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Catalogue of earthquakes and tsunamis in the Mediterranean area from the 11th to the 15th century

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The many years of research that underpin this catalogue began immediately after the publication of the first volume in 1994 (*Catalogue of ancient earthquakes in the Mediterranean area up to the 10th century*). Thus the time range of this second volume naturally follows on from the first one, covering the period from the 11th century until the end of the 15th. The fall of Constantinople in 1453 and the Turkish occupation constitute an important turning point in the history of the Mediterranean, affecting source types and the way information circulated. Our intensive research lasted a number of years, leading to results that were ready for publication in the year 2000. However, when the *Istituto Nazionale di Geofisica* took on a new institutional form in 1999, adding *Vulcanologia* to its name, different publishing policies were put in place at INGV, which meant that publication plans for this catalogue were halted from 2001 to mid-2004. During those years, however, the authors of the catalogue continued to update their bibliography and track down new editions of sources. Manuscript research and new source editions also continued without interruption, leading to additional information and the new interpretation of some major earthquakes, which became the subject of a number of specific publications (e.g. the Syrian earthquakes of 1138, 1156-1157, 1170, that of 1117 in Italy, as well as a score of earthquakes unknown to current catalogues).

It is true that this catalogue is being published a good deal later than planned, and that it has undergone certain modifications. We decided, for example, not to publish the long and complex introduction that had been planned, or our iconographical research, but the delay has nevertheless produced some rather positive results: it has enabled us to carry out a more thorough review of our results and to examine certain matters in greater depth. The cartography has also improved in certain respects, and now appears in a new guise.

Although this complex and stratified catalogue covers an area now occupied by 19 countries, it can never be claimed that the work is complete. The levels of knowledge provided here are indeed different for different seismic events and tsunamis: in some cases the data make it possible to provide fairly detailed scenarios of effects, while in others it is not even possible to calculate the parameters. In the latter cases, at least the established chronological indicators remain, and may allow scholars to embark on new research. So this is an open-ended work, in two ways at least:

i) all the historical data that we have worked on and interpreted are presented in the original languages;

ii) the updating of our knowledge base to 2004 may well foster the advancement of other research work.

In general we have tried to stick to what we consider to be one of the basic principles of historical seismology, namely clear and controlled decision-making in the process of assessing historical earthquakes. We have also aimed to stir up an interest in historical seismological research as a valuable aid to seismological and palaeoseismological analyses. Medieval historians interested in the Mediterranean area can make good use of the information about the history of territories and environments which they approach from different standpoints. The persistence and destructive force of earthquakes and the impact of tsunamis have left deep scars in the cultures and economies of medieval Mediterranean societies.

Historical sources and works used

The texts of historical sources are provided in this catalogue in their original languages. There sources are in several different languages (Greek, Latin, Arabic, Hebrew, Armenian, Syriac, Italian, French, German etc.). In order to understand seismic acti-

vity in the Mediterranean area in medieval times, primary evidence is obviously not enough on its own, though we think it an essential part of a catalogue. Such information also has to be put into its context and related to other aspects of historical demography, and the sites mentioned in the sources have to be located. In our opinion, that is the only way that assessments of earthquake effects can have a meaning and a consistency where there is a dearth of information. All the data in this catalogue have been subjected to *ex novo* analysis and interpretation, involving a close dialogue with other studies in seismological literature.

Although the results obtained cannot, strictly speaking, be described as definitive owing to the nature of the research involved, we have thought fit to give scholars and researchers the benefit of such advances as we have made. In addition, the catalogue makes it possible to systematise a tradition of catalogues and studies that is very frequently confusing, and far from faultless.

The basic sources have been identified by means of dedicated research work carried out by a work group set up for the purpose. The researchers and experts have worked on specific projects, carried out at different stages, with a view to locating, selecting and translating the historical sources. We have not only paid attention to the sources, but also to analysing the existing knowledge. In the case of many large earthquakes, there is a history of their interpretation that can be found in the scientific literature, but so scattered it has nearly always been ignored. We have taken these histories into account, hopefully with due clarity, in order to show how the interpretations of an earthquake substantially reflect the underlying level of historical understanding. The fact is that by honing our historical knowledge, whether through textual or non-textual evidence (population rates, types of building, particular political or military situations, etc.) it is nearly always possible to achieve new levels of interpretation.

The events described

This catalogue contains information, with different levels of analysis, relating to 383 earthquakes, 22 tsunamis, and 102 environmental effects. The seismic effects located are 1344 and concern towns, villages, and castles in the Mediterranean area, situated within 19 present-day Countries.

We have tried to make every entry as complete as possible, as concerns the historical sources selected. Within the heading for each individual entry, the reader can review the texts that have been used to analyse the event, ranging from historical sources to the relevant literature, historiography and catalogues.

For a summary assessment of the earthquakes and tsunamis analysed in this catalogue, the reader should refer to the general maps and parametric catalogues included at the end of the volume. For an overall picture of the density of seismic events across the centuries, regardless of the countries where the effects were felt, see the graph at the beginning of the *Short Catalogue* (p.827).

The catalogue team

The authors of this catalogue have enjoyed the collaboration of text scholars and researchers working in oriental languages. The task of selecting the sources began in 1992; some of our researchers are now established lecturers at Italian universities, but when they were helping on this project they were mostly post-graduates or researchers. Since it was impossible to adopt a systematic approach for all language areas, we set up some basic research projects which gradually developed over time, partly in relation to the allocation of funds for the various projects involved in the INGV research plans. It should be said that this catalogue developed "along the margins" of other research that was at the time reckoned to be more urgent or more important. .

The work's complexity, the time required to carry out research and transcribe and interpret the sources as they became identified (often a tortuous and difficult matter),

the identification of the relevant scientific literature and catalogues, and the careful evaluation of the seismological results obtained, meant that the task of compiling the catalogue was a very lengthy one. Inevitably there were changes of collaborators in some language areas: but such changes were offset, so to speak, by the fact that we ourselves carried on with the incessant checking of the philological and codicological literature, the manuscripts and new editions of sources. During its long period of preparation, this catalogue has been like a "laboratory" where we have endlessly tried to improve its every aspect, deal with uncertainties, solve problems. On the one hand, the amount of time needed has allowed us to produce results that are original and, we hope, not too short-lived, but it has also meant that we actually ran the risk of losing sight of a comprehensive single approach to the sources, so we were obliged to reopen certain areas of study more than once, thereby going well beyond the remit of the current projects carried out on behalf of INGV. It is with a certain degree of satisfaction therefore, that we now present all this information — the fruit of over a decade of intense teamwork. We have decided not to give our collaborators' current academic qualifications, because in many cases that would mean misrepresenting the original nature of the group, which at the time consisted of talented young researchers who worked with us enthusiastically as well as confidently, especially in the years between 1992 and 2000. We list them below by language and theme:

Antonio Rigo	(University of Venice) carried out a critical review of the Byzantine sources already recorded by SGA researchers, and added to them;	GREEK
Roberta Scopece	carried out systematic research into the Greek codices at the Biblioteca Apostolica Vaticana;	
Adalberto Magnelli	(Italian School of Archaeology at Athens and University of Florence) carried out a complex piece of research into Byzantine inscription sources.	
Leonardo Capezzone *Roberta Denaro*	(Università La Sapienza, Rome) and (Università di Messina): selected and transcribed the texts of published Arabic sources;	ARABIC
Nouha Stéphan	transcribed manuscript Arabic texts in the Bibliothèque Nationale de France.	
Claude Detienne *Gianfrancesco Lusini*	(University of Louvain) and (Università Orientale of Naples) supplemented and reviewed the Syriac sources already recorded by SGA researchers.	SYRIAC
Giusto Traina *Igor Dorfmann-Lazarev*	(University of Lecce) and (Université Paul Valéry, Montpellier) selected and translated Armenian texts and inscriptions.	ARMENIAN
Federico Marazzi	(Università Suor Orsola Benincasa, Naples) selected and translated the texts from the *Recueil des Historiens des Croisades – Historiens Occidentaux*.	LATIN CRUSADE CHRONICLES
Nadia Zeldes	(Jewish National and University Library of Jerusalem) transcribed and translated published and manuscript Hebrew sources.	HEBREW

In the case of earthquakes in Italy, we reviewed, deepened and added to all the earlier studies, most of which published in the *Catalogue of Strong Italian Earthquakes from 461 B.C. to 1997* (Boschi *et al.* 2000, and further releases on the web site http://storing.ingv.it/cft/). The results presented here are thus an update to the above-mentioned catalogue. LATIN and ITALIAN

In addition, the following researchers played an important part in our working group:

Cecilia Ciuccarelli helped us with the final draft and the editing of the catalogue. She took part in several discussions as we sought to solve the many problems presented by the text;

Dante Mariotti located the most difficult place names, and collaborated with us in estimating the parameters;

Filippo Bernardini collaborated with us at an early stage in classifying the seismic effects; he also developed some of the seismotectonic aspects for the 12th century earthquakes in Syria (see Guidoboni *et al.* 2004);

Maria Giovanna Bianchi produced the large-scale maps of urban effects, the graphs and the digitalisation of the illustrations; she also collaborated in the final editing stage;

Maria Luisa De Simone dealt with the index of names and places;

Brian Phillips translated the texts and sources into English with the skill and accuracy that typify his work.

CARTOGRAPHY The thematic cartography was done by *Gabriele Tarabusi* using MapInfo Professional (www.mapinfo.com) software. The relief cartographic bases have been made by *Marco Gualdrini* (GEOgrafica, Faenza), using *Visual Nature Studio 2.5* software (3dNature LLC, www.3dnature.com), on the base of the geo-referenced terrain altimetric data. The general cartographic base of the Mediterranean is derived from the GTOPO30 Digital Elevation Model (U.S. Geological Survey EROS Data Center) resampled at the resolution of 500 m × 500 m in x and y. For the detail of the Italian territory a cartographic base elaborated from the Digital Terrain Model of the INGV was used: the cell size of the grid is 250 m × 250 m. The various ground models have been depicted in planimetric views with shaded-relief techniques using multiple lights, to improve the graphic quality of the three-dimensional relief.

Earthquakes in the Sea of Marmara were reviewed and examined as part of the RELIEF (*Reliable Information on Earthquake Faulting*) European project "I.1.1. Seismic Risks" EVG1-CT-2002-00069, responsible for INGV dr Daniela Pantosti.

The contributions to this Catalogue have entailed coordination with various work groups at different stages. Wide-ranging and decisive though these have often been, it is the authors who take full responsibility for any errors or omissions in the data presented here.

CATALOGUE

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Su richiesta dell'interessata e per gli usi consentiti dalla legge, dichiaro che la dr Roberta Denaro ha collaborato nel nostro gruppo di lavoro finalizzato allo studio dei terremoti e dei maremoti del Mediterraneo medievale, per la traduzione dei testi arabi editi, relativi ai secoli XIII-XIV.
Si veda il volume *Catalogue of Earthquakes and Tsunamis in the Mediterranean Area from the 11th to the 15th century*, di E. Guidoboni e A. Comastri, Bologna-Roma, pp. 1034, dove la collaborazione della dr Denaro è esplicitamente citata alla p. 11.

In fede

Dr Emanuela Guidoboni
responsabile scientifica della SGA

S. G. A. s.r.l.
STORIA GEOFISICA AMBIENTE
Presidente

what stood here, destroying arcades, gates and well-constructed stone buildings. But the powerful lord of the land of the Ausonians, Alexius Comnenus, the pious sovereign, rebuilds it again and renders it superior, thus demonstrating who he is in what needs to be done. In the month of July, in the fifteenth indiction, in the year 6705 [1 September 1196 – 31 August 1197]".

κλόνοι, σπαρογμοὶ καὶ φορὰ μακρῶν χρόνων / και κυκλικὴ κίνησις ἀστρατουμένη, / ἀφ' ὧν φθορὰ πάρεστι τοῖς φθαρτοῖς ὅλοις, / πτῶσιν παρέσχον ἀθρόαν τοῖς ἐνθάδε / στοὰς καταστρέψαντα καὶ πύλας ἅμα / κτίμασι λίθοις εὐφρυῶς ἡρμοσμένοις· / ἀλλ' ὁ κράτιστος ὁ κρατῶν γῆς Αὐσόνων, / Κομνηνὸς 'Αλέξιος εὐσεβὴς ἄναξ, / αὖθις νεουργεῖ κἀπὶ τὸ κρεῖττον φέρει / δεικνὺς ὁποῖός ἐστι ἐν τοῖς πρακτέοις. / μ(ηνὶ) 'Ιουλλ(ίῳ) ἰνδ(ικτιῶνο)ς ιε' ἔτει ,ςφε'.

The inscription clearly establishes the collapse of the Gate of Charisius, including the *stoai* (a term which covers both arcades and colonnades: see Downey 1937 and 1946). The first part of the inscription, taken together with the age of the building, indicates in a generic way that an earthquake was at least a concomitant cause.

▲ 1197 before 07

localities	lat,	long.	I
Istanbul	41 02	28 57	D (VI-VII)

⟨ 096 ⟩ 1201 February 17 Constantinople [Turkey] doubtful event

source Nic. Chon., *Hist.*, p.530.61-8
historiography Ducellier (1980)
catalogues d. Downey (1955); Grumel (1958)

Nicetas Choniates, a contemporary Byzantine historian, mentions a collapse and the opening up of a chasm at Constantinople when the Emperor Alexius III Comnenus (1195-1203), at the end of his campaign in Anatolia against Michael Ducas, disembarked at Constantinople shortly before dawn on 17 February 1201. When he arrived at his palace: "Now God demostrated that he is the Lord of seasons and years [*Matthew* 24.36; *Acts* 1.7] and that he guides the steps of some or trips them up: the floor before the emperor's bed collapsed without visible cause and opened into a yawning chasm. Contrary to all expectations, the emperor was delivered from the danger, but one of his sons-in-law, Alexius Palaeologus, and many others fell through the opening and suffered grievous injury to their legs. A certain eunuch was killed as he fell to the very bottom of the gaping hole".

τοῦ θεοῦ δὲ δείκνυντος ὡς κύριός ἐστιν ὡρῶν καὶ χρώνων αὐτὸς, καὶ παρ' αὐτοῦ κατευθύνεται εἴτε μὴν συμποδίζεται τά τινων διαβήματα, τὸ πρὸ τῆς βασιλείου κλίνης δάπεδον αὐτομάτως ὑποχαλᾷ καὶ εἰς χάσμα ἱκανῶς διανοίγεται. καὶ βασιλεὺς μὲν παραδόξως τοῦ κινδύνου ῥύεται, ἄτερος δὲ τῶν τούτου γαμβρῶν, ὁ Παλαιολόγος 'Αλέξιος, καὶ συχνοὶ ἄλλοι ἐνίσχονται τῷ διαστήματι καὶ πάσχουσι κακῶς τὰ βάθρα τοῦ σώματος. εἷς δὲ τις ἐκτομίας καὶ ἐτεθνήκει ἐς τὸ βάθιστον τοῦ χάσματος καταδύς.

Downey (1955, p.600), Grumel (1958, p.480) and Ducellier (1980, p.106) think this was an earthquake which occurred at Constantinople on 1 March 1202, but Ducellier has doubts about the text. Since the text specifies that what happened was "without visible cause", it is doubtful whether this can be considered a genuine earthquake, since it lacks clear identification as such in the Byzantine sources. It may have been a building defect rather than a seismic event.

⟨ 097 ⟩ 1202 May 20 Western Syria–Lebanon ▷ tsunami, landslides ◁

sources 1 Documents
Geoffrey of Donjon, *Letter*, June 1202 (in Mayer 1972, pp.306-8); Philip du Plessis, *Letter*, June 1202 (in Mayer 1972, pp.308-10); Marsilio Zorzi, *Letter*, October 1243, in Röhricht (1893, no.1114)
Annals and chronicles
Est. de Eracles, II, p.22; *Ann. Terre Sainte*, p.435; *Chron. Terre Sainte*, p.16; Rob. Aux., *Chron.*, pp.261-2; Ibn al-Lubad al-Bagdadi, *Mukhtasar*, pp.262-70; Ibn al-Athir, *al-Kamil*, XII, pp.130, 180-1; Sibt Ibn al-Jawzi, *Mir'at*, VIII, p.331; al-'Imad al-Isfahani, cit. in Sibt Ibn al-Jawzi, *Mir'at*, VIII, p.308, and in Abu Shama, *al-Dhayl*, fol.20; Ibn Munkala, *al-Ahkam*, fol.37; Ibn Wasil, *Mufarraj*, II, p.161; Ibn al-Wardi, *Tatimmat*, II, p.175; Abu 'l-Fida, *al-Mukhtasar*, III, p.106; al-Suyuti, *Kashf*, pp.48-9
sources 2 Mich. Syr. Cont., 15.7, *Chron.*, IV, p.586; Bar Hebr., *Chron.*, pp.406-7, 418; *Chron. min. Arm.*, II.2, p.61; *Vita Innoc. pap. III*, col.503; Ralph Cogg., *Chron.*, pp.141-2; Sicard, *Chron.*, col.619; *Breviar. Patriar.*, p.401; Vinc. Beauv., *Spec. hist.*, p.1209a; *Ann. Ultic.*; Salimb. Adam, *Cron.*, p.23; Milioli, *Chron.*, p.654; Will. Nang., *Chron.*, p.750; Sanudo "Elder", *Liber*, III, 11, p.1; Ernoul, *Chron.*, XXXI; Pierozzi, *Chron.*, p.104; Fabri Felix, *Book*, ad ann. 1202; Amadi, *Chron.*, ad ann. 1202
historiography Röhricht (1898); Elisséeff (1967); Mayer (1972); Ducellier (1980)
literature Taher (1979); Ambraseys and Melville (1988); Guidoboni and Traina (1996); Ambraseys and Jackson (1998); Ellenblum *et al.* (1998)
catalogues d. Manetti [1457]; Bonito (1691); von Hoff (1840); Perrey (1850); Mallet (1853); Sieberg (1932a); Grumel (1958); Step'anyan (1964); *Ben-Menahem (1979, 1991); *Ambraseys *et al.* (1994); Amiran *et al.* (1994)
catalogues p. Poirier and Taher (1980); al-Hakeem (1988); Bektur and Alpay (1988)
catalogues Ts Ambraseys (1962); Antonopoulos (1980); Soloviev *et al.* (2000)

This is one of the strongest and best documented seismic events in the Mediterranean area, the most advanced historical and seismological study of which has been provided by Ambraseys and Melville (1988). Their study includes important Latin and Arabic published sources. In the brief survey provided below, we have added Marsilio Zorzi's letter to the corpus of known sources.

Effects of the earthquake

At dawn on 20 May 1202 (about 02:40 UT), there was a very destructive earthquake affecting the oriental Mediterranean coast and hinterland of what are now Lebanon, Syria and Israel. Within the territories then ruled by the Crusaders, the most seriously damaged towns were Acre (now Akko) and Tyre (or Sur). At Acre, the town walls, royal palace and some towers were very badly damaged; a great many houses collapsed, but those belonging to the Knights Templars were unharmed. There were many deaths, but no numbers are given. At Tyre, all the walls collapsed, except for the outer barbicans, all but three of the towers, and also churches and houses. There was a very high death toll. Funds were allocated for reconstruction work in both towns.
Inland, the towns of Baniyas and Safad (present-day Zefat) were partly destroyed. According to the sources, the only survivor at Safad was the governor's son. At Bayt Jinn, which stood on the road between Damascus and Baniyas, only the foundations of buildings remained; in many places, the town walls collapsed. There was also some destruction at Tibnin, as well as very extensive collapses in unidentified villages in the Hawran region (east of Lake Tiberias). One village was reduced to ruins near Busra — perhaps because of a landslide. Farther south, Nabulus (Nablus) completely collapsed, except for one district, and there was slight damage at Jerusalem.
The worst damage in the County of Tripoli (or Tarabulus) was at the castle of Archis, where the walls, as well as towers and houses, almost completely collapsed. There was

serious damage at Gibelet (Jubayl) and many victims at Tripoli, but the sources are not in total agreement as to the extent of the damage there. At Baalbek, the citadel collapsed, in spite of its being a solid and stable construction. At Damascus, many houses collapsed, and there were many victims. The Umayyad mosque suffered damage in a number of places: the eastern minaret and 16 merlons collapsed, but the other minaret was simply damaged. The lead dome of the mausoleum of Nasr was damaged, and a large part of the Kallasa mosque collapsed, killing two people. The hospital of Nur al-Din also collapsed.
At Chastel Blanc (or Safita), most of the walls collapsed, and the main tower, although a well-built and solid structure, was seriously damaged and split open. The castle "Arsum" was also destroyed. It is difficult to ascribe a location to this castle, but Ambraseys and Melville (1988, p.191) suggest that it is to be identified with Arima (Qalat al-Uraymah), a few kilometres from Chastel Blanc. The castles of Crak des Chevaliers (or Hisn al-Akrad, present-day Qalat al-Hisn) and Margat (present-day Al-Marqab) were badly damaged, but remained capable of resisting any enemy attacks. The citadel at Hims was damaged, and its guard tower collapsed. The fortresses of Hamat and Ba'rin were damaged, in spite of their solid construction. The town of Tortosa (present-day Tartus) and its castle were slightly damaged.
Three strong shocks were felt in Cairo. Buildings and doors shook, while ceilings, floors and anything unstable or in an elevated position collapsed. The inhabitants awoke in terror and fled screaming. Elsewhere in Egypt, the earthquake was felt at Damietta, Alexandria and Qus. The earthquake also struck the island of Cyprus, but the exact effects there are not known. The earthquake had a vast propagation zone. It was felt at Aleppo and Antioch, at Akhlat (now Ahlat) and its province, at Mosul, and in the regions of Mesopotamia, Iraq, Azerbaijan and part of Anatolia.
There remain to be considered the puzzling references to Sicily and Sabta (i.e. Ceuta, a Moroccan town opposite Gibraltar), which appear in Ibn al-Athir and Ibn Wasil respectively. Ambraseys and Melville (1988) very cautiously include them amongst the localities and areas where the earthquake of 20 May 1202 was felt, pointing out that they are not mentioned anywhere else in western Arab sources, and that there are no other reports of effects at western Mediterranean locations. The problem is dealt with by Guidoboni and Traina (1996, pp.1216-9), who discuss the suggestion that, given their enormous distance from the epicentral area, the references to Sicily and Ceuta may concern separate earthquakes from that of 20 May 1202. The lack of other sources of information about effects in Sicily and Ceuta means that this problem remains unsolved.
The major earthquake at dawn on 20 May was followed by other brief shocks towards noon on the same day which were slightly felt in Cairo. This may be the same earthquake recorded as having been felt by everyone at Hamat; but we are told that the earthquake at Hamat occurred at midday on Tuesday 21 May and was followed by another shock in the afternoon. Altogether, the shocks lasted for four days.
The two Latin sources and the most important Arabic source to describe this earthquake agree as to the date. The letter from Geoffrey of Donjon and that from Philip du Plessis date it to Monday 20 May 1202; Ibn al-Lubad al-Bagdadi and the two letters he quotes date it to Monday 26 *Sha'ban* in the year of the Hegira 598, which corresponds to 21 May 1202, but that day was a Tuesday. This discrepancy of a day is something one sometimes finds in the conversion of dates from the Muslim calendar, but it proves to be negligible since Ibn al-Lubad al-Bagdadi himself also gives the date as 25 *Bashansh* [*Pachons*] in the Coptic calendar, a date which corresponds to 20 May. These two different traditions also agree in recording that the earthquake occurred at dawn or shortly before.

Environmental effects
Amongst the environmental effects of the earthquake, the sources mention a tsunami and substantial landslides and slips on the Lebanese mountains.

Tsunami
Gigantic waves rose up in the sea between Cyprus and the coast of Syria. The sea withdrew from the coast, ships were hurled on to the eastern coast of Cyprus, fish were thrown on to the shore, and lighthouses were damaged (see below Ibn al-Lubad al-Bagdadi, al-'Imad al-Isfahani and Ibn Munkala).

