

*Short Note*

# The supposed Egyptian earthquakes of 184 and 95 B.C.

## Critical review and some lines of research in historical seismology using Greek papyri from Egypt

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### **Abstract**

In the context of a project to update the data collected in the catalogue of Guidoboni *et al.* (1994), we noticed that two Egyptian earthquakes of 184 and 95 B.C. mentioned in the catalogue of Ambraseys *et al.* (1994, p. 20) were not included. A search to verify whether these two events should be added to the list of seismic events in the ancient Mediterranean area led to the conclusion that the two Egyptian earthquakes of 184 and 95 B.C. never occurred. The texts cited by the authors (a papyrus and an inscription) seem to deal with other events; in fact the word *seismós*, which has among others the meaning of 'earthquake', in these sources means 'blackmail' or 'extortion'. This conclusion leads to further discussion of relationships between ancient history and historical seismology and in particular of the use of Greek papyri from Egypt to study ancient earthquakes. A research project on Greek papyri, which will also consider other kinds of evidence such as Coptic literary and documentary texts, has been initiated by a group of researchers belonging to the SGA, in order to continue investigation of ancient earthquakes in the Mediterranean area.

**Key words** *historical earthquakes - Egypt - papyri - supposed earthquake*

### **1. Introduction**

Catalogues of historical earthquakes are complex and never entirely complete; they need thorough and regular scrutiny. Comparing different catalogues is very useful to historians

of earthquakes, because it allows a critical reading of the data and furthers research. Making this comparative analysis, we noticed that the catalogue of Ambraseys *et al.* (1994, p. 20) mentions, among others, two Egyptian earthquakes dated to 184 and 95 B.C. Since these events are not included in the catalogue of Guidoboni *et al.* (1994), we investigated whether the two earthquakes should indeed be added to the events listed in the latter catalogue. The historical research conducted with this aim is part of the routine work of historical seismology, which is undertaken in order to improve both the quantitative and qualitative data available to the community of seismolo-

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gists (Guidoboni, forthcoming; Guidoboni and Traina, 1995).

After a careful analysis of the evidence given by the authors, our conclusion is that the texts they present deal with other events.

This leads to some methodological considerations about the relationships between ancient history and historical seismology and the use of papyrological sources to study ancient earthquakes. Since the field of historical seismology involves so many subjects and competences, it seems useful that seismologists, historians and scholars with different backgrounds cooperate to collect and analyse evidence.

Earthquakes in ancient times have been a particular topic of recent research. Scientists and historians interested in this subject made use of different types of sources, each requiring different skills. Catalogues and inventories of earthquakes of the 18th and 19th centuries were in most cases simple lists of events, responding to the antiquarian taste of the age rather than to a scientific methodology. This approach often led to misunderstandings and misinterpretations of the evidence, which current catalogues are trying to identify and correct. Nowadays those working in the field of historical seismology are well aware that in order to obtain accuracy in compiling catalogues of earthquakes, seismologists, historians and scholars of different fields have to cooperate in collecting and studying evidence.

Within the discipline of ancient history, papyrology is one of the subjects which needs a very specific and complex training to give the best results in research; papyrologists themselves are well aware of this fact. For many years few scholars handled papyri, as they presented so many difficulties in reading and interpretation; papyrologists tended to become a close circle of initiates, separate from other scholars. Currently they are trying to make their discipline much more accessible, for example publishing the texts with translations and wide historical and critical comments (Bagnall, 1995).

