shippe was long in manner tossed up and downe like a ball. It greatly repented him that he had entred, yet knew he no way how to come forth. He now wandred in darknesse aswell for the obscurenese of the cave into the which hee was farre entred, as also that in it were thick clouds, engendred of the moist vapours proceeding of the conflict of the waters, which continually fall with great violence into the cave on every side. Hee compareth the noyse of these waters, to the fal of the famous ryver Nilus from the mountains of Ethiope, they were also deafe, that one could not heare what another saide. But at the length with great daunger and feare, he came forth of the cave, as it had been out of hell.

(Martyr 1612, f. 135)

The identity of the cave and the probable date of the visit are discussed later. At this point, however, it is necessary to explain or comment on a few points in the text:

- ◆ The province of Caizcimu is “the most eastern district of the island”, according to Martyr.
- ◆ A distance of “two furlonges from the sea” (stadia in the original Latin) was equivalent to between 400 and 440 m.
- ◆ “Andreas Moralis the shypmaister” is not named in the Latin original but is implied because it was he who supplied the information to Martyr. More about him later in this paper.
- ◆ “the commandement of the governour”. This is the governor of Hispaniola, Nicolas Ovando (or Obando), who had appointed Moralis (usually called Morales) to explore the island.
- ◆ “search the cave with the smallest vessels”. The Latin text just has “navigiis antrum” (“sail into the cave”) with no mention of what he should



sail in. The ship's boats would have been used, as they were for coastal exploration in the other islands.

Because of the somewhat complex way in which Martyr's book was written and published, some attention needs to be given to its structure. It was divided into eight parts ('Decades'), and each of these into long sections or Libri (Books) - rather equivalent to the Buch and Cap subdivision of *Die Ehre* ... Just when each part was originally written is not known.

Decades I to III were first published in Latin in 1516 and translated into English in 1555. The passage quoted above is in Decade III. The complete work, including the Decade VII from which a short quotation is given below, appeared in 1530, also in Latin, and an English version of the whole was printed in 1612 (Fig. 7). A modern rather free English translation by MacNutt appeared in 1912; it is not very exact so it is not as suitable as the one of 1612 for seeing what Martyr really wrote about the cave.

*De Novo Orbe,*  
OR  
**THE HISTORIE OF**  
the west *Indies*, Contayning the actes  
and adventures of the Spanyardes, which have  
conquered and peopled those Countries,  
enriched with varietie of pleasant re-  
lation of the Manners, Ceremonies,  
Lanes, Governments, and  
Warses of the Indians.

*Comprised in eight Decades.*

Written by *Peter Martyr a Millanoise of Angleria*, Cheife  
Secretary to the Emperour *Charles the fift*,  
and of his Priue Councell.

Whereof three, haue beene formerly translated in-  
to English, by *R. Eden*, whereunto the other  
fiue, are newly added by the Industrie, and  
painefull Trauaile of *M. Lok* Gent.

*In the handes of the Lord are all the corners of  
the earth. Psal. 95.*

LONDON  
Printed for *Thomas Adams*.  
1612.

Fig. 7. The title page of the first complete translation of Peter Martyr's *De Orbe Novo*, published in 1612.

To show conclusively that the extract printed above is the one referred to in *Die Ehre ...*, it was necessary to search the whole of Peter Martyr's book. Might there not be another cave description there that fits equally well or even better, mentioning the five-mile danger radius? A very thorough examination of all eight decades established that there is no reference anywhere to such a cave.

The search did, however, throw up a rather puzzling cross-reference to the passage already quoted. In a part of the book written later and not published until 1530, Martyr refers to what is evidently the same cave, but here he places it in the western province of Guaccaiarima at the other end of the island. Thus, in Lib. 8 of Decade VII:

In my first Decades I spoke of a vast maritime cavern in the province of Guaccaiarima in Hispaniola, which extends a distance of several stadia into the heart of the lofty mountains along the west coast. The interior of this cavern is navigable. In its gloomy depths, where the sun's rays hardly penetrate save for a moment at sunset, is heard such a roaring from a waterfall that those who enter shiver with horror.