Landslides
About 200 people from Baalbek, who had gone out to gather wild fruit, were killed in landslides from two mountains in the Lebanese range between the Bekaa valley and the Mediterranean coast (see below Ibn al-Lubad al-Bagdadi). One village was reduced to ruins near Busra (now Busra ash Sham] — perhaps because of a landslide.

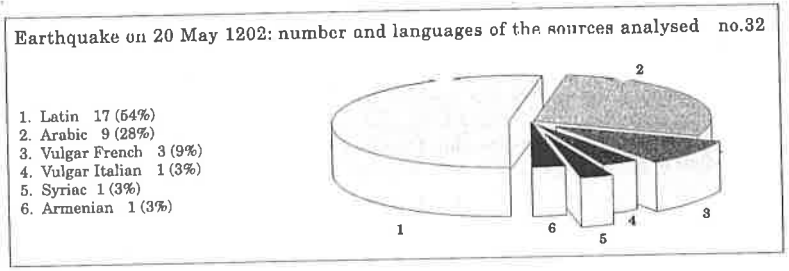


fig. 48

Historical sources: an overall view
The earthquake occurred in the period between the Third and Fourth Crusades. As in the case of the earthquake of 29 June 1170, the Latin and Arabic sources — which are the two main and independent traditions concerned — deal almost exclusively with the lands under their respective control, each adding to the information provided by the other. Much briefer reports also appear in Vulgar French, Syriac and Armenian sources, which largely reflect those in Latin and Arabic. Of the Latin sources, the most important are of two letters written respectively by Geoffrey of Donjon, Grand Master of the Order of Knights Hospitallers, to king Sancho VII of Navarre (1194-1234), and by Philip du Plessis, Grand Master of the Knights Templars, to Arnold I, abbot of Citeaux. Both letters were written in June 1202, that is to say shortly after the earthquake, and have been published in Mayer (1972, pp.306-8, 308-10). There may also be some information of the 1202 earthquake in a letter dating to 1243 (Röhricht 1893, no.1114), from Marsilio Zorzi, Venetian ambassador (*bailo*) for Syria, in which he refers to a group of properties in the city of Tyre, some of which had been destroyed in an earthquake. The report in the *Chronicon* of Robert of Auxerre, a contemporary monk and writer who died in 1212, derives in large part from the letter from Philip du Plessis, as Mayer (1972) has shown. The other Latin sources are much briefer than the above and are expressed in more general terms, so we list only those which date to the mid or late 13th century (sources 2):
Annales Uticenses from the abbey of St.Evroult d'Ouche, which were compiled by various hands from 1098 onwards (the earthquake is wrongly dated to 1203);
chronicle of Ralph of Coggeshall, a Cistercian monk who died in 1228;
Speculum Maius of Vincent of Beauvais;
Cronica of Salimbene de Adam;
Cronica Imperatorum of Alberto Milioli;
Chronicon of William of Nangis.
Of the Vulgar French sources, the 13th century *Estorie de Eracles Empereur* states that part of the funds collected for the Fourth Crusade could be used for rebuilding the walls

of Acre and Tyre. The *Annales de Terre Sainte* and the early 14th century *Chronique de Terre Sainte*, though providing information in very summary form, mention Gibelet, which is not named by any of the other sources. As far as Arabic sources are concerned, the most informative is Ibn al-Lubad al-Bagdadi. What he tells us is particularly important, because he not only records effects at Cairo, in Egypt generally and elsewhere, but also transcribes two letters from Hamat and Damascus, thereby providing a reliable and detailed picture of the earthquake. When the earthquake struck, he was in Cairo, and his work was written two years later, in May 1204. In other contemporary Arabic sources (the Mosul historian Ibn al-Athir and Sibt Ibn al-Jawzi, who lived at Damascus), or later 13th and 14th century sources (the Damascene historian and textual scholar Abu Shama, the historian Ibn Wasil, and the Syrian historians Abu 'l-Fida and Ibn al-Wardi, who are briefer than Ibn al-Lubad al-Bagdadi), the earthquake is dated to the month of *Sha'ban* in the year 597 of the Hegira, which corresponds to the period 7 May – 4 June 1201. In some cases these writers record earthquakes in the year 598 of the Hegira, or even 600 (Ibn al-Athir). However, as Ambraseys and Melville (1988, pp.185-7) have suggested in their discussion of the sources and problems of chronology involved in the study of the earthquake, since the more reliable Latin and Arabic sources only refer to one earthquake, it is reasonable to suppose that the other datings in the Arabic sources are all duplications of an earthquake which actually occurred on 20 May 1202.

Latin sources

ARCHIVAL DOCUMENTS

The letter from Geoffrey of Donjon (June 1202) provides the most detailed information: "'While all things lay in silence and the night proceeded on its course', on the twentieth day of May, to which is given the name of the moon [i.e. Monday], at the hour when sleep caresses tired eyes, shortly before dawn, the wrath of God rose up against us and 'there was a great earthquake'. Of the towns and castles in the East, whether belonging to pagans or Christians, some were annihilated, some destroyed and some risked being reduced to ruins because of the damage inflicted by the strong earthquake. The city of Acre, which is a very convenient port, has suffered incredible and devastating damage to its towers, to the royal palace and to the walls with which it was protected, while countless houses have been reduced to ruins, and the death of rich and poor is unbearable to speak of. Alas! Tyre, 'the city of strength', the refuge of Christianity, which ever 'freed the oppressed from the hands of the enemy', has suffered such damage to its walls, towers, churches and houses, that no man alive today can hope to see their restoration complete during his lifetime. What can we write about the death of the people of this town, for death has taken them without number in the ruins of their homes. This affliction, this catastrophe to be wept over above all others, and this dreadful event have added terror to our fear. The city of Tripoli, resplendent with its walls and houses, has been gravely weakened by the great number of victims, and yet it has suffered less damage than other towns. At Archis, towers, walls, houses and town walls have been reduced to ruins, and places which have been left deserted because their inhabitants have been killed, look as though they had never been inhabited. Our castles of Cratum [Crak des Chevaliers] and Margat have suffered much damage, but nevertheless still have little to fear from enemy attacks, if they are spared greater shaking by the will of God. Antioch and the lands of Armenia, although struck by the earthquake, have not suffered too serious damage amidst all these dreadful events. Pagan towns and their people bemoan the incurable wounds that they have suffered through the blows of implacable fate. And while our hearts are afflicted by this deep grief, the great lack of food and a deadly pestilence which has struck animals cause further suffering for those Christians who have survived. We have decided to report to the charitable ears of Your Majesty that when our crops were still young, we had the expectation of an abundant harvest. But as the ears were sprouting, there came on the day of St.George a fog which rendered vain all our hopes of gathering in the crop, because it made everything rot, with the result that the desolate earth is now trodden by a mass of the poor and a crowd of beggars. And so, O 'Lord of Virtues', most excellent sovereign, may the Earth, which saw the Birth of our Lord but now lies grief and poverty stricken, desolated and almost annihilated by this disaster, breathe again thanks to your clemency, and be consoled by your advice".

'Dum medium silentium tenerent omnia et nox in suo cursu iter perageret', vicesimo die stantis maii, cui nomen lune est impositum, in hora, qua defessis sopor blanditur oculis, paulum ante diluculum ira dei in nos est asperata, 'terremotus factus est magnus'. Civitatum et castrorum Orientis tam paganismi quam christianitatis pars est eversa, pars destructa, pars propter nimie excussionis lesionem adhuc minatur riunam. Civitas Aconensis, que portus est oportunitatis, in parte turrium, regalis etiam palatii et murorum, quibus fuit palliata, in ruina domorum innumerabili, in morte divitum et pauperum ineffabili miram et exitialem passa est lesionem. O dolendu res! Tirus, 'urbs fortitudinis', refugium christianitatis, que semper oppressos 'de manu inimicorum liberavit', in muris et turribus, ecclesiis et domibus tantam passa est eversionem, ut nullus hominum iam vivens eius possit expectare vivendo restauracionem. Quid de morte hominum eiusdem civitatis scriberemus, cum in ruina domorum mors eos sine numero apprehendisset. Hic dolor, hoc exitium pre ceteris gemebundum et hic eventus infortunatus timori nostro tremorem sociarunt. Tripolitana civitas splendidissima in muris et domibus, in morte populi graviter corrupta, minorem ceteris passa est lesionem. Archay turres, muri, domus et menia funditus eversa, populi interempti loca deserta testantur numquam se habuisse habitatorem. Castra nostra Cratum et Margatum plurima gravata insultus tamen hostium adhuc parvipendunt, si sine maiore conserventur divinitus quassacione. Antiochia et partes Armenie terremotu concusse non multam, non lamentabilem in tantis lugendis passe sunt corrupcionem. Paganismi civitates et populi inmemorate sortis dispendio insanabilia se recepisse vulnera conqueruntur. Presertim cum in plerisque doloribus corda nostra sint afflicta, caritas inmensa victualium, letalis pestis animalium residue christianitati universaliter dolor est specialis. Sane tamen caritatis dominacionis vestre auribus duximus disserendam, dum messis nostra fuisset in herba, frugum ubertatem nobis se monstrabat reddituram. Set postmodum spicis pullulantibus in festo beati Georgii supervenit nebula, qua spes nostra in metendis segetibus pro earum corrupcione penitus fuit exinanita, unde pauperum nimietas, mendicorum affluentia terram premit desolatam. Igitur 'domine virtutum', rex excellentissime, Terra Dominice Nativitatis sedens in dolore et miseriis, iam fere kalamitatibus extincta, vestra respiret clementia, vestro consilio consoletur desolata.

In his letter (June 1202) to Arnold I, abbot of Cîteaux, Philip du Plessis recalls two earlier "scourges", in the form of military encounters in the Tripoli area and the adverse weather conditions which had severely affected the grain harvest, and he then goes on to describe the disastrous effects of the earthquake; and he ends by pointing out that a third of those who survived the earthquake died in an epidemic:

"To the venerable father and dearest friend by the grace of God abbot of Cîteaux and of the whole Order [...]. The third scourge proved more catastrophic and terrible than the others; for on the twentieth day of May, at dawn, a terrifying voice was heard from heaven and dreadful rumblings rose from the earth, and there were earthquakes such as had not been seen since the creation of the world; and they razed most of the walls and houses at Acre to the ground, crushing a great many people to death in the ruins. But divine mercy willed that our houses should remain undamaged. At the city of Tyre, all but three of its towers were destroyed, and all the city walls except for the outer barbicans, and all the houses with their inhabitants, except for a few survivors. Most of the city of Tripoli was destroyed, along with a large proportion of the townspeople. The castle

of Archis has been reduced to ruins, including all its houses, walls and towers, and the castle of Arsum [Arima] has been razed to the ground. At Chastel Blanc, most of the walls collapsed, and the main tower, which we thought to have been built with outstanding strength and solidity, was so badly cracked and damaged that it would have been better for us if it had completely collapsed instead of being left standing in such a state. Divine mercy spared the town of Tortosa and its castle, the walls, the inhabitants, and everything else. The fourth scourge with which we are afflicted is that, in addition to the disasters we have mentioned, the corruption of the air has caused such high mortality that almost a third of those who survived the earthquake have died, and those who were able to rise from their beds after such prolonged enfeeblement were barely alive. And since we are weighed down by all these disasters and calamities, we need your prayers to overcome them, and we firmly trust in God that we shall obtain them".

Venerabili patri et amico karissimo dei gratia Cisterciensi abbati totique conventui ordinis [...]. Tertia vero ceteris flebilior et horribilior talis fuit, quod vicesima die maii summo diluculo audita est vox terribilis de coelo, mugitus horribilis de terra, et terremotus, quales non fuerunt ab initio mundi, facti sunt, ita quod partem maximam Accaron in muris et domibus ad terram prostraverunt et gentem innumerabilem occupatam occiderunt. Domus autem nostras divina misericordia nobis integras resevavit. Civitatis vero Tyri omnes turres exceptis tribus et muri excepta exteriora barbacana et omnes domus cum plebe sua paucis reservatis in terram corruerunt. Civitatis vero Trypolis maxima pars cecidit et magnam plebem occupavit. Castrum vero Archados cum omnibus domibus suis et muris et turribus in terram prostratum est et castrum Arsum funditus corruit. Castri autem Albi maxima pars murorum cecidit, turris autem maior, qua nullam credimus fortuis vel firmius aedificatam, in hoc rimis et quassaturis debilitata est, quod melius nobis esset, si funditus corrueret, quam ita stans permaneret. Civitatem vero Tortose et castrum cum turribus et muris et plebe et omnibus divina misericordia reservavit. Quarta autem pestilentia fuit, quod tanta mortalitas ex corruptione aeris pestes priores secuta est, quod fere tertia pars eorum, qui de terremotu evaserunt, defuncta est et vix invenitur vivus, qui longi languoris lectum evadere potuisset. Et quum tantis miseriis et calamitatibus opprimamur, necesse est nobis, ut vestris orationibus, de quibus plurimum in domino confidimus, de miseriis predictis resurgamus.

It is reasonable to suppose that there is a reference to damage caused by the 1202 earthquake in a letter written in October 1243 by Marsilio Zorzi, who was the Venetian ambassador for Syria (in Röhricht 1893, no.1114). After recounting how he and other noblemen in Syria had gained control of the city of Tyre, Zorzi enumerates the benefits and privileges enjoyed by the Venetians in the city, including the estates of the church of St.Mark, consisting of a series of properties in Tyre and its surroundings. Of some of these — all inside the city — he says that they had been destroyed in an earthquake, which he does not identify. He mentions three bakeries, an unspecified number of houses and a tower house:
"[...] another bakery, which belonged to the Veneto community, but has now been destroyed in an earthquake; another bakery of that community, now destroyed in the earthquake; and another bakery, situated on the public street towards the east, also destroyed in the earthquake; a piece of land, whose houses have now been destroyed in the earthquake, towards the north, by the city walls; and a house, similar in form to a tower, which stood on the street, but has now been destroyed in the earthquake".

[...] *alter furnus, qui fuit communis Venetorum sed nunc terrae motus destructus iacet; alius furnus communis terrae motus destructus; alius furnus, terrae motus destructus, qui firmat in orientem in via publica; petia terae, cuius domus nunc terrae motus destructae firmant versus septentrionem in murum civitatis; domus quasi turris, quae est super viam, sed nunc terrae motus destructa est.*

Two more houses, a warehouse and a mill are mentioned in the same letter as having been destroyed (*destructi*), but the cause of the damage is not specified. We have not set out the text of Robert of Auxerre, because it depends largely on the letter from Philip du Plessis as already pointed out.

Vulgar French sources

ANNALS AND CHRONICLES

The *Estorie de Eracles Empereur* tells how Fulk of Neuilly (d. 1202), a country parish priest from near Paris and preacher of the Fourth Crusade (1202-1204), had been making use of the Order of Cistercians since 1198 to gather funds for the new crusade to the Holy Land, on the instructions of pope Innocent III (1198-1216). In particular, we are told that:
"the funds entrusted to Cîteaux [the mother house of the Cistercians], were taken to the Holy Land, and there was never a better arrangement than that made by master Fulk at Cîteaux, for there had been earthquakes [in the Holy Land]; if the walls of Tyre and Acre were rebuilt, it should be done with some of those funds".

Li avoirs, qui fu comandé a Cisteaus, fu portez Outre mer, ne onques avoir ne vint a si bon point come celui qui maistre Foque avoit a Cisteaus, car li crolles avoit esté en la terre; si estoient fondu li mur de Sur et d'Acre que l'en refist toz d'une partie de cel avoir.

In the *Annales de Terre Sainte,* we read:
"In the year 1202, there was an earthquake which destroyed Acre, Tyre, Gibelet and Archis, and part of Tripoli; and many Christian and Saracen towns were reduced to ruins".

A. mil et CC et II, fu le crosle qui abati Acre, Sur, Gibelet et Arces et une partie de Triples; et chairent plusieurs chites des Crestiens et des Saracins.

Very similar words are to be found in the *Chronique de Terre Sainte.*

Arabic sources

CHRONICLES

In Ibn al-Lubad al-Bagdadi's long text, we read as follows:
"At dawn on Monday 26 *Sha'ban*, which corresponds to 25 *bashansh* [*Pachons* in the Coptic calendar], there was a tremendous earthquake; people leapt from their beds in panic, screaming in terror and calling on God to help them. The earthquake lasted for a long time: its movement was like that of a sieve or the beating of a bird's wings. There were three violent shocks, which caused buildings and doors to shake, while ceilings, floors and anything unstable or in an elevated position collapsed. The shocks started again at midday, but few people were aware of them because they were weak and brief. That night, the cold was so intense that it was necessary to cover oneself, but the next day the hot *samun* wind blew so much that the air became unbreathable. Rarely had there been such strong earthquakes in Egypt. Later on, news spread that the same earthquake had struck distant regions at the same time as here. I learned that the earth had shaken at Qus, Damietta and Alexandria. Many places were destroyed so completely that no trace of them was left, and there were many victims. I heard of one town in as strong a position as Jerusalem, and yet it suffered unexpected damage. However, the damage suffered by the Franks in the earthquake was greater than that in Muslim lands. We learned that the earthquake reached as far as the town of Akhlat and its province on the one hand and the island of Cyprus on the other. The sea became extremely wild, causing serious damage to lighthouses. In certain places, the waters divided and waves rose up like mountains, hurling boats on to the land, and throwing fish on to the shore. Then messages came from Syria about the earthquake.

Set out below are two letters, from Damascus and Hamat. Letter from Hamat:
'On Monday 26 *Sha'ban* the earth began to shake as though it were beginning to walk; the mountains swayed, and everyone thought the day of Judgement had come. There were two shocks: the first lasted for about an hour, whereas the second was briefer but stronger. Some fortresses felt the effects of the earthquake, especially the fortress of Hamat, in spite of the good quality of its construction, and then that of Ba'rin, in spite of its solid architecture, and that of Ba'labak [Baalbek], in spite of its solidity. We have not heard any details of more distant regions and fortresses. On Tuesday 27, at the time of midday prayer, there was a violent earthquake which was felt by everybody, whether they were awake or asleep, and whether they were standing or sitting down. On the same day, there was [another shock] at the time of afternoon prayer. News came from Damascus that the earthquake had destroyed the eastern minaret of the [Umayyad] mosque, a large part of the Kallasa and the whole hospital [of Nur al-Din]; many houses collapsed on top of their inhabitants, killing large numbers of them'.
Letter from Damascus:
'Your servant reports on the earthquake which occurred on Monday 26 *Sha'ban* at dawn, and lasted for a long time. Some witnesses say it lasted as long as it takes to read the *sura* of The Cave; some other elderly people of Damascus maintain that they have never seen anything like it in their lives. The damage includes the collapse of sixteen merlons and a minaret (the other was only damaged) at the [Umayyad] mosque, and of the lead dome of the mausoleum of Nasr. The Kallasa collapsed, killing two men. There was another victim at Bab Jayrun. Furthermore, the [Umayyad] mosque was damaged in many places, and a large number of houses have collapsed everywhere. In Muslim regions, they say that Baniyas has partly collapsed, and also Safad, where the only survivor is the son of the governor. There has been destruction at Tibnin, and at Nabulus, where not a single wall has remained standing, except in the Samra district. According to reports, Jerusalem has been left undamaged, thanks be to God. At Bayt Jinn, foundations and walls are left, although the latter have collapsed in many places. Similar collapses have occurred in the region of Hawran, to the extent that it is impossible to make out the old form of its villages. They also say that most of Acre has collapsed, and that a third of Tyre has been destroyed. 'Araqa and Safita are also in ruins. On the mountains of Lebanon, a group of people had gone out to collect wild fruit and two mountains closed over them, killing about two hundred. In reporting what happened, some have exaggerated the number of victims. The earthquake lasted for four days. Then our prayers were answered by God, our protector and saviour'".

واتفق السحرة يوم الاثنين السادس والعشرين من شعبان وهو الخامس والعشرون من بشنس أن حدثت زلزلة عظيمة اضطرب لها الناس فهبوا من مضاجعهم مدهوشين وضجوا إلى الله سبحانه ولبثت مدة طويلة وكانت حركتها كالغربلة او كخفق جناح الطائر وانتقضت على ثلاث رجفات قوية مادت بها الأبنية واصطفقت الأبواب وصرصرت السقوف والأخشاب وتداعى من الأبنية ما كان راهيا او مشرفا عاليا. ثم عاودت في نصف النهار الاثنين إلى أنها لم يحس بها أكثر الناس لخفائها وقصر زمانها وكان في هذه الليلة برد شديد يحوج إلى دثار خلاف العادة وفي نهار ذلك اليوم تبدل بحر شديد وسموم مفرط يضيق الأنفاس ويأخذ بالكظم وقلما تحدثت زلزلة بمصر بهذه القوة. ثم أخذت الأخبار تتواتر بحدوث الزلزلة في النواحي النائية والبلاد النازحة في تلك الساعة بعينها والذي صح عندي أنها حركت في ساعة واحدة طائفة من الأرض من قوص إلى دمياط والاسكندرية ثم بلاد كثيرة بحيث لم يبق لها أثر وهلك من الناس خلق عظيم وأمم لا تحصى ولا اعرف في الشام بلدا احسن سلامة من القدس فانها لم تنك فيه إلا ما لا بال به وكانت نكاية الزلزلة ببلاد الافرنج أكثر منها في بلاد الاسلام كثيرا. وسمعنا أن الزلزلة وصلت إلى أخلاط وتخومها وإلى جزيرة قبرس وأن البحر ارتطم وتموج وتشوهت مناظره فانفرق في مواضع وصارت فرقة كالأطواد وعادت المراكب على الأرض وقذف سمكا كثيرا على ساحله. ثم وردت كتب من الشام ومن دمشق وحماة تتضمن خبر الزلزلة ومما اتصل من ذلك كتابان أوردتهما بلفظهما. نسخة الكتاب الوارد من حماة: ولما كان سحرة الاثنين السادس والعشرين من شعبان حدثت زلزلة كادت

الأرض تسير سيرا والجبال تمور موراً وما ظن احد من الخلق إلا أنها زلزلة الساعة وأتت دفعتين في ذلك الوقت أما الدفعة الأولى فاستمرت مقدار ساعة او تزيد عليها وأما الثانية فكانت دونها ولكن أشد منها وتأثر منها بعض القلاع فأولها قلعة حماة مع اتقانها وعمارتها وبارين مع اكتنازها ولطافتها وبعلبك مع قوتها ووثاقتها ولم يرد عن البلاد الشاسعة والقلاع النازحة إلى الآن ما اذكره. ثم حدثت في يوم الثلاثاء السابع والعشرين منه عند صلاة الظهر زلزلة استوى في عملها اليقظان والنائم وتزعزع لها القاعد والقائم ثم حدثت في هذا اليوم أيضا وقت صلاة العصر ووصل الخبر من دمشق بأن الزلزلة أفسدت فيها منارة الجامع الشرقية وأكثر الكلاسة والبيمارستان جميعه وعدة مساكن تساقطت على أهلها وهلكوا. نسخة الكتاب الوارد من دمشق: حدوث زلزلة ليلة الاثنين سادس وعشرين شعبان وقت انفجار الفجر وأقامت مدة قال بعض الأصحاب إنها مقدار ما قرأ سورة الكهف وذكر بعض المشايخ بدمشق أنه لم يشاهد مثلها فيما تقدم ومما أثرت في البلد سقوط ستعشرة شرفة من الجامع وإحدى المآذن وتشقق أخرى وقبة الرصاص يعني النصر وانخساف الكلاسة وهلك فيها رجلان ورجل آخر على باب جيرون وتشقق بالجامع مواضع كثرة وسقط بالبلد عدة أدوار. وذكر عن بلاد المسلمين أن بانياس سقط بعضها وصفد كذلك ولم يبق بها إلا من هلك سوى ولد صاحبها وكذلك نبنين ونابلس ولم يبق بها جدار قائم سوى حارة السمرة ويذكر أن القدس سالم والحمد لله . وأما بيت جن فلم يبق منه إلا الأساس والجدران إلا وقد أتى عليه الخسف وكذلك أكثر بلاد حوران غارت ولم يعرف لبلد منها موضع يقال فيه هذه القرية الفلانية ويقال إن عكة سقط أكثرها وصور ثلثها وعرقة خسف بها وكذلك صافيثا. وأما جبل لبنان فهو موضع يدخل الناس اليه بين جبلين يجمع منه الريباس الأخضر فيقال إن الجبلين انطبقا على من بينهما وكانت عدتهم تناهز مائتي رجل وقد أكثر الناس في حديثها. وأقامت بعد ذلك أربعة أيام تحدث في النهار والليل ونسأل الله لطفه وتدبيره وهو حسبنا ونعم الوكيل.