According to the accepted definitions, papyrology consists in studying Greek and Latin documents written on papyrus (as well as on pot sherds, wooden tablets and parchment),

mostly found in Egypt and dating from the IV century B.C. to the VIII century A.D. Egyptian papyrology considers documents written in the Egyptian language, but in different kinds of writing: hieratic, hieroglyphic, demotic and coptic; there is also an Arabic papyrology; moreover small groups of preserved papyri are written in other ancient languages: Aramaic, Nubian-Meroitic, Syriac, Jewish and Persian (Montevecchi, 1988<sup>2</sup>, pp. 3-10; Turner, 1980<sup>2</sup>, pp. 25-41). Because of the dry climate, thousands of papyri have been found as a result of archaeological campaigns in Egypt; until now, only a small proportion of them have been published, covering a period of about one thousand years of history. In 1973, published papyri numbered approximately 30 000, of which 400 were in Latin (Montevecchi, 1988<sup>2</sup>, p. 7). So this impressive mass of evidence can be a very fruitful source of information for scholars interested in the history of the ancient Mediterranean world from a variety of perspectives. It is obvious that the editing of papyri is best done by papyrologists, but the published material cannot be overlooked by those who study Egypt from different points of view.

## 2. The Egyptian «earthquakes» of 184 and 95 B.C.

The first earthquake listed in Ambraseys *et al.* (1994, p. 20) is said to have happened in Lower Egypt in 184 B.C. According to their preliminary methodological observations, the authors mention the source which in their opinion provides evidence for the event: papyrus No. 5675 published by Preisigke (1915). Commenting on the earthquake, they note that «the context in which this event is mentioned is not certain». In fact, Preisigke's edition of the text consists of a transcription of an incompletely preserved text, with few critical notes and no translation. However, subsequent to the first edition the text has been republished in Lenger (1964), who collects all the papyri preserving Ptolemaic royal decrees, accompanied by new editions and interpretations of the texts themselves; moreover each papyrus is translated into French. In 1980, a revised second edition

of the volume came out and in 1990 the same author published a book collecting additions and corrections made between 1980 and 1988. An up-to-date bibliography on Ptolemaic royal decrees was added in 1990 (Lenger, 1980<sup>2</sup>, 1990).

Papyrus No. 5675 contains two different royal decrees, which Lenger numbers 30 and 31. They are two epistles addressed by Ptolemy V Epiphanes to two officers. The two decrees are related as they both give instructions regarding rebels and refer to some disorders which took place at the beginning of the reign of Ptolemy V: Nubian attacks in the Thebaid and local rebellions in Lower Egypt (Préaux, 1936).

Four lines of the second decree are interesting in respect of our investigation, translated as follows (C. Ord. Ptol. 31, 11-14): «And those who bring an action against someone illegally and thoughtlessly, must be punished by you; but those who do it because of quarrel or blackmail (*diaphoràs é seismoù charin*), must be sent into our presence».

In our opinion Ambraseys *et al.* (1994) mistranslated the word *seismós*, which has, among others, the meaning of earthquake. In fact, the Greek-English Lexicon (Liddell and Scott, 1996<sup>9</sup>, p. 1589) lists three principal areas of meaning under the entry *seismós*: 1) earthquake; 2) generally shock, agitation, commotion; 3) blackmail, extortion. The dictionary gives source references for each of these semantic areas; for the third one (blackmail, extortion), papyrus No. 5675 is given as an example.

The second earthquake listed in Ambraseys *et al.* (1994, p. 20) is supposed to have happened in 95 B.C. at Bir-Magdal, a modern village close to the Gulf of Suez. The occurrence of this earthquake is inferred on the basis of an inscription, dated 2 December 95 B.C., published as No. 7259 in Bilabel (1926). This inscription was kept in the Museum of Lille (France), but was lost during the First World War; it has been published many times and since it deals with Ptolemaic royal decrees, it was also discussed by Lenger in her book (Lenger, 1980<sup>2</sup>, C. Ord. Ptol. 65, pp. 188-189). Moreover Lenger gives the list of all the earlier editions, to which we have now to add I.G.

Fayum III, 152 (Bernand, 1980) and Bernand (1992), text No. 32; in any case, all these editions are based on the first one, published by Collomp (1926, pp. 203-209). This scholar worked on the notes of P. Jouguet, who found the stone during his excavations in the Fayum oasis at the beginning of the century.