(Martyr 1912, v. 2: 298)

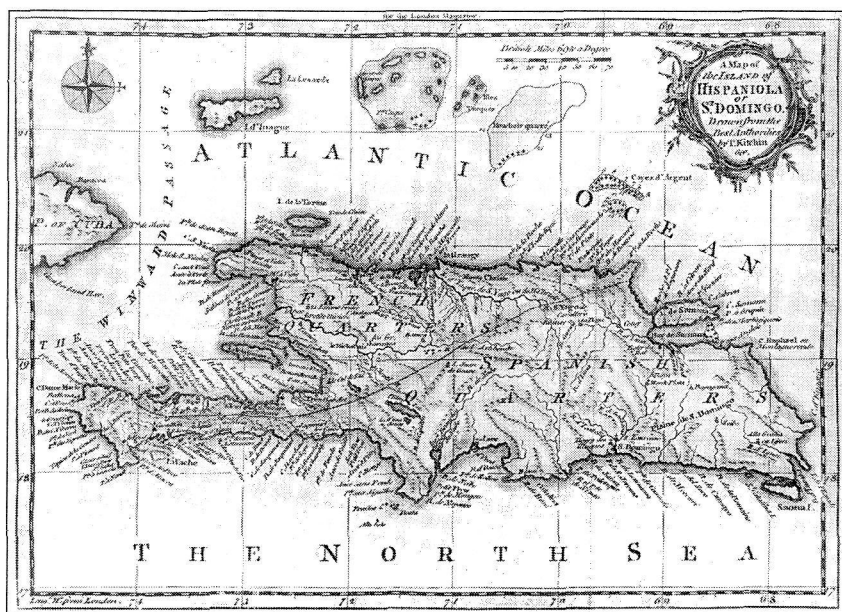


Fig. 8. A map of Hispaniola made by Thomas Kitchin and published in 1758 (reduced in size). Bahía de Samaná is on the north-east coast. Crosses in the sea denote the presence of rocks.

Apart from the east/west contradiction, the two extracts seem to refer to the same place. Moreover, nowhere in the "first Decades" is there a description of any other similar cave, nor of any navigable river cave at all in the Guaccaiarima province. A possible reason for Martyr's apparent error in the later quotation, confusing Caizcimu province (east) and Guaccaiarima province (west), may be that, two sentences before the Decade III description to which he is referring, there occurs a sentence beginning "In Guaccaiarima...". Perhaps Martyr misread his earlier text when, in later years, he referred to it in Decade VII.

All this leads to a consideration of how accurate can Martyr be expected to be in matters of detail; how did he obtain his information and from whom?

Peter Martyr d'Anghera (or Anglerius) was born on 2 February 1457 at Arona on Lake Maggiore in Italy. 1455 and 1459 have also been quoted as the year of his birth but the 1457 date was carefully deduced from conflicting evidence by MacNutt (1912). He died in 1526 after 23 September, the date



Fig. 9. Location of Cueva Inferno at Bahía de Samaná.

on which his will was signed. An Italian, he rose to high ecclesiastical positions in Spain and became the friend of Columbus, Cortés and other explorers of the New World. From these personal contacts and his official position as a member of the Council for the Indies, which allowed him access to authentic documents, he was able to obtain much first-hand information concerning their discoveries. Concerning his Hispaniola report Martyr himself wrote "He (Morales) therefore resorted to me, as they are all accustomed to do which return from the Ocean." From October 1494 until his death in 1526 he made a manuscript record of voyages to the New World, though this was interrupted when he served in the Spanish army and when he was Spanish ambassador in Bohemia and in Egypt. Although he did not go to America himself, he was regarded as reliable in his own time when information was fresh in the memories of potential critics.

Surprisingly, there seem to be no portraits of Peter Martyr d'Anghera. Those purporting to be of him (in Halstead 1965; and in Giorgi de Pons 1930, reproduced by Stoppa 1992) are of his namesake Peter Martyr Vermigli (1500-1562). The text accompanying the first publication of the Halstead portrait (Verheiden 1603) makes this clear, and so does a biographical verse engraved with the second picture in 1697. The 1603 portrait was wrongly identified as of the earlier Peter Martyr in the Library of Congress portrait index (Lane and Browne 1906), though the British Museum catalogue (O'Donoghue 1914) was correct, and it may have been this that led Halstead into error.