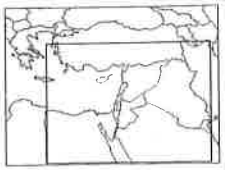
The other 13th century or later Arabic sources are much briefer, and only in a few cases do they add information to what we find in Ibn al-Lubad al-Bagdadi. As we have already pointed out, moreover, some of these authors pre- or post-date the earthquake, or else create a doublet. Ibn al-Athir records two earthquakes in Egypt and Syria, dating them to the years 597 and 600 of the Hegira; but we are in fact almost certainly dealing with a single event which other Arabic sources date to the year 598 of the Hegira (= 1202):
"In the month of *Sha'ban* in that year [597 H. = 7 May – 4 June 1201], the earth shook at Mawsil, everywhere in Mesopotamia, in Syria, in Egypt and elsewhere. In Syria, the effects were dreadful: many houses were destroyed at Damascus, Hims and Hamat, and a village near Busra was swallowed up by the earth There was also massive damage along the Syrian coast: the citadels of Tripoli, Sur, Acre and Nabulus were destroyed. The earthquake also reached Byzantine territory. In Iraq, the damage was slight.

في شعبان منها تزلزلت الأرض بالموصل وديار الجزيرة كلها والشام ومصر وغيرها فأثرت في الشام آثار قبيحة وخربت كثيرا من الدور بدمشق وحمص وحماة وأنخسفت قرية من قرى بصرى وأثرت في الساحل الشامي أثرا كثيرا فاستولى الخراب على طرابلس وصور وعكا ونابلس وغيرها من القلاع ووصلت الزلزلة الى بلاد الروم وكانت بالعراق يسيرة لم تهدم دورا.

The second reference reads:
"In that year [600 H.], a terrible earthquake struck a large part of the territories of Egypt, Syria, Mesopotamia and Byzantium. It reached Sicily, Cyprus, Mawsil and Iraq. The walls of the city of Tyre were destroyed, and the earthquake caused damage throughout Syria".

وفيها كانت زلزلة عظيمة عمت أكثر بلاد مصر والشام والجزيرة وبلاد الروم وصقلية وقبرس ووصلت إلى الموصل والعراق وغيرها وخرب من مدينة صور سورها وأثرت في كثير من الشام.

Sibt Ibn al-Jawzi's narrative is as follows:
"In the month of *Sha'ban*, there was a violent earthquake which caused destruction in



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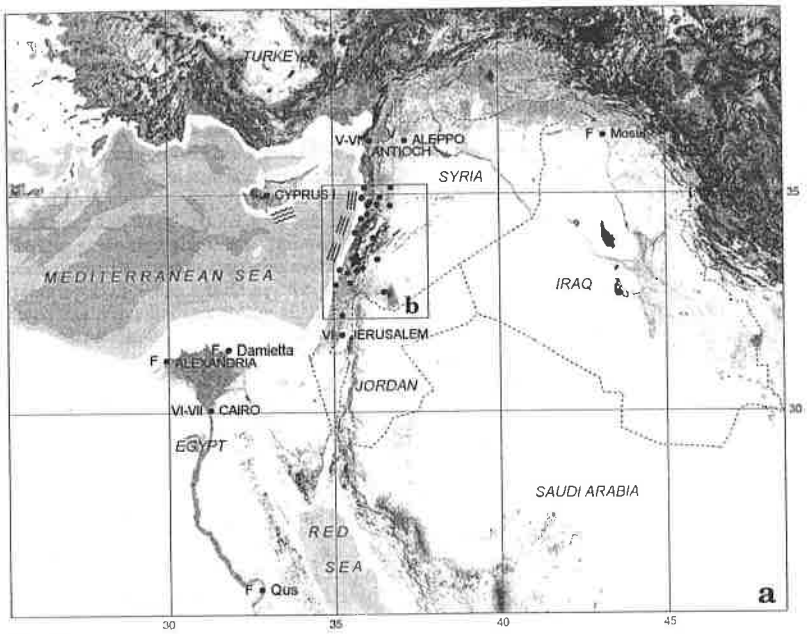
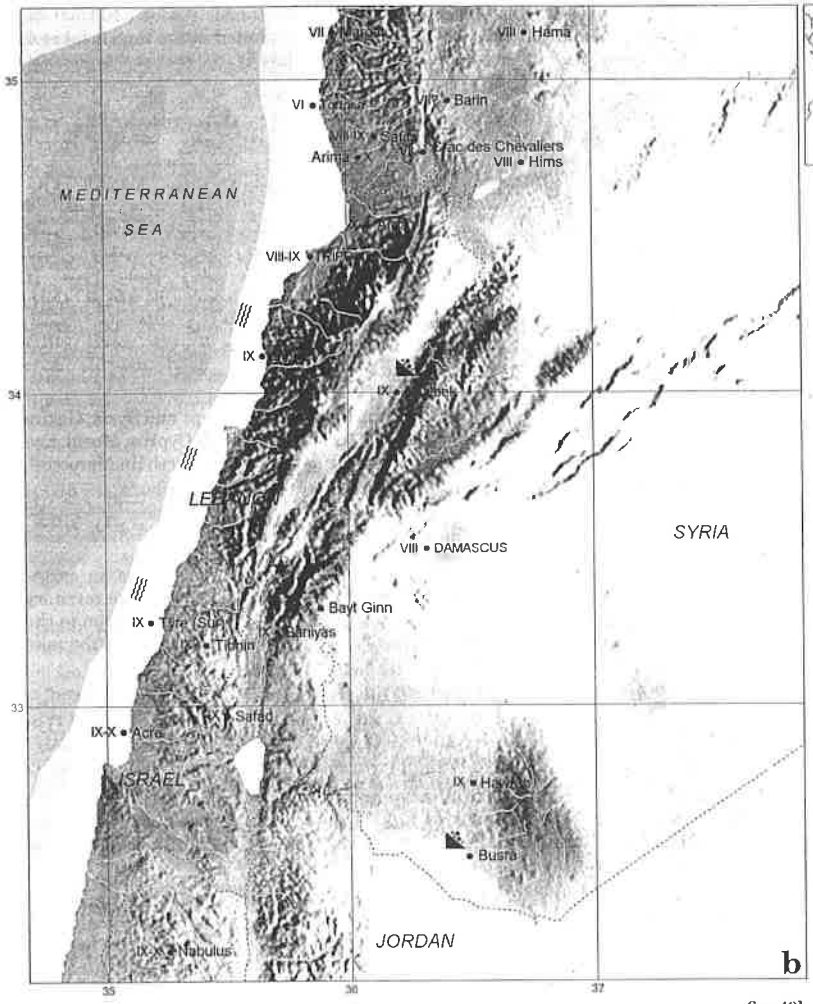


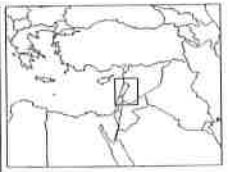
fig. 49a

the citadel at Hims and the collapse of its guard tower; Hisn al-Akrad was destroyed. The earthquake also struck the island of Cyprus, and reached as far as Nabulus, destroying that region. This tremendous earthquake caused destruction in all the northern Muslim countries. At Damascus, it caused the collapse of the tops of the minarets in the mosque [the Great Umayyad Mosque], as well as some merlons on the north side. A man from the Maghreb was killed at the Kallasa lime kilns; and a Turk also died: the slave of a money changer who lived in the Sumaysat district. It happened at dawn on Monday 26 *Sha'ban*, which corresponds to 20 *Ab* [August in the Syriac calendar]. The next morning there was a weak shock".

وجاءت في شعبان زلزلة عظيمة فشققت قلعة حمص ورمت المنظرة التي العظمى التي هدمت البلاد على القلعة وأخربت حصن الأكراد وتعدت إلى جزيرة قبرس وامتدت هذه الزلزلة إلى نابلس فأخربت ما بقي. الإسلامية الشمالية ورمت بدمشق رؤوس مناثر الجامع وبعض شراريفه من شماله فقتلت رجلا مغربيا بالكلاسة ومملوكا تركيا لرجل صيرفي ساكن في درب السميساطي عند تنفس الصبح من يوم الاثنين السادس والعشرين من شعبان الموافق العشرين من آب وأعقبتها زلزلة خفيفة في ضحوة الغد.

Abu Shama, *al-Dhayl 'ala al-Rawdatayn*, fol. 20] reports that:
"In the month of *Sha'ban*, there was a tremendous earthquake [which came?] from Upper Egypt. For an hour, the ground was like the sea; the towns of Baniyan, in Egypt, and Nabulus were destroyed, and many people perished in the ruins. Then the earthquake reached Syria and its coast; at Nabulus not so much as a wall was left standing, except in the Samra district, and there were 30,000 victims. Acre and Sur were destroyed, as well as all the citadels along the coast. The earthquake reached Damascus: part of the east minaret of the [Great Umayyad] mosque collapsed. There was massive damage to





1202
May 20

fig. 49b

the lime kilns (al-Kallasa), the Nur al-Din hospital, and nearly all the houses in the city. The inhabitants ran out into the squares. Sixteen balconies fell from the [Umayyad] mosque, and the Nasr mausoleum split open. Banyas was destroyed. People from Ba'alabik who had gone out to pick wild fruit were crushed to death when two mountains collapsed on top of each other. The citadel of Ba'alabik was destroyed, in spite of the fact that it was a strong building made of solid stone. The earthquake reached Hims, Hamat, Aleppo and other towns. The sea withdrew from the coast as far as Cyprus. There were very high waves which smashed boats on the shore. Then the earthquake spread

towards Akhlat, and into Armenia, Adharbayjan and Mesopotamia. About 1,100,000 victims were counted. The initial violence of the earthquake abated in the time it takes to read the *sura* of The Cave; but the shocks continued for days".

وجاءت في شعبان زلزلة عظيمة هائلة من الصعيد فعمت الدنيا في ساعة واحدة فهدمت مدينة نابلس وبنيان في مصر فمات تحت الهدم خلق كثير ثم امتدت الى الشام والساحل فهدمت نابلس فلم يبق بها جدار قائم الا حارة السمرة ومات تحت الهدم ثلاثون ألفا وهدمت عكا وصور وجميع قلاع الساحل وامتدت الى دمشق فرمت بعض المنارة الشرقية بجامع دمشق وأكثر الكلاسة والبيمارستان النوري وعامة دور دمشق الا القليل وهرب الناس الى الميادين وسقط من الجامع ست عشرة شرافة وتشققت قبة النصر وتهدمت بانياس. وخرج قوم من بعلبك يجتون الريباس من جبل فالتقى عليهم الجبلان وماتوا بأسرهم. وتهدمت قلعة بعلبك مع عظم حجارتها ووثيق عمارتها وامتدت الى حمص وحماة وحلب والعواصم وقطعت البحر الى قبرس وانفرق البحر فصار أطوادا وقذف المراكب الى الساحل فتكسرت ثم امتدت الى أخلاط وأرمينية وأذربيجان والجزيرة وأحصى من هلك في هذه السنة على وجه التقريب فكان ألف ألف انسان ومائة ألف انسان وكانت مدة الزلزلة في مبدأ الامر بمقدار ما يقرأ الانسان سورة الكهف ثم دامت بعد ذلك أياما.

The historian Ibn Wasil records that in 600 H. [= 1203-1204]:
"There was a violent earthquake which affected most regions of Egypt and Syria, Gazira [the Arabian peninsula], Bilad al-Rum [Byzantine territories], Sicily, Cyprus, Mosul, and Iraq; and they say it reached Sibtat [Ceuta] on the far side of the Maghreb [in Morocco]".

وفي هذه السنة كانت زلزلة عظيمة عمت اكثر البلاد مصر والشام والجزيرة وبلاد الروم وصقلية وقبرص والموصل والعراق ويقال انها بلغت سبتة من اقصى المغرب

According to Ibn Munkala:
"Amongst the extraordinary things which happened in Cyprus, there was an earthquake in the year 597 which was felt from Syria to Mesopotamia, Byzantine territory and Iraq. The sea withdrew from the coast as far as Cyprus, throwing ships on to the island, and ending up on its eastern shores. God only knows how many earthquake victims there were".

ومن غريب ما يتعلق بها (قبرس) أن الزلزلة التي امتدت من الشام الى الجزيرة وبلاد الروم والعراق سنة سبع وتسعين وخمسمائة انفرق بها البحر من الساحل الى قبرس وقذف المراكب الى ساحلها وتعدى الى ناحية الشرق ومات بسبب الزلزلة من الناس ما لا يعلمه الا الله.

The historian Ibn al-Wardi records that in the year 600 H. [= 1203-1204]:
"There was an earthquake which affected Egypt, Syria, Gazira [the Arabian peninsula], Bilad al-Rum [Byzantine territories], Sicily, Cyprus and Iraq. And Sur [Tyre] was destroyed".

‹وفيها› زلزلت مصر والشام والجزيرة و‹بلاد› الروم وصقلية وقبرس والعراق وخربت صور.

Abu 'l-Fida gives the same date as Ibn al-Athir. He maintains that in the year of the Hegira 597 [=1200-1201]
"There was a violent earthquake in the regions of Gazira [the Arabian peninsula] and Syria and along the coast, and many towns were destroyed".

(وفيها) كانت بالجزيرة والشام والسواحل زلزلة عظيمة فهدمت مدنا كثيرة.

For the year 600 H. [= 1203-1204], however, he writes that:
"There was a violent earthquake which spread across Egypt, Syria, Gazira, Bilad al-Rum, Sicily, Cyprus, Iraq and other regions. And the town walls at Sur [Tyre] were destroyed".

[٦٠٠] (وفيها) كانت زلزلة عظيمة عمت مصر والشام والجزيرة وبلاد الروم وصقلية وقبرص والعراق وغيرها وخربت سور مارينة صور.

▲ 1202 05 20 2:40 UT ⊛ = 33 26 35 43 Io = X Me = 7.6 Sites: 30 EE: 1 Ts

location		lat.	long.	I
Mathanat ad Dulb.	RL	34 32	36 05	X
Qalat al-Urnaymah	SYR	34 45	36 03	X
Akko	IL	32 55	35 04	IX-X
Bayt Jinn	SYR	33 19	35 53	IX-X
Nabulus	ANP	32 13	35 15	IX-X
Baalbek	RL	34 20	36 12	IX
Baniyas	IL	33 14	35 42	IX
▪ Hawran area	SYR	32 45	36 30	IX
Jubayl	RL	34 07	35 39	IX
Tibnin	RL	33 12	35 25	IX?
Tyre	RL	33 16	35 11	IX
Zefat	IL	32 58	35 30	IX
Safita	SYR	34 49	36 07	VIII-IX
Tripoli	RL	34 26	35 51	VIII-IX
Damascus	SYR	33 30	36 19	VIII
Hamah	SYR	35 09	36 44	VIII
Hims	SYR	34 44	36 43	VIII
Al-Marqab	SYR	35 09	35 57	VII
Ba'rin	SYR	34 56	36 25	VII?
Qalat al-Hisn	SYR	34 46	36 19	VII
Cairo	ET	30 03	31 15	VI-VII
Jerusalem		31 46	35 14	VI
Tartus	SYR	34 55	35 52	VI
Antioch	TR	36 14	36 07	V-VI
Aleppo	SYR	36 14	37 10	V
Ahlat		38 45	42 29	F
Alexandria	ET	31 12	29 55	F
Damietta	ET	31 26	31 48	F
Mosul	IRQ	36 20	43 08	F
Qus	ET	25 55	32 45	F
▪ Busra a. Sham	SYR	32 31	36 29	EE
▪ Cyprus (island)	CY	35 00	33 00	Ts

⟨ 098 ⟩ 1204 – 1236 Beroia [Greece]

source Chom., *Analecta*, 48, pp.216-7
historiography Kravari (1989)
literature Ambraseys (1999)
catalogue d. *Papazachos and Papazachou (1997)

On an unspecified day in the first three decades of the 13th century, the town of Beroia (now Veroia) was badly shaken by very strong earthquakes. The church of the Mother of God was destroyed. The earthquake is mentioned in a deed drawn up by Demetrius Chomatianus, archbishop of Ohrid (in present-day Macedonia) in and after 1216.
We read in the document:
"Divine wrath caused the town of Beroia to be destroyed and collapse, for very strong earthquakes reduced it to dust as though in a sieve, and the above-mentioned church of the Mother of God was reduced to dust".

τοῦ κάστρου δὲ Βερροίας ὀργῇ θεηλάτῳ καταστραφέντος, σεισμῶν σφοδροτάτων κοσκινηδὸν ἐπιβρισάντων αὐτῷ καταπέπτωκε, καὶ εἰς χοῦν ἐλεπτύνθη καὶ τὸ εἰρημενον τῆς Θεομήτορος τέμενος.

The date of the earthquake can be determined only approximately: the contents of the deed allow us to establish two *termini*: the first is the taking of Constantinople by the Latins (13 April 1204), or else, perhaps, the fall of Beroia into the hands of Kalojan, Tsar of Bulgaria (between 1205 and 1207); while the second is the year in which Demetrius Chomatianus died (*c.*1236). The only building to be mentioned is the church dedicated to the Theotokos Eleousa, which belonged to the Pakourianos family at the end of the 12th century. However, we do not know where it was situated (Kravari 1989, p.65). Papazachos and Papazachou (1997, p.191) date the earthquake to 1211, but the basis for their dating is unclear. Ambraseys date this earthquake to "beginning of 1200".

▲ 1204–1236

localities	lat.	long.	I
Veroia	40 31	22 12	IX

⟨ 099 ⟩ 1206 January 29 – 1207 January 28 [655 A. e.] Erznka [eastern Turkey]

source colophon in Yovsep'ean (1951, no.86, col.203)
catalogue d. Zeyt'unyan (1991)

In the year 655 of the Armenian era (1206-1207), the city of Eznka (now Erzincan, in Turkey), was struck by an earthquake whose effects are recorded in general terms. There is a reference to the event in a colophon in Yovsep'ean (1951, no.86, col.203). The manuscript contains a historical narrative by Kyriakos, which includes a chronicle for the years 1018-1603 containing the following passage:
"In the year 655 [1206-1207] an earthquake occurred in Ezngan".

Ի թվին ՈՃԵ ահագին շարժ եղեւ յեզնկան.

The fact that it is often confused in the Armenian historiographical tradition with the later earthquakes at Erzincan in the years 675 and 685 of the Armenian era (1226-1227 and 1236-1237, see the entries concerned), makes one suspect a doublet. A comparison between the sources for these three earthquakes, however, has shown that the earthquake of 1206-1207 was almost certainly an independent event. The doublet very probably lies in the earthquakes of 1226-1227 and 1236-1237.

▲ 1206 01 29 – 1207 01 28 [655 A. e.]

localities	lat.	long.	I
Erzincan	39 44	39 30	NC

⟨ 100 ⟩ 1209 Abruzzo Apennines [central Italy]

source *Ann. Casinen.*, p.319
literature SGA Report [2001]

This earthquake is unknown to the seismic catalogue tradition. In 1209, strong earthquakes caused the collapse of many buildings, fortresses and fortifica villages in the dioceses of Valva and Chieti. The area affected was probably in the Apennines where the two dioceses meet, in the upper valleys of the rivers Aterno and Pescara, at the border between the present-day provinces of L'Aquila and Pescara. The only available source in our present state of knowledge is the contemporary *Annales Casinenses*. This is the title given to the published collection of a number of compilations made by the Benedictine monks of Montecassino in the 11th-13th centuries, spanning the years 1000-1212. The text is very terse and not without ambiguities, but the authoritative nature of the source makes it possible to assert that we have evidence here of a very destructive event. It is recorded that in 1209 strong earthquakes struck various localities, in the province of Sannio – a name which, at that time, referred to a much larger area than it does today.
"1209. [...] Great earthquakes in [various] places. At Valva and Tete in the province of Samnium, fortresses were reduced to ruins, as well as castles and other buildings".

1209. [...] Terre motus magni per loca. In Valvis et Tete provincia Samnii munitiones diruuntur, plura edificia et castella.

The place name Valva refers not to a town but to territory belonging to the diocese of that name, whose cathedral of S.Panfilo, built in the 5th century and rebuilt in the 11th, can still be seen today near Corfinio (in the province of L'Aquila). The diocese of Valva was subsequently merged with the adjacent diocese of Sulmona, and the present-day bishopric is still called the diocese of Sulmona-Valva. The place name "Tete" is to be read as "Teate", which is the Latin name for present-day Chieti, and one must assume, by analogy with Valva, that the reference is not to the town but to the diocese. Furthermore, the fact that the description of the earthquake mentions the destruction of many fortresses and fortified villages suggests that the event is being attributed to an area rather than two specific localities.

▲ 1209 – –

location	lat.	long.	I	location	lat.	long.	I
■ Diocese of Chieti	42 10	14 00	IX	■ Diocese of Valva	42 10	13 45	IX

⟨ 101 ⟩ 1212 May 1 Gulf of Aqaba

sources Abu Shama, *Dhayl*, p.78; Ibn Kathir, *al-Bidaya*, XIII, p.62; al-Maqrizi, *Kitab*, I/1, p.175; al-Suyuti, *Kashf*, p.49
literature Taher (1979); Klinger *et al.* (2000)
catalogues d. Perrey (1850); Sieberg (1932a); "Ambraseys *et al.* (1994), Amiran *et al.* (1994)
catalogues p. Ergin *et al.* (1967); Poirier and Taher (1980); al-Hakeem (1988)

On 27 *Dhu'l-qa'da* in the year 608 of the Hegira (corresponding to 1 May 1212) there was a destructive earthquake in southern Palestine and Egypt, with the worst damage at Aylat (Elat) on the Gulf of Aqaba, where a great deal of destruction occurred. There were also widespread collapses, very serious damage and many victims not only at Cairo, where collapses occurred in both the old and new cities, but also at Al-Karak and Shubak (Ash Shawbak), two localities situated respectively to the east and south of the Dead Sea, in what is now Jordanian territory. There is also evidence that some towers collapsed in the citadel at Shubak (Jordan). The chief source for this earthquake is Abu Shama, an Arab historian and textual scholar from Damascus, who lived from 1203 to 1268:
"During the night of 27 *Dhu'l-qa'da* (1 May), there was a tremendous earthquake which destroyed many parts of old and new Cairo; it also destroyed towers and houses at Al-Karak and Shubak. Many women and children died in the ruins. The most violent shock was at Aylat, on the coast. It was said that the earthquake was preceded by a black wind and many falling stars".

وفي ليلة السابع والعشرين من ذي القعدة حدثت زلزلة عظيمة هدمت مواضع كثيرة بمصر والقاهرة وأبراجا ودورا بالكرك والشوبك وهلك جماعة من الصبيان والنسوان تحت الهدم وكان قوتها من أيلة مما يلى البحر وقيل إنه تقدمها يوم ريح أسود وتساقطت نجوم كثيرة.

The earthquake is also recorded in some chronicles compiled by Arab historians of later centuries. Thus Ibn Kathir (a 14th century historian from Damascus) records that:
"There was a very violent earthquake in Egypt and at Cairo, and many houses were destroyed. The same thing happened at Al-Karak and Shubak, and some of its citadel towers were destroyed. Many women and children died in the ruins".

وفيها كانت زلزلة عظيمة شديدة بمصر والقاهرة هدمت منها دورا كثيرة وكذلك بالكرك والشوبك هدمت من قلعتها ابراجا ومات خلق كثير من الصبيان والنسوان تحت الهدم.