The inscription is a petition to Ptolemy X Alexander I from two soldiers of his entourage. They wanted him to issue a *prostagma* (royal ordinance) supporting the temple of Heron at Magdola. The word *seismós* occurs in line 22, in the expression «*sykophantías kai seismoù éneka*», «because of dishonest prosecution and extortion». This phrase explains one of the reasons why the two soldiers requested that a right of sanctuary and immunities should be granted to the priests of the temple. We believe that a mistranslation of the text led Ambraseys *et al.* (1994) to mistake «extortion» for «earthquake». Moreover, for Ambraseys *et al.* (1994) the Magdola mentioned in the inscription was near the modern Bir-Magdal, close to the Gulf of Suez, as previously noted. However all the editions of the inscription agree that it was found in the Fayum oasis, on the ancient site of another Magdola, the modern Médinet El-Nahas.

### 3. Some notes on papyri and historical seismology

Until now, seismologists and historians of seismology have not undertaken any systematic investigation of papyri with a view to finding information on ancient earthquakes. A project on Greek papyri has just been initiated by a research group of the SGA. The project forms part of the research programmes on the Mediterranean area of the Istituto Nazionale di Geofisica and continues the investigation which produced the *Catalogue of Ancient Earthquakes in the Mediterranean Area up to the 10th Century* (Guidoboni *et al.*, 1994). The research will also be extended to other kinds of historical material such as literary sources and archaeological data. In particular, with respect to Egypt, an analysis is taking place of Coptic literary and documentary sources.

At first glance Greek papyri seem not to be very fruitful as a source of information on ancient earthquakes. As Guidoboni (1990, p. 273) stated: «The administrative documents on papyri, *ostraka*, wooden tablets, etc., has not as yet revealed useful primary information: nevertheless, the study of these texts can give useful clues as to economic consequences in the affected areas and provide information leading to a deeper knowledge of the period following an earthquake, in particular in short-term and long-term reconstruction». In fact two types of information can potentially be reviewed: i) explicit primary information on the earthquakes themselves; ii) indications of administrative and economic activities related to or following an earthquake.

The resources of computer science technology provide a first tool. For this purpose, the Duke Data Bank of Documentary Papyri on CD-ROM#7 of the Packard Humanities Institute is particularly useful. A search on the word *seismós* gave a negative result: we obtained a list of 3 inscriptions (three different editions of the Fayum inscription No. 7259 discussed above) and 21 papyri (which included the No. 5675 previously considered). The analysis of this material confirms the frequent use of *seismós*, especially in the compound *diaseismós*, with the meaning of extortion, blackmail or illicit action which we have just seen for the two cases already examined (on this usage see Rea, 1984).

Another possible direction of research consists in the direct reading of documents, which may attest a seismic event. Since the number of published texts is enormous, it will be a substantial task and might give a negative result, especially considering the moderate seismic activity of Egypt. However, as an initial research strategy it will be useful to begin with the examination of documents dating to the years immediately following known seismic events. This perspective has produced valuable results in other areas of the ancient Mediterranean world, as the case study of the earthquake of 346 of Allifae (Italy) demonstrated (Guidoboni *et al.*, 1994, pp. 252-254).

Once these two directions of research have been defined, we should have in any case to

bear in mind the attitude to earthquakes within Egyptian culture. The available ancient Egyptian sources always mention earthquakes in literary contexts which do not permit us to understand the historical reality of the event. Even when archaeological data appear to suggest that damage has been caused by earthquakes, other causes cannot be excluded (Guidoboni *et al.*, 1994, pp. 87-90).

#### 4. Conclusions

The study of the evidence relating to the supposed earthquakes of 184 and 95 B.C. demonstrated that these events in fact did not happen. They seem to have been identified on the basis of a confusion between two of the meanings of the Greek word *seismós*: «earthquake» and «blackmail» or «extortion». This fact emphasizes both the difficulties involved in investigating papyri and inscriptions and the importance of an even closer co-operation between researchers in different fields, in order to investigate the seismic activity in the Mediterranean world as attested by ancient sources.

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