There is reason to consider Martyr's writing to be as accurate as any record could be. That is to say, his record of what he read and was told was probably correct, but exaggeration could occur, then as now, between a particular event and its transmission to him. How accurate, though, were the facts he was given? Was Morales a reliable informant? Again using Martyr's words (1612, f. 130): "This man had diligently searched the tracte of the supposed continent, and especially the inner regions of the Ilande of Hispaniola ... so that with his own handes hee drewe fayre cardes (maps or plans) and tables (written records) of such regions as hee discovered. Wherein as he hath beene founde faithfull of such as have since had better triall hereof, so is he in most credite amongst the best sort." So there is every reason to think that his account is a correct record of how Morales had remembered the occasion, including the exaggeration resulting from his "feare".

Martyr's main description of the cave, the detailed one published in 1516, describes it as being in "vastum initii sinum" ("the first gulf found in the province of Caizcimu" of the 1912 translation) at the eastern end of the island. This can only be the Bahía de Samaná, some 1300 km<sup>2</sup> in area, on the north-east coast of the island (Fig. 8). This identification is accepted also by MacNutt (1912). Karst exists both to the north and the south of this long bay, with the higher hills (500 m to 1000 m) to the south; Martyr refers to "a high

mountaine" near the cave. There are many large caves in the cliffs of the bay and karst springs exist on the coast near Sabana de la Mar on the south side (Palmer 1983). Also on the south coast of the bay and sufficiently prominent to be marked on the modern map (Hildebrand 1985) is Cueva Infierno (see Fig. 9), out of the large entrance of which flows the Rio Almirante (Muscio & Sello 1989). This is the entrance to a cave known also as Cueva Fun Fun, from the name of the nearby village, in which more than 7 km of cave passage have now been explored (Savoia 1986).

In the Cueva Infierno we do have a large resurgence cave in a place consistent with Martyr's description. The water noise which deafened the early explorers in the cave, and no doubt gave rise to the stories of deafness up to five miles away, can reasonably be attributed to flood water, as well as to unfamiliarity, fright and exaggeration. The presence of flood water may also have made a normally fairly small stream explorable by boat. To match the early description to the existing caves with certainty requires local investigation.

The date of Martyr's information about this cave is clearly of extreme interest being, it appears, the earliest description of any cave in the Western hemisphere.

The first Decade of his manuscript had been written out in 1500 and 1501 (Morison 1974: 140) so Decade III, containing the cave description, must have been written some time between then and its first publication in 1516. Nevertheless his notes had been started as early as 1494 so, if there had been no other evidence about the date, the cave information could have been recorded as early as that.

It was in December 1492 that Columbus discovered Hispaniola, in the course of his first voyage to America. His ships were at anchor in Bahía de Samaná, near which the cave is, from some time after 8 January 1493 until 18 January, when he sailed for Europe (Morison 1974: 82). It is tempting to think that Martyr's information might have dated from that time, but this is not so.

The man who entered the cave is named by Martyr as Andreas Moralis (Morales). He was a 'pilot', that is to say a navigator, and only the captain of his ship was senior to him. According to Martyr (1612, f. 130) he had often been to the newly discovered lands. He is known to have been a friend and companion of Juan de la Cosa (1449-1510), the map-maker who made six voyages to the Caribbean, and may have accompanied him on Columbus's second voyage (1493-1496). He was not present on the first voyage of 1492 to 1493, in which only three ships took part. It is known for certain that he was in the Caribbean from 1499 to 1500, but most if not all of that voyage was spent close to the mainland of South America.

Morales's visit to the cave must have been not earlier than 1502. According to Martyr (1612, f. 130), he was appointed to explore Hispaniola "by his

brother Nicolaus Ovandus (the governour of the Ilande ...).” Now Nicolas Ovando was appointed governor of Hispaniola in September 1501 and left Spain to go there in February 1502, arriving presumably in March. When Morales died is not known, but the visit cannot have been later than 1515 for it to be recorded in Martyr’s third Decade.

The date can be approximated more closely, however, for Martyr (1612, f. 130) says that Morales told him about it only just after “Petrus Arias the governor of the supposed continent” had sailed from Spain for Darien. This was Pedro Arias de Ávila, who arrived in the Caribbean on 29 June 1514 to replace Balboa as governor of Darien (Morison 1974: 203-4). Thus Martyr would have received his information from Morales early in June. Morales had only recently returned home, so the most probable year for the cave visit is 1513, though it could have been before if Morales’s voyage had been a long one. The frightening noise of the water in the cave suggests that the exploration took place in the rainy season, which eliminates the winter months and makes the most probable time between May and November 1513. This was the same year in which Balboa crossed the isthmus of Panama and was the first European to see the Pacific Ocean.