Al-Maqrizi, a geographer and scholar who lived in Cairo in the 14th century, records the earthquake in similar terms:
"There was a violent earthquake in Egypt and at Cairo, and many houses were destroyed. There was also an earthquake at Al-Karak and Shubak and many people died in the ruins and a number of towers in its citadel were destroyed. And smoke was seen coming down from heaven to earth in Damascus between dusk and evening".

وفيها كانت بمصر زلزلة شديد تهدمت عدة دور بالقاهرة ومصر وزلزلت الكرك

1212
May 1

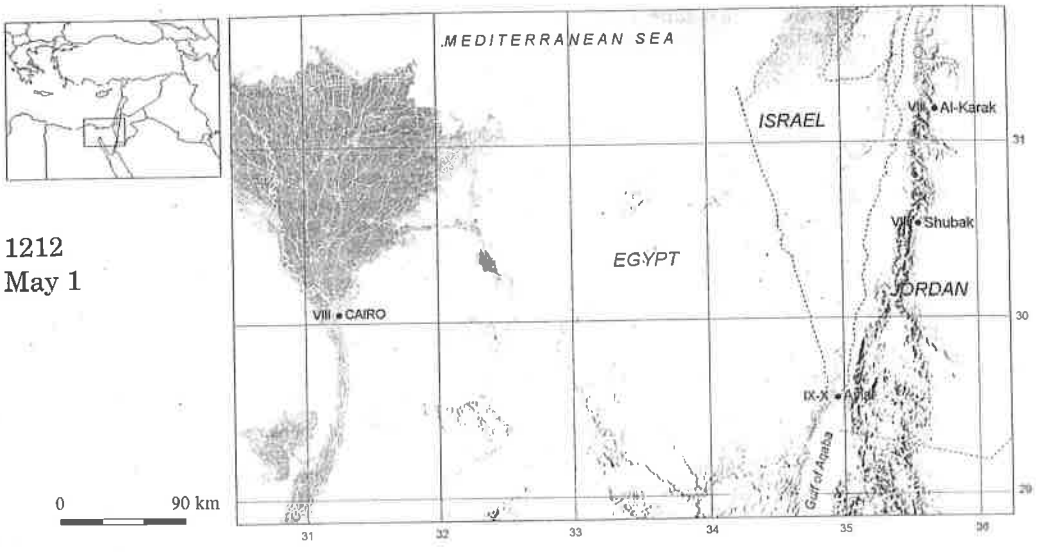


fig. 50

وشويك فمات تحت الهدم خلق كثير وسقط عدة من ابراج قلعتها ورؤى بدمشق دخان نازل من السماء الى الارض فيما بين المغرب والعشاء

Finally, the famous Cairo historian al-Suyuti (16th century) records:
"In the year 608 [H. = 1212-1213], there was a violent earthquake in Egypt and at Cairo, and many houses were destroyed. There was also an earthquake at Al-Karak and Shubak, and some towers in its citadel were destroyed and many people died in the ruins. Smoke was seen to come down from heaven to earth between dusk and evening at the tomb of 'Atika in the western part of Damascus".

وفي سنة ثمان وستمائة كانت زلزلة شديدة هدمت بمصر والقاهرة دورا كثيرة وكذلك بمدينة الكرك والشويك وهدمت من قلعتها ابراجا ومات خلق كثير من الصبيان والنساء تحت الهدم ورؤي دخان نازل من السماء الى الارض فيما بين المغرب والعشاء عند قبر عاتكة غربي دمشق.

▲ 1212 05 01 I_0 = VIII-IX Me = 5.8 Sites: 4

location	lat.	long.	I	location	lat.	long.	I
Elat IL	29 33	34 57	IX-X	Al-Karak HKJ	31 11	35 42	VIII
Cairo ET	30 03	31 15	VIII	Ash Shawbak HKJ	30 32	35 34	VIII

⟨ 102 ⟩ 1213 June 22 Isauria [southern Turkey]

▷ **fissures, emergence of sand, clouding of springs** ◁

source Girbert de Boi, *Letter*, 1213 (in Röhricht 1893, pp.233-4, no.868)

This earthquake is unknown to the seismic catalogues.
On 22 June 1213, there was a destructive earthquake in the region of Isauria, now in southern Turkey. Many villages and castles collapsed, as well as two unnamed towns and an abbey near Philadelpheia. Fissures appeared on the slopes of a mountain, out of which came, for one day, red and white water which subsequently acquired an unpleasant smell; large quantities of sand came out of fissures in the ground.
The earthquake is not mentioned in chronicles. The source is a letter sent in 1213 to Amadeus, archbishop of Constantinople from 1197 to 1220. Röhricht (1893, p.233, note 2), who edited the letter, thought he could identify the writer as a soldier named Girbert de Boi. The text refers to phenomena which almost certainly did occur, but which may have been exaggerated in order to adapt them to an ethical and religious message. In the letter, we read as follows:
"In the last week of August, we learned from reliable sources that, although the matter seemed almost incredible to those who heard of it, there had been an earthquake of greater violence than had ever been known before. It happened two days before the feast of St.John the Baptist [22 June], in the region of Isauria, which borders on the dominion of the sultan of Iconium; and it was so strong that many villas and castles were reduced to ruins, and two towns and an abbey near a city called Philadelpheia have plunged into the abyss, disappearing along with their inhabitants, and leaving behind a stretch of level ground where many things had existed before. What a tremendous prodigy this was before the gaze of all! Of the many things I still have to relate, one in particular certainly happened, my lord, that is to say, a mountain was split in two by the earthquake and for a whole day blood came out of one side and milk out of the other, after which, for another day, there came out stinking water and great quantities of sand; and you should know that the land where these prodigies occurred is inhabited by Christians. That is why I have told you about it: so that you may report it to your people".

Notificatum est nobis ultima septimana Augusti per veros nuncios, quod, quamvis verum tamen audientibus vix credibile, terre motus talis factus est, qui numquam fuerat auditus. Factus est pridie ante vigiliam sancti Johannis Baptiste in terra Losore, que afinis est soldani d'Encoine, et tam magnus, quod multe ville et castra corruerunt et due civitates, quedam abbatia ante quandam civitatem nomine Finedelfe in abissum perdite, tamen terra plana in impari loco remanente, cum habitantibus recesserunt. O mirum et cunctis admirandibus pavendum! Inter hec, que restat dicere, certe res est verissima, domine, quod quidam mons terre motus scissus per medium ex una parte sanguinem, ex alia lac visus est emanare per totam diem et ex eo alia die aqua fetidissima sabulum cum multitudine maxima, et sciatis, quod terra, in qua hoc mirabile factum est, christianorum est, et ideo mandavi vobis, ut hec populo annuncietis.

▲ 1213 06 22

location	lat.	long.	I	location	lat.	long.	I
▪ Isauria area	37 15	32 20	X	Philadelpheia	36 37	33 02	A (IX)

⟨ 103 ⟩ 1220 January 11 Mshakavank' [Armenia]

source Vard. Ar., *Hist.*, p.142
historiography Incicean (1822)
literature Abich (1882)
catalogues d. Step'anyan (1964); Zeyt'unyan (1991)
catalogues p. Kondorskaya and Shebalin (1982); Karapetian (1991); Berberian (1997)

On 11 January 1220, the church at Mshakavank' collapsed in a strong earthquake, killing four people inside. The source is the chronicler Vardan Arewelc'i (13th century): "One year before his consecration [i.e. that of the patriarch Kostand, in 669 arm. = 26 January 1220 – 24 January 1221], there was a fearful earthquake, and the elegantly

▲ 1255 11 17 10:00 UT

localities	lat.	long.	I
Messina	38 11	15 33	VI-VII?

⟨ 117 ⟩ 1258 February 19 Barrea [Abruzzo, central Italy]

sources 1 AAbbMontecassino, aula II, caps.XXI, parchment no.1, Letter, [1260]; *Cron. Suess.*, p.55
source 2 *Ann. Reat.*, p.267
historiography Capasso (1874); Leccisotti (1971)

This earthquake is unknown to the seismic Italian catalogue tradition.
On 19 February 1258, at about 16:30 UT (shortly before sunset, i.e. at about 17:30 local time), an earthquake probably struck the village of Barrea (in the present-day province of L'Aquila), where the walls of the church of S.Tommaso partly collapsed. Sessa Aurunca (a Campanian town in the present-day province of Caserta) was also affected, as were other unspecified places in the area. A strong shock at Sessa Aurunca caused the bells of the churches of S.Germano and S.Matteo to ring; and in other nearby unspecified places there was fairly serious damage. The information about Barrea is recorded in a document of about 1260 which refers to indulgences granted by the bishop of Trivento (now in province of Campobasso) for the restoration of the church of S.Francesco at Barrea, which had been damaged in an earthquake. This is presumably a reference to the earthquake recorded in the *Cronicon Suessanum*, although no specific date is given. The document is in the Archivio dell'Abbazia of Montecassino (aula II, caps. XXI, parchment no.1; a regest in Leccisotti 1971, p.169). The text is as follows:
"Friar Luca, by divine mercy humble bishop of Trivento. To all and to those who read this present letter, greetings and the true love of God. Since part of the church of S.Tommaso at Barregio [Barrea] collapsed in an earthquake and its walls were almost destroyed and the funds earmarked for the restoration of the church are insufficient, in the name of our love of God we advise and exhort that for the restoration of the said church we should offer not only the goods that we have gathered for God, but also charitable offerings made by individuals. We trust indeed in the compassion of God and the intercession of Saint Nazarius and Saint Celsus, and to all those who offer assistance and support for the restoration and administration of the said church, exemption from forty days of penitence shall be granted in the name of God's mercy".

Frater Lucas miseratione divina humilis Treventanus episcopus, universis presentes licteras inspecturis salutem et veram in Domino charitatem. Cum quedam pars ecclesie Sancti Thome de Barregio ex supervenienti terremotu corruerint et ipsius menia fere fuerint concussa et ad ipsius ecclesie refectionem preposite non suppetant faccultates dilectionem nostram monemus et ortamur in Domino quatenus ad ecclesie predicte refectionem tam de bonis nostris a Deo nobis collatis quam de personis pia subsidia porrigatis. Nos vero de Creatoris benignitate confisi et beatorum martirum Nazarii et Celsi patrociniis querelantes omnibus porrigentibus ausilia et favorem quibus predicta ecclesia reficiatur ac etiam gubernetur, quadraginta dies de iniunta sibi penitentia in Domino misericordiam relaxamus.

The information about Sessa Aurunca comes from the *Cronicon Suessanum*, an anonymous chronicle of that town:
"In the year of Our Lord 1258. On Tuesday 19 February after compline and shortly before sunset there was a large and impressive earthquake at Sessa and in almost all the other towns, and in some it caused a considerable amount of damage, and so the bells of the monastery of San Germano and of the church of San Matteo rang of their own accord, such was the extraordinary shaking of the said earthquake [...]".

fig. 55 Parchment, 1260 *c.*: an indulgence granted by the bishop of Trivento (now in the province of Campobasso, southern Italy) to those contributing to the restoration of the church of S.Francesco at Barrea, which had been damaged in the earthquake of 19 February 1258 (Archivio dell'Abbazia of Montecassino, parchment no.386).

Anno Domini MCCLVIII. Die Martis XIX mensis Februarii post completorium parum ante occasum Solis fuit magnus, et manifestus terremotus Suessae, et fere in omnibus aliis Civitatibus, et in quibusdam satis damnum attulit, ita quod Campanae Monasterii Sancti Germani, et Ecclesiae Sancti Matthaei propter nimiam impulsionem dicti terraemotus ex se sonaverunt [...].

19 February was indeed a Tuesday in 1258. There is a very generic reference to earthquakes in Italy in 1258, without any indication of the day or month, in the *Annales Reatini*, a short 15th century chronicle.

▲ 1258 02 19 16:30 UT

location	lat.	long.	I	location	lat.	long.	I
Barrea	41 45	13 59	A (IX)	Sessa Aurunca	41 14	13 56	V

⟨ 118 ⟩ 1258 December 29 – 1259 December 17 [657 H.] Cairo [Egypt]

sources al-Maqrizi, *al-Suluk*, I, p.420; BNFrance, ms. Ar. 1597, Ibn Duqmaq, *Nuzhat*, fol.117r.; al-'Ayni, *'Iqd*, I, p.224; al-Suyuti, *Husn*, II, p.295; al-Suyuti, *Kashf*, p.50
literature Taher (1979)
catalogues d. Sieberg (1932a); *Ambraseys *et al.* (1994)
catalogues p. al-Hakeem (1988)

In the year of the Hegira 657 (29 December 1258 – 17 December 1259), Cairo and other Egyptian territory was struck by several strong earthquakes. No damage is recorded. The principal source for this earthquake is the reliable Arab geographer from Cairo, al-Maqrizi (1364-1442): "In that year [657 H. = 29 December 1258–17 December 1259], Egypt was struck by a series of earthquakes. People were also frightened by news of the arrival of the Mongols in Syria".

فيها حصلت بالديار المصرية زلازل عظيمة جدا وتسامع الناس بمجيء الططر لقصد الشام فانزعجوا بسبب ذلك.

The Egyptian Arab historian Ibn Duqmaq (1349-1406) adds the information that there were also numerous shocks in Syria, but he is probably combining two separate earthquakes into a single event (see the next entry): "In this year, there was a violent earthquake in Cairo and the other Egyptian territories, and there were numerous shocks in Syria at the time when the Tartars arrived, for they crossed the Euphrates and invaded the region of Aleppo, and many citizens of Damascus fled and put their goods up for sale,

and wandered around in terror, and scattered through the meadows and mountains, and some of them made their way towards Egyptian territory. It was midwinter, and many died of cold, and others were robbed as they travelled".

وفيها حصل بمصر وسائر الديار المصرية زلزلة عظيمة وفيها كثرت الاراجيف بدمشق بمجيء التتار لانهم قد قطعوا الفرات واغاروا على بلاد حلب فهرب كثير من اهل دمشق وباعوا حواصلهم وخرجوا على وجوههم خائفين متفرقين في البراري والجبال ومنهم من توجه الى الديار المصرية وكان ذلك في وقت الشتاء فمات خلق كثير من البرد ونهب اخرون في الطريق.

There is a brief reference to the earthquake in the chronicle in Arabic by al-'Ayni (1361-1451), a Turkish historian: "There was a very violent earthquake in Egyptian territory, and people heard the news that the Tartars were making for Syria".

ومنها : انه حصلت بديار مصر زلزلة عظيمة جدا، وتسامع الناس بمجيء التتار لقصد الشام فانزعجوا بسبب ذلك وبالله المستعان.

Finally, the famous Cairo historian al-Suyuti (1445-1505) records: "In the year 657 (H. = 29 December 1258 – 17 December 1259), there was a very violent earthquake in Egyptian territory".

وفي سنة سبع وخمسين حصلت بديار مصر زلزلة عظيمة جدا.

According to Ambraseys *et al.* (1994) this is a doubtful event. In our opinion there is evidence for its having at least affected Cairo, but we have nothing on which to base an assessment of effects.

▲ 1258 12 29 – 1259 12 17 [657 H.]

localities	lat.	long.	I
Cairo	30 03	31 15	NC

⟨ 119 ⟩ 1259 March 22 Damascus [south-western Syria]

sources al-Maqrizi, *al-Suluk*, I, p.426; BNFrance, ms. Ar. 1597, Ibn Duqmaq, *Nuzhat,* fol.117r.; Ibn al-Dawadari, *Kanz*, VIII, p.44
literature Taher (1979)
catalogues d. Sieberg (1932a); *Ben-Menahem (1979)
catalogues p. Poirier and Taher (1980), al-Hakeem (1988)

On 22 March 1259, Damascus — then occupied by the Tartars — was struck by a violent earthquake which caused widespread collapses. The sources record that the arrival of the Tartars was accompanied by numerous shocks in Syrian territory.
At this same period, there was also a strong earthquake in Egypt (see the previous entry). The two events are treated separately by al-Maqrizi (1364-1442), a reliable Arab geographer from Cairo, whereas other sources record both together, thereby reducing to one what seem to be two quite distinct earthquakes. Al-Maqrizi records: "The emirs Badr al-Din Muhammad ibn Qarmaja, governor of the citadel of Damascus, and Jamal al-Din ibn al-Sayrafi had risen in rebellion and closed the gates [of the city]. Kitbuga [a Mongol general] laid siege to the citadel with his men on the night of *Rabi' II* [22 March]. God sent rain, cold, wind, thunder and lightning, and an earthquake which caused collapses in many places. The populace spent the night amidst fear of the earth and fear of the heavens, and the revolt failed".

ثار الأمير بدر الدين محمد بن قرمجاء والي قلعة دمشق هو والأمير جمال الدين بن الصيرفي وأغلقا أبوابها وحضر كتبغا من عساكر التتار وحصروا القلعة في ليلة السادس من ربيع الآخر فبعث الله مطرا وبرد مع ريح شديدة ورعود وبروق وزلزلة سقط فيها عدة أماكن وبات الناس بين خوف أرضي و خوف سمائي فلم ينالوا من القلعة شيئا.

The Egyptian Arab historian Ibn Duqmaq (1349-1406) combines the earthquakes in Egypt and Syria when he records:
"In this year, there was a violent earthquake in Cairo and the other Egyptian territories, and there were numerous shocks in Syria at the time when the Tartars arrived, for they crossed the Euphrates and invaded the region of Aleppo, and many citizens of Damascus fled and put their goods up for sale and wandered around in terror and scattered through the meadows and mountains and some of them made their way towards Egyptian territory. It was midwinter, and many died of cold, and others were robbed as they travelled".

وفيها حصل بمصر وسائر الديار المصرية زلزلة عظيمة وفيها كثرت الاراجيف بدمشق بمجيء التتار لانهم قد قطعوا الفرات واغاروا على بلاد حلب فهرب كثير من اهل دمشق وباعوا حواصلهم وخرجوا على وجوههم خائفين متفرقين في البراري والجبال ومنهم من توجه الى الديار المصرية وكان ذلك في وقت الشتاء فمات خلق كثير من البرد ونهب اخرون في الطريق.

There is a very brief report of the earthquake in Ibn al-Dawadari, an Arab historian who was active in the late 13th and early 14th century:
"The shocks were very numerous throughout Syrian territory because of the Tartars".

وفيها كثرت الاراجيف في الشام باسره بسبب التتار.

Sieberg (1932a, p.40) is probably making a dating error when he mentions an earthquake in north-east Syria in 1254.

▲ 1259 03 22 at night

localities	lat.	long.	I
Damascus	33 30	36 19	NC

⟨ 120 ⟩ 1261 October 1 – 1262 September 30 [1573 S. e.] Syria

source Elias Nisib., *Opus* [continuation], p.229
catalogue d. Grumel (1958)

This earthquake is not known to seismic catalogues. It appears solely in a list provided by the Byzantine scholar Grumel (1958, p.481), where it is mentioned only in very general terms. We include it here as a possible starting point for fresh research. In the continuation of the chronicle of Elias of Nisibis, it is mentioned that there was an earthquake in the period between 1 October 1261 and 30 September 1262, the location being stated simply as territory inhabited by the Syrians. No effects are specified: "And in the year fifteen hundred and seventy-three of the Greeks [1 October 1261 – 30 September 1262], Bar Badr al-Din fled to Egypt and in the same year there was an earthquake among the Syrians".

△ There are no elements with which to indicate the parameters.

⟨ 121 ⟩ 1264 February 20 Egypt

sources al-Yunini, *Dhail*, I, p.553; al-Maqrizi, *al-Suluk*, I, p.508; al-Suyuti, *Kashf*, p.50
literature Taher (1979)
catalogues d. Sieberg (1932a); *Ambraseys *et al.* (1994)
catalogue p. Poirier and Taher (1980)

On 20 February 1264, Egypt was struck by a strong earthquake which caused damage. The Egyptian Arabic sources which record the earthquake do not specify where the damage occurred. The reliable historian al-Yunini (1334-1405) writes:
"On Tuesday 20 *Rabi' II* in this year [662 H. = 20 February 1264], there was a very violent earthquake which aroused great fear and destroyed some houses".

وفيها وفي يوم الثلاثاء العشرين من ربيع الاخر جاءت زلزلة عظيمة جدا ازعجت وهدمت دورا."

There is a similar report in al-Maqrizi (1364-1442):
"On 20 *Rabi' II*, a violent earthquake in Egypt caused a great deal of damage".

عاودت مصر بالشدة عينها في العشرين من ربيع الآخر كانت زلزلة عظيمة هدمت عدة أماكن.

Al-Suyuti (1445-1505) is even briefer:
"In the year [6]62 [H. =1263-1264], Egypt was struck by a violent earthquake".
وفي سنة اثنتين وستين زلزلت مصر زلزلة عظيمة.

△ There are no elements with which to indicate the parameters.

⟨ 122 ⟩ 1265 early August (before 16th) Proconnesus [north-western Turkey] ▷ landslide ◁

source Pachym., *Relat. hist.*, 4.16, II, p.377
catalogues d. Evangelatou-Notara (1993); *Papazachos and Papazachou (1997)

In early August 1265, the island of Proconnesus (now Marmara), in the Sea of Marmara, was struck by an earthquake, and a mountain landslide engulfed the village of Galenolimen (present-day Çinarli or Galimi on the island's west coast).
Information about this earthquake can be found in Pachymeres, a contemporary Byzantine historian who witnessed it himself. Pachymeres was a member of a delegation sent to the patriarch Arsenius, who had been banished to the monastery of St.Nicholas, near Suda on the island of Proconnesus (in the middle of the Sea of Marmara). The delegation had boarded ship to return to Constantinople, and was sailing close to the island when the earthquake occurred (Galenolimen was on the island's west coast):
"In the middle of the night, in fact, a violent earthquake occurred. The mountain split open and crashed down to the sea, engulfing the village, and it gave us the impression that we too were being engulfed, as we were close by the shore".

Νυκτὸς γὰρ μέσης σεισμὸς ἐπεισπίπτει βαρύς, καὶ τὸ ὄρος, θραυσθὲν καὶ πεσὸν εἰς θάλασσαν, τὸν ἐκεῖσε τόπον κατέκλυσε, δόκησίν τε καὶ ἡμᾶς κατακλυσθῆναι παρέσχε, κατ' αἰγιαλὸν μένοντας.

Although Pachymeres does not specify the exact day on which the earthquake occurred, we can establish the chronological sequence of events during the visit to the patriarch Arsenius as follows: the delegation left Constantinople on July 25 and arrived where Arsenius was confined on July 27 (Pachym., II, p.373.16-17). The return journey took place on 16 August (Pachym., II, p.377.7-8). Hence the *terminus post quem* and the *terminus ante quem* for the date of the earthquake. Evangelatou-Notara (1993, p.27) suggests a day between 10 and 12 August.

▲ 1265 08 –

location	lat.	long.	I	location	lat.	long.	I
■ Marmara (island)	40 38	27 37	IX?	Çinarli	40 37	27 32	EE

⟨ 123 ⟩ 1269 April 17 Cilicia [southern Turkey]

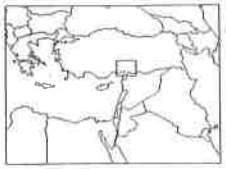
sources 1 Mxit'. Ayriv., *Hist.*, p.68; *Chron. min. Arm.*, I.3, p.83; II.2, p.74; II.25, p.512; Bar Hebr., *Chron.*, p.526; al-Malti, *Ta'rikh*, p.148; al-'Ayni, *'Iqd*, II, p.49; Smbat, *Chron.*, p.122; *Est. de Eracles*, II, p.12;
sources 2 Templ. Tyr, *Chron.*, p.191; Amadi, *Chron.*, ad ann.1269
historiography Röhricht (1898); Kostaneanc' (1902); Hild and Hellenkemper (1990)
literature Taher (1979)
catalogues d. Bonito (1691); von Hoff (1840); Perrey (1850); Mallet (1853); Grumel (1958); Zeyt'unyan (1991)
catalogues p. al-Hakeem (1988)

On 17 April 1269 there was a destructive earthquake causing widespread collapses and very serious damage in Cilicia, an area of southern Turkey facing the Gulf of Iskenderun and with a vast hinterland. A number of unspecified places were destroyed, but the sources do tell us of the collapse of the fortress of Sarvandik'ar (or Sarbanda, now Savuran Kalesi), the castles of Delnk'ar (or Lambrun, present-day Camlıyayla), Hamus (Çardak), Haruniye, Hagar Suglan (Sivlan Kalesi) and the Armenian convent of Ark'akalin (now Peri Kalesi). According to the Venetian chronicle of Amadi, there were collapses at 5 fortresses, 3 abbeys and 12 villages. The total number of victims was 8,000. The earthquake is recorded in contemporary and later Syrian, Armenian, Christian and Arab sources. The most detailed information is to be found in the work of the contemporary Syrian historian Bar Hebraeus (1225-1286), and in the chronicle attributed to the Cilician Armenian historian Smbat Sparapet (Constable Smbat, 1208-1276). Bar Hebraeus records:
"And in the year fifteen hundred and eighty of the Greeks [1269], on the seventeenth day of the month *Nisan*, at the first hour of the night of the fourth day [of the week], a severe earthquake took place in Cilicia, and it destroyed the rock fortress of Serwand [Sarbanda], and that of 'Amaos [Amus], and that of Haru'ta [Haruniye], and the great Monastery of the Armenians, that is of Balut the king [Ark'akalin]. And about eight thousand souls perished in this catastrophe. [Budge's transl.]

ܘܒܫܢܬ ܐܦܦ. ܝܙ. ܒܢܝܣܢ ܒܫܥܬܐ ܩܕܡܝܬܐ ܕܠܠܝܐ ܕܐܪܒܥܒܫܒܐ ܗܘܐ ܙܘܥܐ
ܥܫܝܢܐ ܒܩܝܠܝܩܝܐ: ܘܐܚܪܒ ܠܚܣܢܐ ܕܟܐܦܐ ܕܣܪܘܢܕ: ܘܠܗܿܘ ܕܥܡܐܘܣ: ܘܠܗܿܘ
ܕܗܪܘܬܐ: ܘܠܕܝܪܐ ܪܒܬܐ ܕܐܪܡܢܝܐ ܗܿܝ ܕܒܠܘܛ ܡܠܟܐ. ܘܐܝܟ ܬܡܢܝܐ
ܐܠܦܝܢ ܢܦܫܢ ܐܒܕ ܒܚܢܩܐ ܗܢܐ.

In the chronicle attributed to Smbat we read:
"In the year 718 [13 January 1269 – 12 January 1270], there was a violent earthquake which reduced numerous villages to ruins in various parts of Cilicia, especially at the foot of the Black Mountain [Mt.Amanus]; it destroyed the impregnable fortress of Sarvandik'ar, killing all the inhabitants; in the holy monastery of Arka'kalin the priests and monks died in the ruins of the buildings; and in this mountainous region the earthquake damaged and destroyed numerous villages and, elsewhere, the castle of Delnk'ar".
The other Armenian sources for this earthquake consist of a brief mention by the contemporary chronicler Mxit'ar of Ayrivank' and two references in the *Annals of King Het'um* and the *Chronicle of the historian Het'um*. Mxit'ar of Ayrivank' simply recorded a "strong earthquake" in Cilicia. Kostaneanc' (1902, p.10; 21) wrongly dates the earthquake to 1268, probably through misreading Mxit'ar. More problematic, but substantially unfounded, is the dating to the year 1261 by Step'anyan (1964, p.61; cf. Zeyt'unyan 1991, p.91), based on the assumption that Mxit'ar of Ayrivank' has got the date right.
In what is known as the *Annals of King Het'um* (*Chron. min. Arm.* I.3), we read:
"In 718 [1269-70] Servandik'ar and Hamus were destroyed in an earthquake".

ՉԺԸ փլան ի շարժէ Սարվանդիքարն և համուսն



1269
April 17

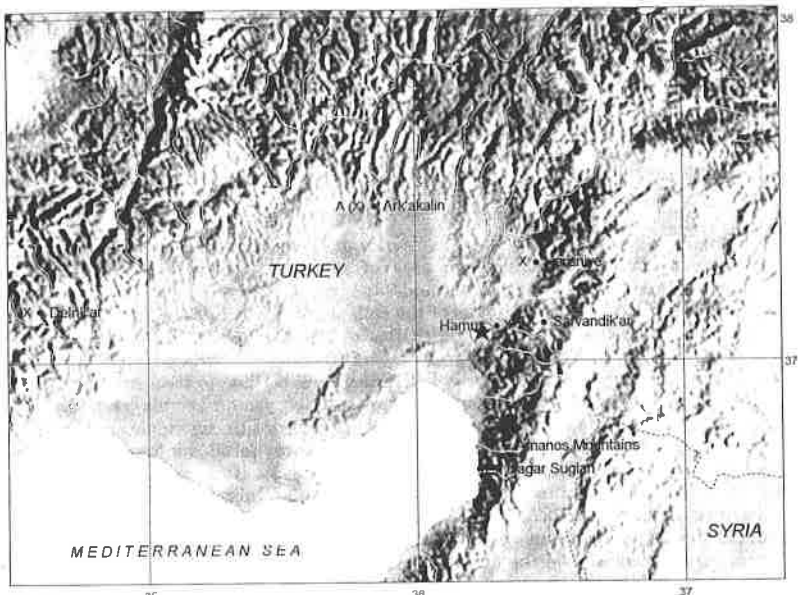


fig. 56

In what is known as the *Chronicle of the historian Het'um*, we find:
"In 1269 Sarvantik'ar, Hamus, Deirnk'ar, and other monasteries and citadels on the Black Mountain [Amanos or Nur Mountains] were destroyed in an earthquake".

ռՍկթ փլան ի շարժէ Սարվանտիքարն և Համուսն և Դեղրնքան և այլ վանորայք և ամրոցք ի Սև լէռն.

Christian sources consist of the *Estorie d'Eracles*, a vulgar French translation of William of Tyre with various continuations up to 1277, and the 16th century chronicle by the Venetian author Amadi. The *Estorie d'Eracles* records:
"In the year 1269 there was great destruction in Armenia, with five castles, three abbeys of Armenians and twelve villages razed to the ground. Godfrey of Sargines died on 11 April".

A.M.CC.LXIX. fu un gran crole en Hermenie qui fondi 5 chastiaus et 3 abaies d'Ermins et bien 12 casiaus. Et morut Giefroi de Sargines a 11 jors d'Avril.

The earthquake is also recorded in Arab sources. The 14th century Arab historian al-'Ayni thus tells us that in the year of the Hegira 667 (1268-1269):
"News came that there had been an earthquake in the region of Sis, that its citadels, such as Sarvandirkar and Hajar Shaglan [Hagar Suglan], had been destroyed, and that many people had been killed".

منها انه وردت الاخبار بان زلزلة حدثت في بلاد سيس واخربت قلاعها مثل سرفندركار وحجر شغلان وقتلت جماعة.

Also one Arabic source, Abu 'l-Faraj al-Malti, records an earthquake that harmed Cilicia on one unspecified Wednesday in 1269 that could be identified with the Wednesday of the 17 April that other sources reffer to. Abu 'l-Faraj al-Malti records:

"It was known that in the year 1580 of the Byzantian era, 1269 of the Christian era, there was a fearful earthquake in Cilicia, at the first hour of the night of one Wednesday the fortresses of Sarunar, 'Immaws, Al-Hajar al-Asfar, and the convent of Balut al-Malik — the biggest Armenian convent — were destroyed. Around 8.000 persons perished because of this earthquake.

ورد أن في السنة ١٥٨٠ لليونان ١٢٦٩ م حدثت زلزلة هائلة في قيلقيلية في الساعة الأولى من ليلة الأربعاء وأخربت قلعة سرونر وقلعة عماوس وقلعة الحجر الأصفر ودير بالوط الملك وهو أكبار أديار الأرمن وهلك في تلك الزلزلة زهاء ثمانية الاف نسمة.

▲ 1269 04 17 17:00 UT ⊛ = 37 01 36 21 Io = X Me = 6.3 Sites: 7

localities	lat.	long.	I	localities	lat.	long.	I
Camliyayla	37 09	34 36	X	Çardak	37 06	36 18	X
Savultan Kalesi	37 10	36 26	X	Harıniye	37 17	36 27	X
■ Amanos Mountains	36 45	36 20	X	Peri Kalesi	37 27	35 51	A (IX)
Sivlan Kalesi	36 41	36 18	X				

⟨ 124 ⟩ **1269 September Ancona [central Italy]** ▷ **tsunami, landslide** ◁

sources 1 *Ann. Ianuen.*, p.124; *Ann. Placent. Gibell.*, p.536; Riccob. Ferr., *Pomar.*, col.138; Pipino, *Chron.*, col.686; Shelomoh ben Mosheh ben Yekutiel, *'Al ha-ra'ashim*, in Laras (1973, pp.51-2)

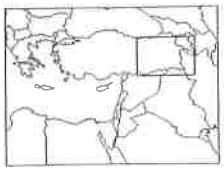
sources 2 *Cron. Ramp.*, II, pp.173-4; *Cron. Varign.*, II, p.176; BNMarcianaVe, *Mss. Lat.*, Z.402, *Cronaca veneziana*; BAVat, *Barberini Lat.*, 2741, *Quaedam Cronica*

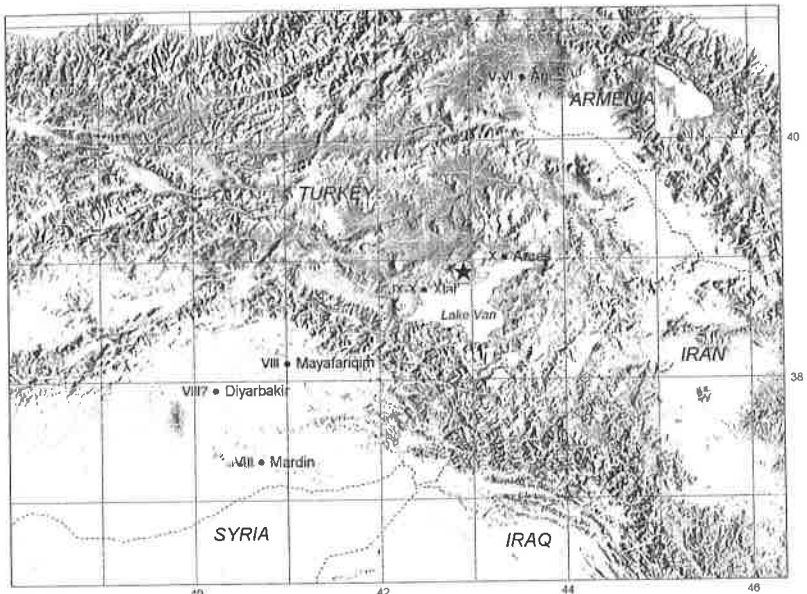
historiography Leoni (1832); Natalucci (1961); Laras (1973); Busi (1995)

catalogues d. Bonito (1691); Perrey (1848); Mercalli (1883); Baratta (1901)

catalogues p. Carrozzo *et al.* (1973); Postpischl (1985); CPTI (1999)

In September 1269 a strong earthquake struck Ancona and Humana (now called Numana) in the present-day Marche region. In both towns many walls collapsed or were damaged, and in Ancona towers and houses suffered similarly. The terrified townspeople fled, and took refuge in tents and shacks. On Mt.Conero (situated between Ancona and Numana, and also called "*monte d'Ancona*"), a big landslide crashed down into the sea, probably as a result of the earthquake. The waves which it produced reached the Croatian coast of central Dalmatia on the opposite side of the Adriatic.
The most important sources are four Latin chronicles, three of which are contemporary: the *Annales Ianuenses*, an official chronicle of the city of Genoa, compiled for the years 1267-1269 by four authors (Nicola Guercio, Guglielmo di Multedo, Enrico Drogo and Bonvassallo Usodimare); the *Annales Placentini Gibellini*, by an anonymous chronicler from Piacenza who lived in the second half of the 13th century; the *Pomerium Ravennatis Ecclesie* by Riccobaldo da Ferrara, a notary who was born in 1246 and died in 1318. The fourth, slightly later work is the *Chronicon* by Francesco Pipino, who was archivist and sub-prior at the Dominican convent of S.Domenico in Bologna (he was born about 1270 and died in 1328).
There is also a probable reference to the earthquake in a Hebrew expiatory prayer (*selicha*), composed by Shelomoh ben Mosheh ben Yekutiel Mi ha-Adummim [de Rossi]. There is no specific chronological reference to the earthquake in this religious text: the only certain reference point is 1284, the year when the writer died. The only specific geographical reference is the prayer's title: "For the earthquakes which struck Ancona". which suggests a relationship with the 1269 event (Laras 1973, p.48) rather than the 1279 earthquake in Umbria and Marche, as suggested by Busi (1995, p.474).
The earthquake is also recorded in 15th century chronicles, but they do not add to the





1275
October 3

fig. 57

the fifth day [of the week], on the third day of the month of *Tishrin I* (October), a violent earthquake took place in the city of Arkestia, which is Argis [Arces], and its strong walls and all its buildings collapsed, and a large number of its inhabitants perished. And the same thing happened in the city of Khalat [Xlat'], and the earthquake in its territory took place at the ninth hour; there was great destruction there, but it was not as widespread as at Argis". [Budge's transl.]

ܘܒܗ ܬܠܬ ܫܢܬ. ܐܠܦ: ܒܚܡܫܐ ܒܫܒܐ ܬܠܬܐ ܒܬܫܪܝܢ ܩܕܡ ܗܘܐ ܙܘܥܐ ܚܣܝܢܐ
ܒܐܪܩܣܛܝܐ ܡܕܝܢܬܐ ܕܗܝ ܐܪܓܝܫ: ܘܢܦܠܘ ܫܘܪܝܗ ܥܫܝܢܐ ܘܟܠܗܘܢ ܒܢܝܢܝܗ:
ܘܐܒܕܘ ܣܓܝܐܐ ܕܥܡܘܪܝܗ. ܗܘ ܗܟܘܬ ܘܒܟܠܐܛ ܡܕܝܢܬܐ ܘܒܐܬܪܗ ܗܘܐ ܗܘ
ܐܝܟ ܕܒܫܥܐ ܬܫܥ: ܘܗܘܐ ܒܗ ܚܒܠܐ ܣܓܝܐܐ: ܠܐ ܡܛܠ ܕܐܝܟ ܗܘ ܕܗܘܐ
ܒܐܪܓܝܫ.

Further information can be found in the chronicle of the 14th century Arab historian al-'Ayni:
"In that year [673 H.], a violent earthquake occurred in Khalat [Xlat'], destroying houses, workshops and markets; there were many victims in the ruins, and only a few people survived. The seismic activity moved to Arjis [Arces], where it caused destruction and ruin. Later it reached Diyarbakir, causing damage at Mayafariqin and Mardin on its way".

وفي هذه السنة كان بخلاط زلزلة عظيمة أخربت الدور والحانات والأسواق ومات الناس تحت الردم ولم ينج من أهلها إلا النفر القليل واتصلــــت بأرجيس فأخربتها وخسفت فيها مواضع ووصلت إلى ديار بكر فشعثت ميافارقين وماردين.

Abich (1882, p.438, quoted by Step'anyan 1964, p.60) replaced the date 1246, which would seem to coincide with what Noah the Jacobite suggests, with the year 1245-1246. Step'anyan (1964, p.61) follows the dating proposed by a continuation of Samuel of Ani; Zeyt'unyan (1991, p.91ff.) seems to place the inscription within the context of 1265.

▲ 1275 10 03 ⊛ = 38 53 42 55 I₀ = IX Me = 6.0 Sites: 6

localities	lat.	long.	I	localities	lat.	long.	I
Ercis	39 01	43 21	X	Mardin	37 19	40 43	VIII
Ahlat	38 45	42 29	IX-X	Silvan	38 09	41 00	VIII
Diyarbakir	37 55	40 14	VIII?	Ani	40 32	43 34	V-VI

⟨ 129 ⟩ 1275 before Ischia island [southern Italy]
▷ subsidence of a stretch of coastline? ◁

source Charles I of Aniou, Order, 2 Novembre 1275 (in Cubellis 1996, pp.128-9)
historiography Buchner Niola (1965); Buchner (1986)

This earthquake is unknown to the Italian seismic catalogue tradition.
On an unspecified day in 1275, the island of Ischia was struck by an earthquake: some houses were destroyed and there were many victims, though the exact number is not known. A stretch of the coast may have collapsed into the sea, and a good deal of agricultural property was totally lost.
The source is a document, now lost, from the Angevin records in the State Archives in Naples. The text was transcribed by Eduard Sthamer (1883-1938) before the fire of 30 September 1943, during the Second World War, which destroyed the Angevin archive. It was first published in Buchner (1986, p.180) and now in Cubellis (1996, pp.128-9).
The document shows that on 2 November 1275, king Charles I of Anjou gave orders for an investigatory committee to be sent to the island, following a petition from its inhabitants asking for exemption for exemption from the payment of taxes because of earthquake damage. The document is of special interest because of the light it throws on a particular administrative procedure which demonstrates the complex arrangements governing tax exemptions after a strong earthquake. The text of the document is as follows:
"To Charles of Naples and the notary Giovanni de Barolo.
From the men of Ischia. [...] A petition sent to our Excellency contained a request that, since not long ago because of the disaster of the earthquake many of these men were killed, for part of the said place sank into the sea, and many agricultural properties were completely lost, and some houses were destroyed, since they can no longer enjoy the fruits and income on which their subsistence largely relied, therefore the others [those who did not suffer losses] are not able to make payment of the general tax imposed on their land, and to fulfil other [tax requirements] which are charged to them by our *curia*, and so we have deigned to make provision about this with royal graciousness. We are therefore disposed to accept these petitions in the name of your loyalty [...] we send you as a collective body to the island of Ischia to ascertain whether the earthquake was as reported, at what time and in what part of the island it occurred, and what damage it caused. Investigate and report to us in writing. Given in Naples on 2 November, in the third indiction (1275)".

Carmayno de Neapoli et notario Iohanni de Barolo
Ex parte hominum Yscle [...] porrecta excellencie nostre peticio continebat, quod, cum nuper ex quodam infortunio terremotus nonnulli ipsorum hominum, parte dicte terre in mari submersa, perierint et possessiones multe omnino perdite et alique edes sint destructe, quod nulli possunt proventus seu redditus, quibus pro magne parte substentabantur actenus, provenire propter quod nequeunt alii remanentes impositam eidem terre generalem collectam exolvere et alia, que pro parte curie nostre eis imponuntur, implere, ut super hoc providere de benignitate regia dignaremur. Nos igitur ipsorum supplicacionibus inclinati, fidelitate vestre [...] mandamus, quatinus ad terram Yscle vos

The *Additamenta* record:
"In the said year 1283, in the month of January, at the hour of vespers, there was a very great earthquake at Venice".

In dicto millesimo MCCLXXXIII mensis Januarii hora vespertina fuit Venetiis maximus terraemotus.

Pietro Giustinian writes in similar terms:
"Also in that year [1283], on 17 January, at the hour of vespers, there was a very great earthquake at Venice.".

Item, dicto millesimo, die XVII ianuarii, hora vespertina, fuit Veneciis maximus terremotus.

Although the report gives no details of effects, it is precise in its dating. Both 14th century chronicles date the earthquake to 1283; and they are the work of notary chroniclers who were accustomed to using the traditional "Venetian style" chronology. The old Venetian tradition began the year on 1 March: that is to say, two months later than the modern style, and so the dating has to be corrected to 17 January 1284, modern style.
Such a chronological modification makes it possible to relate this earthquake to the one recorded in the anonymous *Chronicon Parmense*, a reliable notarial chronicle compiled in the first half of the 14th century, where we read:
"On 18 June [1284], a Tuesday, at the hour of vespers, the earth shook [at Parma]".

Di 18 junij in marte, in hora di vespero, tremò la terra.

The fact that the day of the week is given makes it possible to correct the indication of the month. June is given instead of January, but in Latin, their abbreviated forms are very similar ("*jun.*" and "*jan.*"). 18 January 1284 was indeed a Tuesday, whereas 18 June was a Sunday. At the time, the numbering of each day began at sunset, with the result that the date of events occurring at vespers often varies in the sources between that of the day which had just ended and that of the day following. Thus, if the chronological indication given in the *Chronicon Parmense* is interpreted "17 January 1284, at the hour of vespers", it coincides perfectly with that in the Venetian sources.
In the 15th century, this information was taken up in Venetian chronicles. Some 15th century Venetian historians, such as Dolfin, record the information as it appears in the 14th century sources without alterations or additions. But they date the earthquake to 1282. This change is probably due to their supposing that their predecessors had not used the Venetian style of dating, and that the date January 1283 corresponded to 1282 in their chronological system. Other historians, such as Marin Sanudo, dated the earthquake to 1283, as the 14th century chroniclers had done, but in Muratori's often inaccurate edition, the date given is 1282.
This variation between 1282 and 1283 persists in the historiographical tradition of the following centuries, and enters the seismological tradition: Perrey (1848) records two separate shocks: on 17 January 1282 and January 1283, though he thinks it unlikely that they were indeed separate; Mercalli (1883) lists a single shock dating to 17 January 1282; in the appendix to his catalogue (p.627), Baratta (1901), dates the earthquake to 1283, whereas he had previously given 1282, but he does not state explicitly which is to be preferred; Zanon (1937) appears to prefer 1283, but at other points in his work, the earthquake is dated to 1282.

▲ 1284 01 17 15:30 UT

localities	lat.	long.	I	localities	lat.	long.	I
Venice	45 26	12 20	VII	Parma	44 48	10 20	F

⟨ 137 ⟩ **1284 October 13 – November 10** *[Sha'ban* 683 H.] **Damascus [Syria]**

sources al-Dhahabi, *Kitab al-'Ibar*, V, p.342; al-Yafi'i, *Mir'at*, IV, p.198
literature Taher (1979)
catalogues d. von Hoff (1840); Perrey (1850)
catalogue p. Poirier and Taher (1980); al-Hakeem (1988)

In the month of *Sha'ban* in the year 683 of the Hegira, which corresponds to the period 13 October – 10 November 1284, Damascus was probably struck by a strong earthquake which caused collapses and serious damage. The uncertainty as to what really happened at Damascus at that time is due to the fact that the closest source to the event, the Damascene Arab historian and theologian al-Dhahabi (1274-1348), does not refer explicitly to an earthquake, simply reporting that there were serious disturbances at Damascus caused by both natural events and warfare. However, the Yemeni Arab historian al-Yafi'i (1300-1367) maintains that the disturbances mentioned by al-Dhahabi had been caused by an earthquake.
The latter states:
"In the month of *Sha'ban*, there were great disturbances at Damascus. Egyptian troops had descended on the area; destruction occurred, and rivers overflowed their banks".

في شعبان كانت الزيادة الهائلة بدمشق بلليل وكان عسكر مصر نزالا بالوادي فذهب لهم ما لا يوصف وخربت البيوت وانطمت الأنهار.

Commenting on this passage, al-Yafi'i states:
"As far as I know, it was an earthquake; but God has greater knowledge".

وما يظهر لي معنى صحيح ولعله الزلزلة والله أعلم.

The report of an earthquake seems quite convincing, but it is not possible to establish whether there is any connection between the rivers overflowing their banks, as mentioned by al-Dhahabi, and the earthquake.

▲ 1284 10 13 – 11 10 [*Sha'ban* 683 H.]

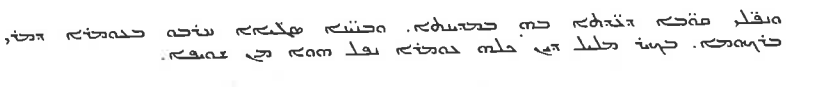
localities	lat.	long.	I
Damascus	33 30	36 19	VIII?