If the cave was explored specifically “at the commandement of the governor”, as implied by Martyr’s text, then the entrance at least must have been known to Europeans before his exploration. Even if the “commandement” was just the general one to explore the island, it is still likely that such a prominent entrance would have been seen near to where Spanish ships used to anchor.

Although not directly relevant to the cave described by Martyr, it should be mentioned that as early as October 1495 Michele de Cuneo, sailing with Columbus, had referred to the existence of a cave in the small limestone island of Saona, close to the south-east corner of Hispaniola. He did not describe it and it is probable that only the entrance was seen (Chiappa 1986).

## A CAVE IN THE ANDES

The cave described as being in the Andes mountains of South America is almost certainly an imaginary one. The account in *Die Ehre ...* is nearly identical to that in Francisci’s earlier book (1668) and to that in Kircher’s *Mundus Subterraneus* (1665) from which it was evidently taken. All three refer to a *story* of such a cave.

The essential part of the *Die Ehre ...* text is:

Denn die West-Indische Historien berichten es gebe in selbigem Gebirge so erschrecklich-grosse Hölen die gantzen Ländern in der Weite nichts nachgeben ...

(Valvasor 1689, v. 1: 489)

(West Indian stories tell of such terrifyingly large caves in these mountains that they are second to none in the whole world)

In 1668 Francisci imparts the same information in the same sequence and using some of the same words. The equivalent passage in Kircher's book (1665), rendered into English, is:

There is a wonderful American story about the Andes mountains, in the interior of which is said to be a cave, more frightening than can be described, of such a size that there is nothing to equal it in the whole of the earth's surface ...

And he goes on:

For the reality of such wonders of the Andes - hidden places, rivers, waterfalls and other natural phenomena - the reader should consult the comprehensive and curious book of Father Alphonse d'Ovalle ...

thus distinguishing between the story he has repeated and what he believes to be accurate information. Ovalle (1646) does not give the Kircher story of an immense cave in the Andes. Rather, as Kircher points out, he describes individual streams (but no caves) as if from personal observation. Where Kircher obtained his "wonderful American story" is not known.

Once again, the presence of such a 'cave' description in respected early books tempted a later compiler to accept it. In this case it was the Russian vice-consul in New York (Cramer 1837) who referred to the "cave in the Andes".

## CONCLUSION

The information contained in *Die Ehre* ... about the four American caves described there has been traced back, in the preceding sections, to sources dating respectively from 1625, between 1612 and 1621, about 1513, and 1665. Two of these dates, the first and last, are those of printed books in which the information appears apparently for the first time. The other dates are of visits to the caves.

The earliest source of all, first printed in 1516, was written a little before that by Peter Martyr, the contemporary and friend of Christopher Columbus, and is probably the earliest description of any cave in America.

In all these cases, the facts appearing in *Die Ehre* ... have been traced through several intermediate publications. Comparison of phrases used in successive texts have shown the route by which Valvasor's book acquired its facts about these caves. Although there was scope for errors to be introduced by this repeated copying, it has been shown, by printing the earliest statements in full as well as those published in 1689, that no essential changes occurred.

Thus the information in *Die Ehre dess Herzogthums Crain* is no less correct than that in its ultimate sources, which in some cases were almost contemporary with the explorations described. The probably accuracy of the original information can only be assessed for each cave individually.

The account of the Lanquin cave in Guatemala is fully consistent with modern explorations and plans. The visit to the Mexican cave near Oaxaca rings true but can only be confirmed when the cave described is identified. The fearful water cave at Samaná Bay in Hispaniola has been identified with reasonable certainty from the lengthy description by Peter Martyr early in the 16th century; the alarm felt by those present has, not surprisingly, resulted in exaggeration. The enormous cave in the Andes reported by Kircher from a local tale he had heard was suspected by him of being dubious; shorn of such qualification in *Die Ehre* ..., it was liable to be accepted later as true, as indeed it was in 1837.