⟨ 138 ⟩ **1284 – 1285 winter Bar Sauma [eastern Turkey]**

source Bar Hebr., *Chron. Eccl.*, I, cols.779-80
historiography Honigmann (1954)

This earthquake is unknown to the seismic catalogue tradition.
In the winter of 1285, a violent earthquake struck eastern Turkey. Many buildings collapsed at Bar Sauma, and arches collapsed at churches in the city of Melitene (near present-day Malatya). Honigmann (1954, pp.50-1) has identified the monastery of Bar Sauma in ruins at Borsum Kalesi, on a mountain about 1600 metres high between Malatya and Adiyaman, near the historical site of Nemrut Dagi (or Mount Nemrut).
The source is the contemporary historian Bar Hebraeus. At the end of the first part of the *Chronicon Ecclesiasticum*, we read:
"In the year 1596 of the Greeks [1 October 1284 – 30 September 1285], in the winter, there was a violent earthquake at Melitene and its territory. The arches of churches collapsed in the town, and at the monastery of Bar Sauma so many buildings were destroyed that the whole monastery was in danger of falling off the mountain.

ܘܒܫܢܬ ܐܦܨܘ̄ ܕܝܘ̈ܢܝܐ. ܒܣܬܘܐ ܕܗܘܬ. ܗܘܐ ܙܘܥܐ ܥܫܝܢܐ ܒܡܠܝܛܝܢܝ ܘܐܬܪܗ.



▲ 1284 – 1285 winter

localities	lat.	long.	I	localities	lat.	long.	I
Borsum Kalesi	38 00	38 35	VIII-IX	Melitene	38 26	38 21	VII-VIII?

⟨ 139 ⟩ 1287 February (second half) Western Syria–northern Israel

⟨ 140 ⟩ 1287 March 8 Hims [western Syria]

⟨ 141 ⟩ 1287 March 22 Laodicea

source Ibn 'Abd al-Zahir, *Tashrif*, pp.151-2
historiography Röhricht (1898)
literature Taher (1979)
catalogues d. Sieberg (1932a); *Ben-Menahem (1979); Amiran *et al.* (1994)
catalogues p. Poirier and Taher (1980); al-Hakeem (1988); Bektur and Alpay (1988)

In the month of *Muharram* in the year of the Hegira 686 (which corresponds to the period 16 February – 17 March 1287), and at the beginning of the following month of *Safar*, three strong earthquakes struck what is now the coast of Syria (the territory of Laodicea, present-day Al-Ladhiqiya) and an area of hinterland stretching from western Syria (the territory of Hims) to present-day northern Israel (the territory of Safad, present-day Zefat). The first shocks occurred in the second half of February, and damaged various Mamluk fortresses, including those of Safad and Hims. There was a fresh and violent shock on 8 March, which increased the damage at Hims, where restoration work on military buildings had already begun. The shock occurred on 22 March caused the partial collapse of a quarter of the tower at Laodicea, including the lighthouse, which was then in the hands of the Franks. The serious damage which this military building suffered facilitated the Mamluk conquest of Laodicea on the following 21 April, under the leadership of the sultan Qalawun. The source for this earthquake is the contemporary Arab historian Ibn 'Abd al-Zahir (1233-1293). He is particularly authoritative and reliable because at the time of the earthquake he was secretary to the sultan Qalawun, who was not only one of those chiefly responsible for the Muslim reconquest of the crusader states, but also actively involved during those months in the capture of Laodicea, referred to above:
"The tower [of Laodicea] rose proudly above the whole region. It was sought after by the Muslims and protected by the infidels because it rose up out of the sea without being connected in any way to the land. How could it be taken, if its moat was the sea? The Franks profited greatly from the port of Laodicea, which was comparable in importance to that of Alexandria. God willed it that in the month of *Muharram* in that year [686 H. = 16 February – 17 March 1287], there was a series of earthquakes which damaged some fortresses, including that of Safad. Half way through *Muharram*, our sultan set about repairing the damage. The fortress at Hims was also being repaired, when it was again struck by another shock on 21 *Muharram* [8 March]. During the night of Saturday 5 Safar [22 March], there was an earthquake in the direction of Laodicea which almost completely destroyed its tower in the sea, for God had wanted to give that region to the Muslims by protecting the tower in this way. A quarter of the tower was destroyed. The dovecot was also destroyed, as was the lighthouse which showed the position of the coast. The earthquake was a violent one and made the capture of the tower easier. When he had taken the town of Sahiyun, the Emir Husam al-Din Tarantawi, who was in command

of the sultan's troops, began the march towards Laodicea. They arrived there with catapults, whose tongues and fingers are accustomed to conveying the words and signs of victory. They set down their machines in thoroughly firm positions, and built a stone bridge. Then they thrust the battering ram [? nuqub] against those points which had been weakened in the earthquake, thereby leaving the tower undefended. In this way the position fell into their hands. [The Franks] were convinced that our sultan was fighting with the aid of the angels and earthquakes, and when things went against them, they laid down their arms and surrendered. The tower was captured on Sunday 5 *Rabi' I* [20 April]. The Muslims allowed the Franks to leave with their possessions, obliging them to abandon only their weapons. At midday the cross was removed from the top of the tower, as the muezzin made the call to prayer".

وهذا البرج شمم في أنف تلك الجهات وآفة عليها من أكبر الآفات طالما أصبح وأمسى
حسرة في قلب المسلمين وذخيرة لأعداء الدين وذلك أنه في وسط البحر لا تسلك
إليه طريق من بر ولا يتقلب له سور كيف وخندقه البحر وكان يتحمل له للافرنج
مال كثير من ميناء اللاذقية التي هي مثل ميناء الاسكندرية وقدر الله أن الزلازل
في شهر المحرم من هذه السنة كثرت وفي الحصون أثرت فمنها ما أثر في أسوار صفد
المحروسة وتدارك مولانا السلطان تلافيها وإصلاح ما تهدم فيها وذلك في نصف المحرم و
من ذلك ما حصل في قلعة حمص في حادي عشرين المحرم من هدم أسوارها وما كاد
يأتي على محو آثارها وتدارك ذلك بالعمل والاتقان حتى كأن الهدم ما كان. ولما كان
ليلة السبت خامس صفر جاءت زلزلة عظيمة في جهة اللاذقية هدمت أكثر برجها
الذي في وسط البحر لأمر يريده الله للمسلمين من الخير وهذا البرج كان مالك
عصمتها وروح حرمتها فهدمت الزلزلة منه ربعه وهدمت برج الحمام وما كان القنديل
الذي يستضاء به منها ويستدل به في البحر وكانت زلزلة عظيمة شديدة وكان ذلك
من الأسباب التي سهلت فتحه ومردت صرحه. فلما فرغ الأمير حسان الدين طرنطاي
مقدم العساكر من صهيون وانتظمت في جيش المماليك السلطانية عقودها وضمت
برودها عدل إلى جهة اللاذقية وأحضر إليها المجانيق التي لا تبرح تنطق بالنصر
ألسنتها وتشير بالظفر أصابعها ونصبها في أمكنة لا يثبت بها قدم المار ومد عليها
جسرا من الحجار وأخذت النقوب من جهة الأمكنة التي هدمتها الزلزلة وكشفتها من
جهة البحر غير مهملة ولا سهلة فعند ذلك سقط في أيديهم ورأوا أنهم يخلون إن
استمروا في تماديهم وتحققوا أن سلطاننا بملائكة يقاتل ومن جملة أعوانه الزلازل. وأن
حماتهم ما بقي يطير وقبسهم ما بقي ينير فسلموا وطلبت مناجق مولانا السلطان
عليها في يوم الأحد الخامس من شهر ربيع الأول فأمنوا على الخروج بنفوسهم
وأموالهم وأنهم يتركون ما به من عدد وسلاح وتسلم وقت الظهر من اليوم المذكور
ورمي الصليب من أعلاه عند قول المؤذن الله اكبر وتوجه كل من أهله إلى جهته.

▲

1287 02 – localities	lat.	long.	I	localities	lat.	long.	I
Hims SYR	34 44	36 43	VII -VIII	Zefat IL	32 58	35 30	VII-VIII

1287 03 08 localities	lat.	long.	I
Hims	34 44	36 43	VII?

1287 03 22 localities	lat.	long.	I
Al-Ladhiqiya	35 31	35 47	VIII

⟨ 142 ⟩ 1287 May 16 Erznka [eastern Turkey]

sources I *Chron. min. Arm.*, II.4, p.148; Sam. An., *ad ann.* arm. 740; chronicle in Yovsep'ean (1951, col527 f.)

sources 2 *Chron. min. Arm.*, II.11, p.264.18-19; Ar. Tabr., *Book*, p.470
historiography Incicean (1822)
literature Abich (1882)
catalogues d. Kostaneanc' (1902); Grumel (1958); Step'anyan (1964); Zeyt'unyan (1991)
catalogues p. Ergin *et al.* (1967); Karapetian (1991)

On 16 May 1287, there was a strong earthquake at Erzincan, in present-day Turkey. It must have caused extensive damage, since we are told that there were many victims. The principal source for the earthquake is the contemporary work known as the *Annals of the Anonymous of Sivas* (*Chron. min. Arm.* II.4) which records, in a context relating to the year 736 (9 January 1287 – 8 January 1288):
"In the same year, on 16 May, a strong earthquake occurred at Eznkay. Many people died, and only God knows their number".

Ի սոյն ամի ի մայիս Ձ եղև շարժ մեծ յեզնկայ և բազումք մեռան, զորոյ թիւն Աստուած միայն գիտէ.

The earthquake is also recorded in other Armenian sources, but with different datings. The continuation of Samuel of Ani gives the date as 740 (8 January 1291 – 7 January 1292); similarly, the chronicle in Arm. Jerus. ms. 343 (in Yovsep'ean 1951, no.239), which continues Michael the Syrian up to 1346, reports the destruction of Erzincan by an earthquake in:
"1292 [*sic*] = 739. The earthquake destroyed Eznkay".

ՌՄՂԹ ՁԼԹ Շարժմամբ կորնանեցաւ եզնկայն.

Abich (1882, p.443) dates the earthquake to 1290, on the basis of evidence from Arakel of Tabriz, whose information is similar to that in Gregory of Kamakh; but this information actually concerns a different earthquake, namely that of 1280-1281 (see the entry concerned). Kostaneanc' (1902, p.10; 21, followed by Step'anyan 1964, p.62, who creates a doublet) dates the earthquake to 1289, whereas Incicean (1822, p.17) had already listed one earthquake in 1287 and another in 1290. This is probably a case of duplication of the earthquakes of 1280-1281 and 1287.

▲ 1287 05 16

localities	lat.	long.	I
Erzincan	39 44	39 30	IX

⟨ 143 ⟩ 1289 June Constantinople [north-western Turkey]

source Pachym., *Relat. hist.*, 8.11, III, p.151
catalogue d. Evangelatou-Notara (1993)

This earthquake is unknown to the seismic catalogue tradition, being recorded only by Evangelatou-Notara (1993). On an unspecified day in June 1289, an earthquake was felt at Constantinople, but its effects are not recorded. This is probably a case of a distant epicentre. The earthquake occurred during a synod summoned after the resignation of the patriarch Gregory II. Information about this earthquake is to be found in Pachymeres, a contemporary Byzantine historian, who tells us that the clergy:
"[...] met with the emperor in the great palace, when a sudden earthquake struck their meeting and banished all doubts".

[...] κατὰ τὸ μέγα παλάτιον συνάμα βασιλεῖ συναχθέντων, σεισμὸς ἐνσκήψας ἐξαίφνης τὸν σύλλογον ἐκείνων καὶ τὴν σκέψιν διέλυεν·

The only chronological reference provided by Pachymeres is the resignation of the patriarch Gregory II, which took place in June 1289. According to Evangelatou-Notara (1993, p.34) the earthquake occurred before 14 June, the day when Athanasius I ascended the patriarchal throne. This suggestion proves to be mistaken, however, because Athanasius began his first patriarchate on 14 October 1289.

▲ 1289 06 –

localities	lat.	long.	I
Istanbul	41 02	28 57	F

⟨ 144 ⟩ 1293 January 11 – February 8 [*Safar* 692 H.] Al-Karak [Jordan]

sources Ibn al-Furat, *Ta'rikh*, VIII, p.153; al-Maqrizi, *al-Suluk*, I, p.783; BNFrance, ms. Ar. 6739, al-Jazari, *Jawahir al-Suluk*, fol.90v.-91r.; ms. Ar. 1578, al-Nuwayri, *Nihayat al-arab*, fol.164r.; Ibn Kathir, *al-Bidaya*, XIII, p.233
literature Taher (1979); Klinger *et al.* (2000)
catalogues d. Sieberg (1932a); Amiran *et al.* (1994)
catalogues p. Poirier and Taher (1980); al-Hakeem (1988)

In the month of *Safar* in the year of the Hegira 692, which corresponds to the period 11 January – 8 February 1293, a strong earthquake struck Palestine, causing the most serious damage at Al-Karak, to the east of the Dead Sea (now Jordanian territory). Three towers in the citadel collapsed, as well as some other buildings. There was also comparable damage at the nearby town of At-Tafilah, where many building collapses are reported. In the coastal area (now part of Israel), there was serious damage at Ramla, where the earthquake followed a devastating flood, and caused the minaret of the congregational mosque to collapse. The earthquake also caused damage, not specified, at Gaza, Lydda (present-day Lod) and Qaqun.
The reports of this earthquake in Arabic sources are all very similar, except in the case of Ibn Kathir, who is the only historian to mention At-Tafilah amongst the places that suffered damage. The contemporary Damascene writer al-Jazari (1260-1338) reports:
"In that year [692 H. = 1292-1293], there was a violent earthquake in the towns of Gaza, Ramla, Ludd [Lydda], Qaqun and Karak. The worst damage was at Karak, to the extent that three of the citadel's towers were destroyed, as were a number of buildings. The earthquake occurred during the month of *Safar* [692 H. = 11 January 1293 – 8 February 1293], and the news reached Damascus at the same time as the sultan's order, in the month of *Rabi' I* [692 H. = 9 February 1293 – 10 March 1293], to send 'Ala' al-Din al-Shuja'i, one of the emirs of Damascus, together with a group of artisans, engineers and stonecutters, with a large quantity of tools to rebuild those parts of the citadel at Karak which had been destroyed".

وفيها حصل ببلاد غزة والرملة واللد وقاقون والكرك زلزلة عظيمة وكان معظم تأثيرها بالكرك بحيث انهدم ثلاثة ابراج من قلعتها وبنيان كثير من دورها. وكانت الزلزلة في شهر صفر ووصل الخبر الى دمشق ومرسوم السلطان في ربيع الاول بالبريد بتجريد الامير علاء الدين الشجاعي أحد امراء الشام وفي صحبته جماعة من الصناع والمهندسين والحجارين والالات الكثيرة لعمارة ما تهدم من قلعة الكرك.

Al-Nuwayri (1279-1332) provides a briefer report:
"In this year, during the month of *Safar* [692 H. = 11 January 1293 – 8 February 1293], there was a violent earthquake at the towns of Gaza, Ramla, Ludd [Lydda], and Karak. Karak was particularly affected, for three towers of its citadel were destroyed, and the Emir 'Ala' al-Dine of Damascus was sent with some artisans to rebuild what had been destroyed there".

1293
January 11 –
February 8

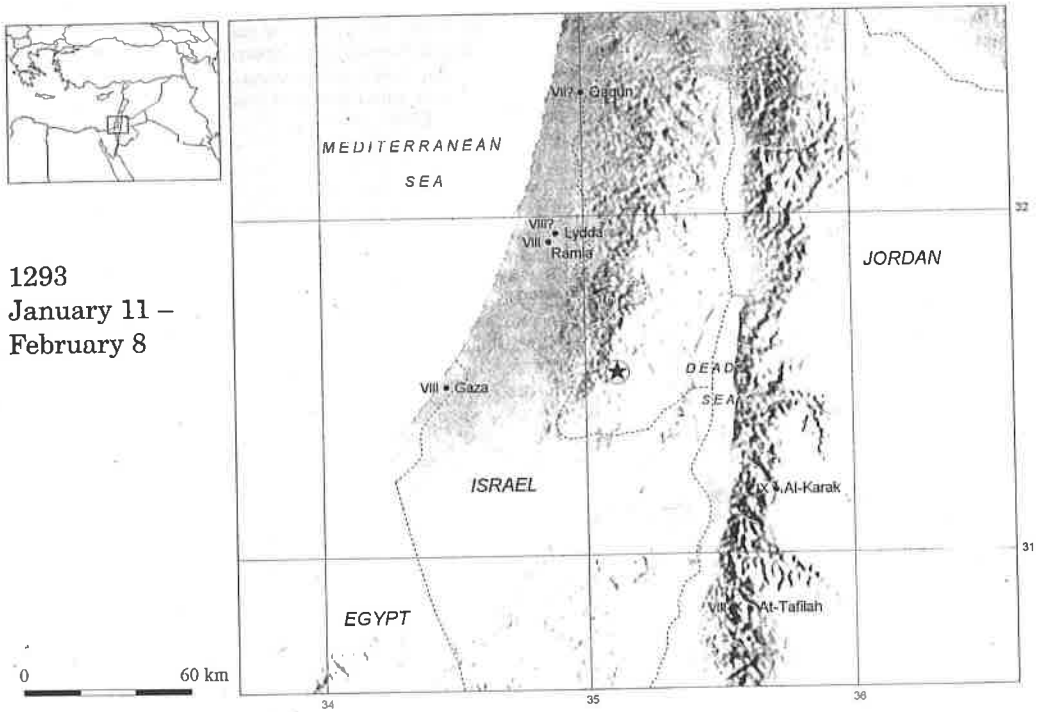


fig. 63

وفيها حصل ببلاد غزة والرملة واللد وقاقون والكرك زلزلة عظيمة وكان معظم تأثيرها بالكرك بحيث انهدم ثلاثة ابراج من قلعتها وبنيان كثير من دورها. وكانت الزلزلة في شهر صفر ووصل الخبر الى دمشق ومرسوم السلطان في ربيع الاول بالبريد بتجريد الامير علاء الدين الشجاعي أحد امراء الشام وفي صحبته جماعة من الصناع والمهندسين والحجارين والالات الكثيرة لعمارة ما تهدم من قلعة الكرك.

As already mentioned, the evidence provided by Ibn Kathir (1300-1373) is important, because it also tells of damage at Tafila:
"In the month of Safar [692 H. = 11 January 1293 – 8 February 1293], it was very cold in Syria, and in that year there was an earthquake at Karak and many buildings were destroyed at Tafila".

وفي صفر منها وقع بدمشق برد عظيم وفيه زلزلت ناحية الكرك وسقط من تلفيتا اماكن كثيرة

Finally, al-Maqrizi (1364-1442) records:
"In the month of *Safar* [692 H. = 11 January – 8 February 1293], the towns of Ghaza, Ramla, Ludd and especially Al-Karak, were struck by a violent earthquake. Of the towers at Al-Karak, three were destroyed. A message from al-Ghars ibn Shawr, governor of Ramla, told that there had been incessant rain, causing destruction in fields and houses. The flood knocked down bridges and mills on the river 'Awja'. The bodies of eleven drowned lions were found in the flood waters. Immediately after the flood, a tremendous earthquake struck the coastal towns. The earthquake caused destruction in many places; and the minaret of the congregational mosque at Ramla was so badly cracked that it collapsed. The governor was ordered to assess the damage, and the Emir 'Ala' al-Din Aydgudi al-Shuja'i was sent with labourers and skilled workers to rebuild what had collapsed at Al-Karak".

وفي صفر الشهر المذكور حصل ببلاد غزة والرملة ولد والكرك زلزلة عظيمة كان معظمها بالكرك فإنها هدمت ثلاثة أبراج من قلعتها وبورد كتاب الأمير ابن شاور والي الرملة أنهى فيها وقوع الأمطار وتوالي الأشتية في الليل والنهار وهدمت أماكن كثيرة من البيوت والعقود في الرملة وقطع السيل جسورها وخربت طواحين العوجاء وكسر حجارتها وآلاتها ووجد على السيول أحد عشر أسدا موتى قد غرقوا بالسيل وجاءت عقيب هذه السيول زلزلة عظيمة اشتد أمرها في البلاد الساحلية وهدمت أماكن كثيرة وانشقت منارة جامع الرملة وسقطت وكتب إليه بأن يعمل لها تقدير فندب الأمير علاء الدين ايدغدى الشجاعي من دمشق وخصيته الصناع لعمارة ما انهدم بالكرك.

▲ 1293 01 11 – 02 08 [*Safar* 692 H.] ⊛ 31 32 35 07 Io = VIII-IX Me = 5.8 Sites: 6

localities	lat.	long.	I	localities	lat.	long.	I
Al-Karak HKJ	31 11	35 42	IX	Lod IL	31 57	34 54	VIII?
At-Tafilah HKJ	30 50	35 36	VIII-IX	Ramla IL	31 56	34 52	VIII
Gaza GS	31 30	34 28	VIII	Qaqun IL	32 22	35 21	VII?

⟨145⟩ **1293 March Pistoia area [Tuscany, central Italy]**

sources 1 ASPt, *Opera di S.Jacopo*, 1, fol.64v, 31 August 1293;
Tol. Lucca, *Ann.*, p.219; *Chron. Parm.*, p.66; *Cron. sen.*, p.77; *Stor. pistor.*, p.16

sources 2 ASFlorence, *Mss.*, 222, *Priorista*, fols.48-9; BAVat., *Chigiani*, G.I.31-35, G.II.36-40, Tizio, *Hist.*, fol.145r.; ASPr, *Mss.*, 40, Edoari da Erba, *Comp.*, 16th c.; Villani G., *Nuova cron.*, II, p.45; Manetti, *Chron.*, col.1014

historiography Salvi (1656-62); Lancellotti (1673); Fioravanti (1758); Muratori (1762-64); Inghirami (1841-43); Moroni (1840-79); Davidsohn (1908); Gai (1984)

literature Castelli (1991, 1993); Castelli and Monachesi (1996)

catalogues d. Bonito (1691); Perrey (1848); Mallet (1853); Mercalli (1883); Baratta (1901); *Boschi *et al.* (1995, 1997, 2000)

catalogues p. Giorgetti and Iaccarino (1971); Carrozzo *et al.* (1973); Postpischl (1985); CPTI (1999)

The numerous sources which record this earthquake on March 1293 provide information solely about the city of Pistoia and its hinterland. In the city many houses collapsed and others were damaged, a vault in the cathedral fell down, and the columns of the altar of S.Jacopo were damaged. The top of the tower at the town hall also collapsed, and there were many deaths in the city and its surroundings. The life of the city was disturbed by the event, for many people left, taking refuge in tents or fleeing into the mountains. A source hitherto unknown to the seismological tradition has been discovered during our inquiry in the Archivio di Stato at Pistoia. It is in fact an administrative decision by the *Opera* of S.Jacopo (the body responsible for the upkeep of the building), dated 31 August 1293, approving expenditure for repairing the columns of the altar of S.Jacopo in the cathedral, which had been damaged in an earthquake:
"To the blacksmith master Comando and to master Jacopo da Como, for ironwork, lead, mastic, and the work of repairing the marble columns which support the ciborium of S.Jacopo, which were destroyed or damaged at the time of the earthquakes, so that they shall no longer be in disrepair and shall stand better and more firmly, 2 *lire* and 7 *soldi*".

magistris Comando fabro et Iacobo de Como pro ferramentis, plumbo, mastrice et magisterio eorum pro reaptando columpnas marmoreas que sunt et sustinent civorum sancti Iacobi, que erant devastate et scisse tempore terremotorum, ne amplius

There is evidence of damage at Bojano in an order from Charles II of Anjou, drawn up on 15 May 1294 and addressed to the justiciar of the *Contado* of Molise:
"[in the margin: Boiano is suffering as a result of an earthquake Earthquake]. Exemption from half the tax due from the community of the town of Bojano which, as an enquiry reveals, has suffered severe damage from the unfortunate recent earthquake, which caused the death of many men and women, 15 May of the seventh indiction, in the year 1294, folio 159".

Boiano. patisce dal terremoto Terremoto. Universitati terre Boiani, quae ex infelici eventu preteriti terremotus damna gravia pertulit, sic quod marium, et feminarum, facta est magna strages, prout ex inquisitione constat, remissio medietatis collectarum, sub die 15 madii 7 indictionis anno 1294 folio 159.

A fuller version of this document (once preserved in the Archivi della Regia Zecca of Naples) is transcribed in Bonito (1691, p.530):
"To the community of the town of Bojano, which asks for immunity from tax because of the earthquake it has suffered, the king declares that he assents. Since an investigation carried out at the behest of Charles, eldest son of our king of Hungary and Prince of Salerno, who was then Vicar General, shows that because of the sad event of the recent earthquake the town of Bojano suffered such serious damage that a great many men and women were killed, deeming it appropriate that the surviving people of that town should have some respite from their usual [tax] burden, since they themselves declare that they could not otherwise survive in that place; therefore we exempt them from half of the general tax, etc. given this 15 May of the seventh indiction, in the year 1294 of the reign of Our Lord and the tenth year of the king's reign".

Universitati Terrae Bojani petenti immunitatem a Collectis ob Terraemotum passum, Rex indulget asserens. Quia per inquisitionem factam de mandato Caroli primogeniti nostri Regis Ungariae Principis Salernitani, tunc Vicarii Generalis constat, quod ex infelici eventu praeteriti Terraemotus terra Bojani damna gravia pertulit, sic quod marium, & fœminarum facta extitit magna strages, dignum reputantes quod residui homines dictae terrae de consuetis oneribus reportent aliquid relevamen, cum ipsi etiam asserant aliter inibi vivere non valere; Propterea relaxamus eis medietatem generalis subventionis, &c. sub datum die 15 Maii septimae Indictionis anno 1294 Regnorum Domini Regis anno 10.

Charles II's order sent to the justiciar of Capitanata on 15 April 1294 grants compensation to Bertrand of Belmonte, a locality in Samnium struck by the earthquake:
"[in the margin: Earthquake at Belmonte in the Kingdom]. Order for the payment of 120 *unciae* to the knight Bertrand of Belmonte, as compensation for losses suffered in the earthquake which caused damage to that area this year. To the justiciar of Capitanata, 15 April of the seventh indiction [1294], folio 245".

Belmonte Terremoto in Regno
Bertrando de Bellomonte militi provisio pro solutione unciarum 120 in compensationem damnorum passorum ex terremotu qui hoc anno praesenti in partibus illis imminuit, et dirigitur iustitiario Capitanate sub die 15 aprelis 7e indictionis folio 245.

The order sent by Charles II of Anjou to the justiciar of the Terra di Lavoro in May 1296, again in favour of Bertrand of Belmonte, states: "[in the margin: Belmonte Earthquake]. Order in favour of the knight, Bertrand of Belmonte, to whom we have granted 120 *unciae* in compensation for damage suffered in the earthquake in the year of the seventh indiction, this sum to be in full and final payment. Folio 25 verso".

Belmonte Terremoto Bertrando de Bellomonte militi cui concessimus uncias 120 in compensationem damnorum que passus est ex terremotu infra annum 7e indictionis provisio quod cum effectu solvantur. Folio 25 tergo.

A further administrative order, drawn up in 1297 in favour of Bertrand of Belmonte again, has been transcribed by Bonito (1691, p.531):
"To Francesco Pandono of Capua, Valet of the Royal Chamber and member of the household, in the name of and on behalf of his father-in-law, signor Bertrand of Belmonte, who is granted the right to harvest grain in compensation for damage which the said Bertrand suffered to his property in the latest earthquake".

Francisco Pandono de Capua Camerae Regiae Vallicto familiari, nomine, & pro parte Domini Berterandi de Bellomonte Soceri sui conceditur facultas extrahendi frumentum in recompensationem damnorum, quae dictus Berterandus passus est in bonis suis ex Terraemotu proximo successo.

Since the chronicler Tolomeo da Lucca was in southern Italy in 1293, he was close to the event in place as well as in time. He records it in his *Annales* as follows:
"The year of Our Lord 1293 [...]. In the same year there were earthquakes in various places, near Naples that is to say, and especially in the valley of Bojano, where many villages and *castelli* were reduced to ruins, and many people died there".

Anno Domini MCCLXXXXIII [...]. Eodem anno fuerunt terremotus per diversa loca, nam versus Neapolym et precipue in valle de Buiano, ubi ruerunt multe ville et castra, multeque persone ex hoc ibidem perierunt.

In his *Historia ecclesiastica nova*, Tolomeo da Lucca also writes:
"In the period when the papal throne was vacant [from 4 April 1292, when pope Nicholas II died, and 5 July 1294, when Celestine V was elected], many strange things occurred in the world. In Italy in particular there were many earthquakes, especially in the vicinity of Naples, and in the valley of Bojano, for castles and other villages were reduced to ruins, and many people died there".

In ista vacatione multae novitates apparuerunt in mundo, primo quia in Italia fuerunt multi terraemotus, seo maxime versus Neapolim, in valle videlicet de Bivano, quia ruerunt castra, et villae, et multae personae perierunt ibidem.

In both chronicles, Tolomeo da Lucca uses similar terminology to record the earthquake, but in the *Annales* he specifies the year as 1293, and the name of the locality changes from "Bivano" to "Buiano". The town is now called Bojano, and lies about 90 km from Naples. Baratta (1899) catalogued a earthquake at Naples in 1293 on the basis of Salazaro (1877), who reported damage to the church of S.Maria di Donnaregina in Naples as a result of an earthquake which he simply dated to 1293. The evidence resulting from our research makes it appropriate to attribute this damage to the earthquake of 4 September 1293.

▲ 1293 09 04 ⊛ = 41 18 14 33 I_0 = VIII-IX Me = 5.8 Sites: 6

localities	lat.	long.	I	localities	lat.	long.	I
Bojano	41 29	14 28	IX	Isernia	41 36	14 14	VII-VIII
Tocco Caudio	41 07	14 38	VIII-IX	Naples	40 51	14 16	VII
Belmonte del Sannio	41 49	14 25	VII-VIII	Sessa Aurunca	41 14	13 56	VI-VII

⟨ 147 ⟩ **1293 December 2 – 1294 November 20** [693 H.] **Cairo [Egypt]**

sources al-Suyuti, *Kashf*, p.50; al-Suyuti, *Husn*, II, p.210
catalogue d. *Ambraseys *et al.* (1994)

In the year of the Hegira 693, which corresponds to the period 2 December 1293 – 20 November 1294, there was a strong earthquake in the Cairo area, which damaged the

mosque in new Cairo and dislodged some columns in then the 'Amr mosque in the Fustat district. As Ambraseys *et al.* (1994) have maintained, it is possible that this earthquake and the one recorded as occurring in Palestine in January – February 1293 are in fact the same one; but the sources do not provide sufficiently precise information to confirm that.
The earthquake in Egypt is recorded by the famous Cairo Arab historian, al-Suyuti:
"There was so strong an earthquake throughout the area (*iqlim*) of the city of Cairo (*Misr*) that some columns in the Amru mosque struck against one another. However [the effects] were slighter than those in the cathedral mosque of new Cairo (*al-Qahira*)".

كانت زلزلة أثرت في سائر إقليم مصر حتى أن بعض جامع عمرو انفصل بعضه عن بعض وكان أخف مما حدث في جامع القاهرة.

▲ 1293 12 02 – 1294 11 21 [693 H.]

localities	lat.	long.	I
Cairo	30 03	31 15	VI-VII?

⟨ 148 ⟩ 1295 September 1 – 1296 August 31 [6804 B. s.] Sicily [southern Italy]

source *Notula* in Evangelatou-Notara (1984, p.173, no.571)
literature Guidoboni and Traina (1996); Valensise and Guidoboni (2000)

This earthquake is known to historians, but is not listed in currently used Italian catalogues. On an unspecified day between 1 September 1295 and 31 August 1296, there was a destructive earthquake in Sicily, causing town walls to collapse at unspecified places.
The earthquake is recorded in a *Notula* published by Evangelatou-Notara (1984, p.63, no.203), but not in her catalogue of earthquakes in the Byzantine region and areas under Byzantine influence (Evangelatou-Notara 1993). It was not previously known to the tradition of seismological studies, but has been mentioned by Guidoboni and Traina (1996, pp.1215-6), within the framework of a review of earthquakes in Sicily up to the end of the 13th century.
The source is a *Notula* in a *Typikon* (a liturgical book of the Byzantine Church) belonging to the Greek liturgical tradition (ms. *Vaticanus Graecus*, 1877, fol.13v.). It states: "[...] at the tenth hour of the night, there was a great earthquake in the island of Sicily [...] with the result that all the walls collapsed. In the year 6804 [1 September 1295 – 31 August 1296], in the ninth indiction".

[...] ωρα δεκάτ(ε) τῆς νυκτος ἐγένετο σισμός μέγας ἐν τῇ νήσω Σικελ(ίας) [?ώσ]τ[ε] κλωνεῖσθ(αι) τὰ τύχ(ε) πάντ(α)· Ἐν ἐτ(ει) ,ϛωδ΄ ἰνδ(ικτιω)ν(ος) θ΄.

Evangelatou-Notara (1984, p.173 no.571) simply gives the year 1296, without explaining the reasons for her choice.

▲ 1295 09 01 – 1296 08 31 [6804 B. s.]

localities	lat.	long.	I
▪ Sicily	37 30	14 00	VIII-IX

⟨ 149 ⟩ 1296 June 1 Constantinople [north-western Turkey]

⟨ 150 ⟩ 1296 June 13 Constantinople

sources 1 Pachym., *Relat. hist.*, 9.15, III, pp.259, 261; Gregoras, *Hist.*, 6.9, I, pp.202, 215-16; *Notula* in Mercati and Franchi de' Cavalieri (1923, p.226) and Turyn (1964, pp.91-2); *Notula* in Richard (1955, pp.332-3), previously in Lampros (1910, p.137, no.39)
source 2 [Sphr.], *Chron. Maius*, p.176
literature *comets*: Oppolzer (1887)
historiography Grecu (1966); Müller-Wiener (1977); Ducellier (1980)
catalogues d. Bonito (1691); Perrey (1850); Mallet (1853); Schmidt (1881); Dück (1904); Downey (1955); Galanopoulos (1955); Grumel (1958); Galanopoulos (1961); *Galanopoulos (1981); Ambraseys and Finkel (1991); Evangelatou-Notara (1993); *Papazachos and Papazachou (1997)
catalogues p. Ergin *et al.* (1967); Shebalin *et al.* (1974)

Towards midnight on 1 June 1296, a strong earthquake struck Constantinople, causing the collapse of many ancient buildings, destroying many new buildings as well, and producing cracks in the city walls. At the church of All Saints, which had already been damaged in the earthquake of 1010, part of the roof collapsed above the altar and the nave. A bronze statue of the Archangel Michael, erected by the Emperor Michael VIII Palaeologus (1261-1282), also fell from its position on a column. The Emperor Andronicus II Palaeologus (1282-1328) was away from Constantinople at the time, but immediately returned to the city. This eartquake was compared in strength to an earlier earthquake — perhaps that of 11 March 1231. A succession of minor shocks continued during the months of June and July; on 13 June there was a powerful shock.
The emperor had the statue of the Archangel Michael restored, as well as the city walls (Müller-Wiener 1977, p.293). The church of All Saints does not seem to have been restored, however, and it lay in ruins until the end of the 14th century. In 1391, its stone was used for rebuilding the Golden Gate (Müller-Wiener 1977, p.406).
Information about this earthquake can be found in two contemporary Byzantine historians, Pachymeres and Nicephorus Gregoras, as well as in some Byzantine *Notulae*. Pachymeres is the richest source of information. Within the context of June 1296, he relates:
"And on the first day of the month, in the evening, as midnight was approaching, there was a great earthquake, which caused living bodies to pulsate. Authors who wrote about it say that these pulsations were extremely disastrous, because they passed through the undersoil and shook foundations. Neither young nor old had experienced an earthquake of greater or even of equal power. Some of the elderly compared it to the 'great' earthquake. So this one, too, lasted for many days, and often by day or night the aftermath of the exhalation was experienced until 17 of *Asterion* [an archaism for July], but less powerfully [...]".

Καὶ τῆς πρώτης τοῦ μηνὸς ἑσπέρας, περί που τὸ μεσονύκτιον, σεισμὸς ἐμπίπτει μέγας, κατὰ τοὺς τῶν ζώντων σωμάτων σφυγμούς· οὓς μᾶλλον καὶ δεινοὺς οἱ περὶ τούτων γράψαντες λέγουσιν, ὡς κάτωθεν διιέντας καὶ ὑποσπῶντας θεμέλια. Τόσος γοῦν ὁ τότε ὥστε καὶ μηδένα ἔχειν μὴ παλαιὸν μὴ νέον εἰδέναι, μὴ ὅτι γε μείζω, ἀλλ' οὐδ' ἴσον πώποτε. Τινὲς δὲ τῶν ἤδη γεγηρακότων τῷ κατ' ἐξοχὴν λεγομένῳ μεγάλῳ ἐκεῖνον παρείκαζον· οὕτω γὰρ καὶ τοῦτον ἐφ' ἡμέρας πλείστας ἐπισημαίνειν καὶ πλειστάκις τῆς ἡμέρας ἢ καὶ νυκτὸς προφαίνειν κατὰ μικρὸν τὰ τοῦ πνεύματος ἐγκαταλείμματα, ὥστε καὶ ἀνθεστηριῶνος ἑπτακαιδεκάτῃ ἐνταῦθα μὲν πλείω μὲν τὸ τοῦ χρόνου μῆκος γενέσθαι, μαλακώτερον δὲ τῇ δυνάμει [...].

Pachymeres goes on to deal with an earthquake at Pergamum and Chliara on 17 July 1296, and then returns to describing the effects of the earthquake of 1 June at Constantinople:
"The first earthquake, which we have described as 'great', struck the City [of Constantinople] violently, causing the collapse all round it of many buildings which had been there since ancient times; and it also destroyed many new buildings. The ornamental dry-stone cornices of walls could be seen in heaps on the ground, looking like the piles of stones which builders bring in from other places when they are preparing

court. The pope took refuge in the Dominican convent in Rieti, for it was situated in a higher and firmer spot, and there he lay down in the convent garden when a small tent with thin poles had been set up. Then men left at night and fled into the fields, staying out in the open for fear that buildings would collapse on top of them, and they waited in great fear. Here and there men and oxen fell down, for the earth shook and trembled with unusual movements".

Anno Domini MCCXCVIII Bonifatius papa cum sua curia Reate residente, dominica prima Adventus Domini, in festo beati Andree apostoli, incepit Reate et vicinis partibus vehemens terre motus qualem et quantum nullus tunc vivens viderat prius. Diruitque multa edificia in pluribus locis, multisque diebus et noctibus perduravit, non quidem continue, sed per plures vices in die pariter et in nocte; timoremque non modicum incussit pape et cardinalibus ac toti curie. Confugitque papa ad claustrum Predicatorum Reate, qui in altiori et solidiori loco positi erant; ubi in claustri prato facto tentoriolo festinanter de subtilibus asseribus conquievit. Homines vero de nocte ibant et fugiebant ad campos, sub divo manentes, edificia ne super se corruerent formidantes, in timore magno espectantes. Cadebantque passim homines et iumenta, cum terra tremeret et motibus nutaret insolitis.

There is a brief reference to the earthquake in the *Annales* of Tolomeo da Lucca:
"At that same time [1298], there were very great earthquakes at Rieti, where the papal court was in residence, and it shook the papal palace and caused many of the town's towers to collapse".

In eodem tempore fuerunt terremotus permaximi apud Reatem, ubi curia erat, commovitque palatium pape et multas turres civitatis ruere fecit.

This reference is taken up by the continuer of his *Historia ecclesiastica.*
Giovanni Villani (who died in 1348 during the plague) gives Spoleto as well as Rieti as one of the towns struck by the earthquake, and also wrongly dates to that year (1298) an earthquake which actually struck Pistoia (in Tuscany) in 1293 (see the entry concerned). The Rieti earthquake thus became famous through the presence of the pope, and no more than half a century later caused a distortion in the dating of what was considered a less important event, by attracting it to its own date. Thus Villani writes:
"Of the great earthquakes which occurred in certain towns in Italy.
In the said year [1298], there were many earthquakes in Italy, especially in the towns of Rieti and Spoleto, and in the town of Pistoia in Tuscany. Many houses, palaces, towers and churches collapsed in these towns [...]".

De' grandi tremuoti che furono in certe città d'Italia.
Nel detto anno furono molti tremuoti in Italia, spezialmente nella città di Rieti e in quella di Spuleto, e in Toscana nella città di Pistoia, ne le quali cittadi caddono molte case, e palazzi, e torri, e chiese [...].

The earthquake is also recorded in contemporary chronicles from other parts of Europe, thereby demonstrating that the presence of the pope in Rieti gave it a certain celebrity in European culture. The *Compendium historiarum* of Sifridus de Balnhusin (now Gross-Ballhausen, in the district of Erfurt in Thuringia, Germany), was known to Bonito (1691), but escaped the notice of Baratta (1901). It records the earthquake in considerable detail:
"In the same year [1298], before Christmas, a great and amazing earthquake began [...] and spread for three days as far as the town of Rieti, where pope Boniface and the cardinals were then residing, and for three days it spread from Rieti as far as the walls of the city of Rome. The earthquake was so violent that it destroyed many towers and houses in various villages and towns, their collapse causing an unknown number of men and women to be struck and killed. Just as pope Boniface himself was preparing to celebrate mass at the altar, he was suddenly thrown to the ground by a terrible shaking and noise, while the walls of the church shook and pieces of stone became detached from the walls. Nor is that all. The terrible shaking produced by this event caused the pope to grow faint, and although he was protected by the crowd of cardinals and soldiers, he collapsed into the arms of his priests, and after being taken out of the church with difficulty, fled with everybody else. In that same year, a star had been seen which was said to be a comet".

Eodem anno ante nativitatem Domini magnus terremotus et inauditus cepit fieri [...] et protendebatur per tres dietas usque Reatum civitatem, in qua tunc morabatur papa Bonifacius cum cardinalibus, et de Reatu per tres dietas usque ad muros urbis Rome. Fuit autem tam vehemens ille terremotus, ut in diversis castris et civitatibus multas turres et domos subrueret, quarum ruina quot homines utriusque sexus obruti et perempti fuerint, quis enarrare sufficiat? Ipse denique papa Bonifatius, dum altari divina celebraturus astaret, subito terra horribili motu et stridore concutitur, parietes basilice quatiuntur, lapides collisi ad invicem dissecantur. Quid plura? Papa ex huiusmodi strepitu terribili defecit viribus, et licet vallatus esset turba cardinalium et militum, inter manus ministrorum corruit, vixque eductus de ecclesia, fugam cum ceteris iniit. Hoc anno visa fuerat stella que dicitur cometes.

The comet referred to by Sifridus is almost certainly the one which was actually seen between late January and early March 1299, as William of Nangis records in more detail in his *Chronicon*, and as also appears in Chinese, Korean and Japanese sources (Ho Peng Yoke 1962, p.194; Yeomans 1991, p.400). Brief references to the earthquake appear in the *Chronicon* of William of Nangis, in the continuation of the *Annales Rotomagenses* from the monastery at Rouen (the latter wrongly gives Viterbo instead of Rieti as the temporary seat of the papacy), and in the *Flores historiarum*, a chronicle which has been incorrectly attributed to Matthew of Westminster. On the other hand, there are more substantial and detailed reports in the *Annales de Wigornia* compiled in the monastery at Worcester, perhaps by Nicholas of Norton, who was custodian of the cathedral there, and in the *Continuationes Anglicae fratrum Minorum*, which are a continuation of the chronicle of Martin of Troppau. Since none of the above chronicles add further information to what is provided by sources from Italy, we do not transcribe their text.

▲
1298 11 30

localities	lat.	long.	I
Rieti	42 24	12 52	V-VI

1298 12 01 ⊛ = 42 34 12 54 Io = IX-X Me = 6.2 Sites: 5

localities	lat.	long.	I	localities	lat.	long.	I
Vetranola	42 39	12 55	X	Spoleto	42 44	12 44	VIII
Poggio Bustone	42 30	12 53	IX-X	Rome	41 54	12 29	F
Rieti	42 24	12 52	VIII				

⟨ 154 ⟩ **1298 December 1 Egypt**

⟨ 155 ⟩ **1299 January 8 Egypt**

source BNFrance, ms. Ar. 6739, al-Jazari, *Jawahir al-Suluk*, fol.280v.
catalogue d. *Ambraseys *et al.* (1994)

Between December 1298 and January 1299, Egypt was struck by a strong seismic sequence, consisting of two shocks. The first occurred during the evening of 1 December 1298 and is reported as having been felt in two phases, whereas the second and stronger shock occurred on 8 January 1299. No damage is recorded.
The source for this earthquake is the contemporary Damascene writer al-Jazari (1260-1338). For the first earthquake, he strangely provides the date in the Christian as well as the Muslim calendar, but makes an error of 4 days in the conversion:
"On 24 *Safar* [698 H. = 1 December 1298], which corresponds to 5 December, there was an earthquake in the region of Egypt after the last evening prayers, and it took the form of two earthquakes, lasting as long as it takes to recite five versets of the Koran. And on 3 *Rabi' II* [698 H. = 8 January 1299], there was a more violent earthquake in Egypt than had ever been seen before".

وفي رابع عشرين صفر وهو خامس كانون الاول جاءت زلزلة بعد عشاء الاخرة بديار مصر وظهرت دفعتين يكون بينهما قدر قراءة خمس ايات وفي ثالث ربيع الاخر جاءت أيضا زلزلة بمصر لم يعهد مثلها أعظم من الاولى.

△ There are no elements with which to indicate the parameters.

⟨ 156 ⟩ *c.*1300 Corinth [Greece]

source JNUL, Ms. Heb. 4° 616 (Eng. trans. in Bowman 1985)
catalogue d. Evangelatou-Notara (1993)

Around the year 1300, there was an earthquake at Corinth, but at the present state of research, its effects cannot be specified.
The source is a letter in Hebrew, sent to Rome and dealing with the affairs of the Jewish community at Chalcis (Egripos, in Negroponte, the present-day island of Euboea, off eastern Greece). The manuscript is now in the Jewish National and University Library in Jerusalem, having come from the "Collegio Rabbinico" in Livorno. The earthquake is mentioned in passing at a point where the letter provides news of R.Shabbetai ben R.Moses, who had fled from Eubœa to Corinth, and made his way to Thebes after the earthquake.
The effects of this earthquake are not specified in the letter, but the fact that R.Shabbetai ben R.Moses left Corinth suggests that the city suffered some damage.
The brief passage reads as follows:
"And R.Shabbetai ben R.Moses fled from them [the Chalcis community] and took refuge in Corinth. And there came to pass an earthquake so he went to Thebes, and he died there". [Eng. trans. in Bowman 1985].

ויברח מפניהם רבנא שבתי בן רבנא משה וימלט בקורנטו ויהי רוגז ויבא בתיבץ וימת שם.

△ There are no elements with which to indicate the parameters.

⟨ 157 ⟩ 1302 December 13 Constantinople [Turkey] doubtful event

source Athan. I, Letter, 37, p.78
historiography Laurent (1971a); Laiou (1972); Talbot (1975); Ducellier (1980)

Amongst problems affecting the city of Constantinople mentioned by the patriarch Athanasius I in a letter to the Emperor Andronicus II Palaeologus (1282-1328), there is one "disastrous event" which has been interpreted by some scholars as an earthquake. What Athanasius wrote was:

"[...] this city would not have been preserved until now from the 13th of December when that resounding blow occurred, nor even the eastern region from Anea itself as far as Scutari".

[...] οὔτε αὕτη ἡ πόλις ἐσῴζετο ἕως νῦν ἀπ' αὐτῆς τῆς ιγ' ης τοῦ Δεκεβρίου, ἡνίκα ὅ τετρυγὼς ἐκεῖνος ἐγένετο κτύπος, οὔτε τὰ τῆς 'Ανατολῆς, ἀπ' αὐτῆς τῆς 'Ανέας μέχρι τοῦ Σκουταρίου.