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**ZGODNJE POZNAVANJE AMERIŠKIH JAM (OD 1513 DALJE) O  
KATERIH POROČA VALVASOR V  
"DIE EHRE DEß HERZOGTHUMS CRAIN" (1689)**

Povzetek

Tiste dele "Die Ehre deß Herzogthums Crain" (1689), ki dajejo širšo vsebino Valvasorjevimi lastnimi opisom Kranjske, kot npr. poročila o podobnih krajih v drugih deželah, je napisal Erazem Francisci. On sam se je moral opirati na objavljene ali neobjavljene informacije. Zaradi tega je v teh delih lahko prišlo do napak in glavni namen tega članka je izslediti vire, ki jih je imel na razpolago Francisci o ameriških jamah in oceniti njihovo verodostojnost. Pri tem pa je avtor odkril nekaj do sedaj slabo poznanih zgodnjih obiskov jam v Srednji Ameriki in na Karibih, v letih 1625, med 1612 - 1621 in okoli 1513.

Pri teh letnicah moramo seveda upoštevati, kdaj je Evropa odkrila ta ozemlja, kajti Kolumb je šele 1492 kot prvi zagledal neko deželo zahodne poloble. Do sedaj znani zgodnji opisi ameriških jam so iz 1548, 1556 in 1579, tako da je eden izmed opisov, o katerih je govora v tem prispevku, najstarejši opis neke ameriške jame, 35 let starejši od do sedaj najstarejšega. Valvasorjev sodelavec Francisci je bil ploden pisatelj, ki je že sam 1668 objavil knjigo o

Zahodni Indiji. V nekaterih primerih je uporabljal to delo neposredno za opise v *Die Ehre ...*,

v drugih primerih pa je to, o čemer je že pisal, spremenil ali pa tega sploh ni upošteval. To njegovo delo je kompilacija starejših virov, kot nastane npr. učbenik iz objav drugih avtorjev v znanstvenih revijah.

V Valvasorjevi *Die Ehre ...* je Francisci opisal jame iz Gvatemale, Mehike in z otoka Hispaniole. Ponavlja tudi trditev o gotovo izmišljeni jami v Andih.

Jama pri Verapazu v Gvatemali je Gruta Lanquin. Opis v Slavi se tesno naslanja na Dapper-jevo (1673) knjigo, ki pa vsebuje manj podatkov, kot Franciscijeva lastna, prej omenjena knjiga. Oba, Francisci in Dapper, sta črpala iz knjige Johannesesa de Laet, prvič objavljene 1625.

Jame blizu Cuertlavace pri Oaxaci v Mehiki ni bilo mogoče določiti, saj je na tem področju mnogo jam. Jama ni omenjena v Franciscijevi prejšnji knjigi in besedilo iz 1689 je skoraj dobesedni prepis iz Dapperja (1673). Dapper je črpal iz Laeta (1625), ta pa je dobil podatke iz okoli deset let starejšega neobjavljenega rokopisa avtorja Vázquez de Espinosa.

Za jamo na Hispanioli je avtor določil jamo Cueva Infierno, iz katere teče reka v morje. Franciscijev opis iz 1668 je razmeroma dolg, vendar zelo različen od njegovega vključka v Slavi (1689). Njegovo besedilo iz 1668 je skoraj dobesedni prevod latinskega originala avtorja Petra Martyra (1516). Martyr je živel v Španiji in je dobro poznal Kolumba, Corteza in druge raziskovalce Novega Sveta. Novice o jami je dobil neposredno od Andreasa Moralesa, morjeplovca in zemljemerca, ki je sam raziskal jamo. Ob upoštevanju datumov potovanj španskih uradnikov na Karibe, omenjanih v besedilu, in ob upoštevanju deževne dobe, je mogoče zaključiti, da so jamo obiskali med majem in novembom 1513 - daleč najstarejši zapis obiska kakega Evropejca v ameriški jami.

Zgodba o ogromni jami v andskem gorovju je preko Franciscija (1668) prevzeta iz Kircherja (1665).

S tem, da so objavljene najstarejše omembe o vsaki izmed jam, ta članek potrjuje, da ni bistvenih razlik med njimi in med objavo iz 1689. Za vsako jamo je še posebej ocenjena zanesljivost izvirnega opisa.

Lanquinov opis jame v Gvatemali se popolnoma sklada s sodobnimi raziskavami in načrti. Obisk mehiške jame pri Oaxaci je videti resničen, vendar ga bo mogoče potrditi šele, ko bo jama identificirana. Vodna jama na Hispanioli je določena s precej zanesljivosti; vznemirjenost, ki so jo čutili obiskovalci, lahko pripišemo pretiravanju. Že Kircher je dvomil, če je opis jame v Andih resničen, vendar je v objavi iz 1689 njegov dvom izpuščen.