The first editor of the letter, Laiou (1972, p.334), thought it had been written in 1303 or early 1304, since it mentions the forthcoming marriage between Nicephorus Chumnus's daughter and the emperor's son.
Ducellier (1980, p.106) simply gives the year as 1304; Laurent (1971a, app.7) and Talbot (1975, p.345) date the letter to early 1303 and the presumed earthquake to 13 December 1302. The letter has caused some debate amongst scholars. Of more recent writers, Laiou (1972, p.334) and Ducellier (1980, p.106), think the event was an earthquake, whereas Talbot (1975, p.345ff., with bibliography), rejects this hypothesis, since "no natural disaster is recorded at this time". He takes the view that the τετρυγὼς κτύπος ("resounding blow") probably refers to an enemy invasion — possibly by the Turks.
But since the points of reference are vague, Talbot's *argumentum ex silentio* does not settle the matter.
Laurent — an expert on Athanasius — writes (1971a, app.7): "There remains the possibility that a visionary monk [i.e. Athanasius] dreamed, on 13 December in one year or another, of a dramatic event in which the whole empire seemed to him to sink beneath the blows of countless enemies".

⟨ 158 ⟩ 1303 January 15 Constantinople [north-western Turkey]

⟨ 159 ⟩ 1303 January 17 Constantinople

sources 1 Pachym., *Relat. hist.*, 10.34, IV, pp.395, 397; Greg., *Hist.*, 7.1, I, p.215; Theoct., *Zapiski*, p.32
source 2 Calot., *Op.*, pp.493-4
catalogues d. Bonito (1691); Evangelatou-Notara (1993)

Two earthquakes were felt at Constantinople in January 1303. The first occurred towards morning on 15 January, but was so weak as to be scarcely perceptible. The second occurred two days later, during the morning of 17 January. It was stronger than the previous one, but did not cause any damage.
Information about these earthquakes can be found in the works of the Byzantine historians Pachymeres and Nicephorus Gregoras, and in the biography of Athanasius written by Theoctistus Stoudites, a 14th century Byzantine hagiographer and hymnographer.
Pachymeres relates that the ex-patriarch Athanasius sent a monk named Menas Scoleces (PLP 26241) to the Emperor Andronicus II Palaeologus (1282-1328) with a message from Athanasius, asking him to protect the city from "plague, famine, earthquakes and floods" (ἀπὸ λοιμοῦ, λιμοῦ, σεισμοῦ, καταποντισμοῦ).
The following night, towards morning, there was a weak, barely perceptible shock, which convinced the emperor of the truth of Athanasius' words:
"an earthquake so weak as to be scarcely felt by anyone who was awake, convinced the emperor of the truth of what he had been told. [...] And on the morning of the 17th, there was a stronger earthquake, but not such as to place anything in danger".

σεισμὸς μαλακός, ἐπὶ τοσοῦτον δῆλος ὥστε καὶ γνωσθῆναι μόλις τῷ γρηγοροῦντι. Ἦν οὖν τοῦτο τῷ βασιλεῖ εἰς δόξαν ἀληθείας τῶν λεχθέντων προοίμιον. [...] καὶ τῇ ἑπτακαιδεκάτῃ πρωΐας σεισμὸς προσήραξε κραταιότερος, οὐ μὴν δὲ ὥστε καὶ τι τῶν ἐς κίνδυνον ἐκ τούτου γένεσθαι.

After reporting Athanasius' message, Nicephorus Gregoras adds:
"an earthquake which occurred the next day was interpreted by the emperor as the divine wrath predicted by Athanasius".

τῇ δ' ὑστεραίᾳ γενομένου σεισμοῦ τοῦτον εἶναι, φάναι τὸν βασιλέα, τὴν προειρημένην Ἀθανασίῳ θεομηνίαν.

In the *Life* of Athanasius by Theoctistuos Stoudites, the same events are narrated in these terms: Athanasius reveals to the emperor "the terrible wrath of God which was about to descend in the form of an earthquake. And he sent Menas, that master of words, works and virtue, to deliver his message".

δηλοῖ τούτῳ καὶ φρικώδη θεομηνίαν διὰ σεισμοὺ γενήσθαι μέλλουσαν· καὶ μηνύει περὶ τούτου διὰ τοῦ λόγου καὶ πρᾶξιν καὶ ἀρετὴν ὑψηλοῦ ἐκείνου Μηνᾶ.

Theoctistos adds that the predicted earthquake occurred on the day and at the time announced by Athanasius. The 14th century theologian Joseph Calothetos, who wrote another biography of Athanasius, narrates the same episode in the following terms:
"not many days earlier, [Athanasius] sent Menas, a man who excelled in words and virtue, to inform the pious emperor that the terrible wrath of God would descend upon us in the form of an earthquake and the collapse of the great imperial residence in the palace".

τὴν θεομηνίαν τὴν φρικτήν, τὴν διὰ μεγάλου σεισμοῦ καθ' ἡμῶν ἐσομένην οὐ πρὸ ὀλίγων ἡμερῶν καὶ τὴν ἐν τῷ παλατίῳ τοῦ βασιλείου μεγάλου οἴκου πτῶσιν, προσημαίνει τῷ εὐσεβεῖ βασιλεῖ διὰ τοῦ λαμπροῦ κατ' ἄμφω λόγῳ καὶ ἀρετῇ Μηνᾷ ἐκείνῳ.

While the chronology of the earthquake is not a problem, an assessment of its effects requires comment. Pachymeres and Calothetus are not merely not in agreement but actually in total contradiction, for one speaks of a scarcely perceptible shock, while the other tells of a "great earthquake" which even damaged the imperial palace. Perhaps what underlies this contradiction is the different, if not opposed attitude of the two writers to the patriarch Athanasius. Pachymeres is always cold, indeed almost hostile to the patriarch, whereas Calothetus is celebrating one of the most admired personalities of the time. Since other sources do not mention this earthquake, however, we may give credence to Pachymeres and conclude that the shocks on 15 and 17 January were minor ones. Such a conclusion is confirmed by a comparison between the *Life* of Athanasius written by Calothetus and the earlier one by Theoctistus. Calothetus' source is indeed the earlier *Life*, where we find a description which fits well with the information provided by Pachymeres and Gregoras. The "great" earthquake is thus a creation of Calothetus' hagiographic and rhetorical pen. Bonito (1691, p.539) dates this earthquake to 1317.

▲

1303 01 15 at morning

localities	lat.	long.	I
Istanbul	41 02	28 57	III

1303 01 17 at morning

localities	lat.	long.	I
Istanbul	41 02	28 57	IV-V

⟨ 160 ⟩ 1303 August 8 Crete island [Greece]

▷ tsunami, flooding of the river Nile, landslides ◁

sources 1 Venetian institutional and administrative documents

ASVe, *Avogaria di comun*, Deliberazioni, *Magnus*, reg.20/3, fol.73r., 13 April 1307; *Cassiere della bolla ducale*, Grazie, *Novus Liber*, fol.51r., 27 November 1303; *Commemoriali*, reg.1, fols.37v.-38 [September 1303]; fol.53, 13 June 1304; fol.108 [Candia, 1307]; *Maggior Consiglio*, Deliberazioni, *Magnus et Capricornus*, reg.8, fol.144r., 13 April 1307; Deliberazioni, *Presbiter*, reg.11, fols.327v.-328, 1 April 1315; Deliberazioni, *Clericus Civicus*, reg.13, fol.16v., 3 July 1315; *Senato*, Misti, Libro II, fols.42-43, March 1304; reg.16, fols.51v.-53v., 19 August 1333; reg.17, fol.83, 15 February 1336; BMCCorrer, Venice, *Misc. Correr*, LXXXI/2703, I, Candia, fols.481-484, *Exemplum*, Two letter to Pietro Gradenigo and Guido da Canal, Candia 8 August 1303 and 28 August 1303.

Latin and vulgar Italian sources

BNMarcianaVe, *Mss. Lat.*, X, 158, *Mon. hist.*, fol.24; BAVat, *Barb. Lat.*, 2741, *Quaedam Chron.*, fol.33v.; Monaci, *Chron.*, p.163; Riccob. Ferr., *Compil.*, col.254; *Ann. Caesen.*, p.75; *Zibald. Canal*, pp.99-100; Templ. Tyr, *Chron.*, p.315; *Liber XXIV Eccl. Hist.*, col.1224

Arabic sources

[manuscript] Dar al-Kutub al-Misriyya, Cairo, ms. 549 Ma'arif 'amma, al-Nuwayri, *Nihayat*, fols.63r., 64, 65-6 (in Taher 1979, part in Arabic, pp.178-9, 182); ms. 2399 Ta'rikh Taymur, Ibn Bahadur, *Futuh al-nasr*, II, fols.205-6 (in Taher 1979, part in Arabic, pp.178, 182); ms. 559, al-'Amri, *Masalik*, XVI, fol.3 (in Taher 1979, part in Arabic, p.178)
Abu 'l-Fida, *al-Mukhtasar*, IV, p.50; Ibn al-Dawadari, *Kanz*, IX, pp.110-3; Anon., *Ta'rikh*, pp.126-7; Mufaddal b. Abi 'l-Fada'il, *al-Nahj*, pp.86-90; al-'Ayni, *'Iqd*, pp.260-5; al-Maqrizi, *Kitab al-suluk*, I, pp.942-3, 944, 944-5, II, pp.3, 652; al-Maqrizi, *Kitab al-Mawa'iz*, II, p.278; Ibn Taghribirdi, *al-Nujum*, VIII, p.201; al-Suyuti, *Kashf*, p.51

Byzantine sources

Pachym., *Relat. hist.*, 9.11, IV, p.429; *Chron. min. Byz.*, 26.14 in Schreiner (1975, p.203)

inscriptions *RCEA*, XII (1944), p.243, nos.5160, 5161, 5162; Ciccarello (1996)

sources 2 BMCCorrer, Venice, *Misc. Correr*, XXXVIII/1916-1938, *Trad. Cron.*, fols.20-24; ms. I, 178, Cornaro, *Hist.*, fols.139-140v; BNMarcianaVe, *Mss. Lat.*, Z.402, *Cron.*, fol.57v.; *Mss. It.*, VI, 3, Calergi, *Comm.*, fols.145-146v.; BAVat, *Chigiani*, G. VI 177, *Chron. Ital.*, fol.70v.; Sanudo, *Vitae*, cols.595, 772; *Ann. Foroliv.*, p.59; *Cron. Ramp.*, II, p.261; Amadi, *Chron.*, p.239

historiography Corner (1755); Van Berchem (1891); Gerola (1905-32); Thiriet (1954, 1966); Dennis (1973); Manussacas (1973); Tiepolo (1973)

literature Critikos (1928); Taher (1979); Guidoboni and Comastri (1997); El-Sayed *et al.* (2000)

catalogues d. von Hoff (1840); Perrey (1850); Mallet (1853); Sieberg (1932a, 1932b); Plataki (1950); Galanopoulos (1955); Grumel (1958); Ambraseys (1963); *Ben-Menahem (1979); *Galanopoulos (1981); *Maamoun *et al.* (1984); Papazachos *et al.* (1986); Evangelatou-Notara (1993); *Ambraseys *et al.* (1994); Amiran *et al.* (1994); *Papazachos and Papazachou (1997)

catalogues p. Galanopoulos (1961); Shebalin *et al.* (1974); Poirier and Taher (1980); Comninakis and Papazachos (1982); Papadopoulos and Chalkis (1984); Bektur and Alpay (1988); al-Hakeem (1988)

catalogues Ts Ambraseys (1962); Antonopoulos (1980); Soloviev (1990); Soloviev *et al.* (2000)

This earthquake was a very large seismic event in the Mediterranean area, involving in its scenario countries of the period with a variety of languages, cultures and economies. It is referred to in the seismological tradition from the mid-19th century up to the modern catalogues of Evangelatou-Notara (1993) and Ambraseys *et al.* (1994), whose investigation of the earthquake made particular use of Arabic sources — i.e. sources not from the island of Crete — then a Venetian dominion — where the worst damage was suffered. The summary which we set out here is based on the study by Guidoboni and Comastri (1997). In addition to re-examining the sources already known to the literature, they also made use of previously neglected Venetian

Arabic sources

CHRONICLES

A substantial number of Arabic sources (chronicles and inscriptions) describe the effects of the earthquake, often providing very detailed accounts of damage to public buildings and reconstruction work. The principal contemporary writers were historians and geographers, who may have been able to obtain official information about the effects. During this research, Arabic sources have been directly analysed in the texts of critical editions. The most important sources are works by: Abu 'l-Fida (1273-1331), a Syrian of the family of the Ayyubids; al-Nuwayri (1279-1332), a historian and senior official under the Mamluks, who also compiled an encyclopaedia which is invaluable for the history and geography of his time; Ibn al-Dawadari (13th-14th century), an Egyptian historian who was alive at the time of the earthquake; and Mufaddal b. Abi 'l-Fada'il (14th century), a Coptic historian whose surviving work is a necrological chronicle covering the period of the Bahri Mamluks from 1260 to 1340. The event was also recorded in the next century by other writers, who provide detailed accounts, including particulars not in contemporary sources. One is al-'Ayni (1361-1451), a Turkish historian, much of whose output is in Arabic. He was an intellectual and an official close to the Mamluk sultans, obtaining high office in their service on various occasions. Another is al-Maqrizi (1364-1442), a learned antiquarian born in Cairo, who collected materials of great value for the topographical history of Egypt. He was employed in the civil service, but later retired in order to devote himself to historical and documentary research.

The large earthquake of 1303 continued to be recorded in the 15th century by other writers, such as Ibn Taghribirdi (1409-1470), an Arab historian who was born and died in Cairo, Ibn Bahadur (1432-1473), and al-Suyuti (1445-1505), an Arab polygraph of Persian origin who lived in Baghdad and Egypt (he is famous as a historian of the period of Mamluk influence, and devoted a book to the study of earthquakes).

Research into Arab inscriptions was carried out within the programme of study of large earthquakes in the Mediterranean area from the 11th to the 15th century. With regard to this earthquake, 3 inscriptions record restoration work on some buildings in Cairo. Other inscriptions recording restoration work that may be dated to the first half of the 14th century have not been considered, since the cause of damage is not clearly explained (Ciccarello 1996)

Set out below are the texts of those Arabic sources which provide descriptions of earthquake effects:

Abu 'l-Fida, *Mukhtasar ta'rikh al-bashar*, IV, p.50:

"In this year (702 H.), there was a terrible earthquake which caused the collapse of part of the citadel walls at Hamah and other buildings in the area; it also destroyed many buildings in Egypt, and a number of people perished in the collapse of buildings. Forty-six buttresses (*badana*) collapsed in the city walls at Alexandria".

(فيها) كانت زلزلة عظيمة هدمت بعض أسوار قلعة حامة و غيرها من الأماكن بالبلاد و هدمت بالديار المصرية أمكان كثيرة و هلك خلق كثير تحت الهدم و خربت من أسوار اسكندرية ستا و أربعين بدنة

The exact meaning of the term *badana* is difficult to establish: it refers to a projecting architectural element used as a support, and can sometimes be translated as "pilaster" or "column". For the use of the term, see Van Berchem (1891, p.431 no.2).

al-Nuwayri (Dar al-kutub al-misriyya, Cairo, ms. 549 Ma'arif'amma, *Nihayat al-arab*, fol.63r.) records:

"At dawn on Thursday 23 *Dhu 'l-Hijja* in the year 702, a terrible earthquake struck the whole of old and new Cairo, the whole region of Egypt, Damascus, and the whole of Syria, including the coastal and mountain regions. But the worst affected area was the province of Cairo".

وفي يوم الخميس الثالث والعشرين من ذي الحجة سنة اثنين وسبعمائة عند طلوع الشمس حدثت زلزلة عظيمة بالقاهرة ومصر وأعمال الديار المصرية كلها ودمشق والشام أجمع والسواحل والجبال الشامية وكان معظمها بالديار المصرية.

In a later passage al-Nuwayri (*Nihayat al-arab*, fol.64) records:

"[The earthquake] caused massive damage at Alexandria: there was damage to almost the whole of the lighthouse and part of the city walls. The sea complicated the situation: first it withdrew, and then it flooded the arsenal, reaching as far as the city walls. Many people were killed in the flood and the launderers' shops were destroyed".

وأثرت بالاسكندرية أثرا عظيما هدمت أكثر المنارة وبعض الاسوار وزجي البحر المالح حال الزلزلة وانطرد عن مكانه ثم مد حتى دخل الصناعة ووصل إلى الاسوار وغرق جماعة كثيرة عند مده وعوده وعدم قماش التجار الذي كان عند القصارين بجملته.

In addition, al-Nuwayri (*Nihayat al-arab*, fols.65-6) records:

"Such was the intensity of the earthquake in Egyptian territory that it still appears in the chronicles even now. Faced with these disasters, the government's concern was to rebuild the mosques which had been destroyed. Sayf al-Din Salar, the sultan's representative, was given the task of restoring the mosque of 'Amr ibn al-'As in old Cairo (*Misr*), while Rukn al-Din Baybars [the future Mamluk sovereign of Egypt, 1309-1310] dealt with the al-Hakim mosque in new Cairo (*Al-Qahira*), renovating its halls and ceilings, decorating the walls afresh, restoring it to its former splendour, assigning to it numerous legacies, and organising study courses and other helpful initiatives. The minaret of the Mansuriyya madrasa was restored using funds bequeathed to the madrasa; the cost of repairing the damaged half of the minaret, from the base to the dome and up to the top was about 90,000 dirhams, just for materials. However, Emir Sayf al-Din Kahradash al-Nasiri managed to make the dome even more beautiful than before. Damage to the mosque [to which the madrasa was attached], on the other hand, was repaired under the direction of Emir Shams al-Din Sanqar al-A'sar. The Salih mosque — the one outside Bab Zuwayla — was also restored, as was the one outside the sultan's gates. All these places and the little mosques which had been destroyed in old and new Cairo were also restored, and everything was made more beautiful than before, thanks be to God".

ولعظم هذه الزلزلة بالديار المصرية أرخ كثير من العوام بها فهم يذكرونها إلى وقتنا هذا. ولما أثرت هذه الزلزلة بالجوامع ما أفسدت اهتم الامراء بالديار المصرية بها فعمر الأمير سيف الدين سلار نائب السلطنة ما تشعث بجامع عمرو بن العاص بمصر وعمر ركن الدين بيبرس الجاشنكير أستاذ الدار جامع الحاكم بالقاهرة وجدد موادنه وسقوفه وبيضه وملطه وأصلحه إصلاحا جيدا حتى عاد أحسن ما كان ووقف عليه أوقافا متوفرة ورتب فيه من الدروس ووجوه البر والخير ما نذكره إن شاء الله تعالي في سنة ثلاث وسبعمائة. وأعيدت المأذنة المنصورية من مال الوقف لتصرفه وصرف في عمارتها في نصفها الذي هدم وهو من سطح القبة إلى انتهائها صاعدا ما يقارب تسعين ألف درهم خارجا عما استعمل من أحجارها المنقوضة منها وعن تفاوت أجر الأسرى وما حمل على ذوات مرمات الوقف وندب لعمارتها الأمير سيف الدين كهرداش الناصري وعادت أحسن ما كانت وعمر ما تشعث من الجامع الأمير شمس الدين سنقر الأعسر وعمر الجامع الصالحي الذي هو خارج باب زويلة والجامع الظافري من الأبواب السلطانية وعمر سائر الأماكن والمساجد التي تهدمت بالقاهرة ومصر حتى عادت أحسن ما كانت والحمد لله تعالى.

al-Nuwayri (*Nihayat al-arab*, fol.66) also records:

"The effects of the earthquake were disastrous at Safad, too: one side of the citadel collapsed. At Acre, the sea flooded the shore, covering the land of Acre as far as the Dayan tower, which stands in the sea — and the distance is considerable. [At Dayan] objects were found which the people of Acre had thrown into the sea during the Muslim siege of the city: some people wanted to retrieve them, but a wave as high as a mountain swept them away and they were drowned. The sea came almost as far as Tall al-Fudul".

وأثرت هذه الزلزلة في صفد أثرا عظيما وسقط جانب من قلعتها وانطرد البحر بعكا حتى انكشف ما بين عكا وبرج الديان الذي في البحر ومسافته بعيدة وظهر لبعض من كان بساحلها أشياء مما ألقاه أهل عكا في البحر لما حاصرها المسلمون فتبادر من كان هناك بالنزول لأخذ ما ظهر لهم فجاء الماء أمثال الجبال ففرقوا ووصل في مده إلى قرب تل الفضول.

Here is the text of Ibn al-Dawadari (*Kanz al-durar*, IX, pp.110-113):
"At dawn on Thursday 23 *Dhu 'l-Hijja*, the earth shook at Cairo [*Misr*] as never before; then the earthquake spread throughout the region of Syria and Egypt. The shocks lasted for about a quarter of an astronomical hour ["*rub' sa'at falakiyya*"], with a rumble similar to thunder. The minarets of mosques were destroyed, including the al-Hakim mosque — one of the most seriously damaged; and the minaret of the Mansuriyya madrasa, in new Cairo, between the two palaces [the two palaces are the Qasr al-Bahr and the Qasr al-Dhabab, built by the Fatimid al-'Aziz in 1020], was so severely damaged that it had to be demolished and rebuilt, making it more beautiful than before. Emir Rukn al-Din Baybars saw to the restoration of the al-Hakim mosque, meeting some of the cost out of his own purse. The minaret of the Fakahiyyin mosque, which had been built by the Fatimid al-Zahir, son of al-Hakim, was also destroyed. The minaret and part of the perimeter walls of the Salih mosque, outside Bab Zuwayla, were also damaged. A wall was cracked in the old Cairo mosque, that is to say the mosque of 'Amr b. al-'As, which also suffered a great deal of other damage. Almost all the mosques, large and small, were affected by the earthquake and all were restored. The restoration of the old Cairo mosque was entrusted to Emir Sayf al-Din Salar, as representative of the sultan's government. At Alexandria, the lighthouse was reduced to ruins; a large part of Damanhur al-Wahsh was destroyed, as were also the towns of Abyar and Jazira in Egypt. The Mediterranean flooded the shore at Alexandria, destroying the launderers' shops, and producing dreadful waves. A great many towers were destroyed at Alexandria, and a very large number of people were killed in the ruins. The earthquake also reached Tunis, Sicily, the Maghreb, Cadiz and Marrakush [Marrakech], just touching the territory of the Marinides [a 14th century Moroccan dynasty]. Very few churches remained standing in Cyprus: all this was learned from news which came from those regions after the earthquake. Destruction also occurred at Antioch and its province, as far as Antalya and Sis. The earthquake even reached Constantinople, the sublime city".

لما كان يوم الخميس الثالث والعشرين من شهر ذي الحجة قبل طلوع الشمس زلزلت الأرض زلزالا شديدا لم يعهد بمصر مثلها من قبل ثم امتدت في جميع البلاد بالشام ومصر فأقامت تهتز تقدير ربع ساعة فلكية وكان لها دوى كدوى الرعد ثم إنها هدمت مناثر الجوامع منها منارة الجامع الحاكمي وسقطت أكثر جدرانه وخرب هذا الجامع خرابا شديدا شنيعا لم يكن أثرت في شيء أكثر منه وانشقت المنارة التي للمدرسة المنصورية بالقاهرة التي بين القصرين إلى أن احتيج بعد ذلك إلى هدمها وعمرت كأحسن ما يكون واختص بعمارة الجامع الحاكمي الأمير ركن الدين بيبرس الجاشنكير وأصرف عليه من ماله شيئا كثيرا وعاد كأحسن ما كان وأجد وانهدمت أيضا منارة جامع الفاكهانيين وهو انشاء الظاهر بن الحاكم الفاطمي وانهدمت أيضا منارة جامع الصالح بن رزيك الذي ظاهر باب زويلة وبعض جدرانه وتشققت جدر جامع مصر وهو جامع عمرو بن العاص رضي الله عنه وتشعب فيه شيء كثير وهدم شيئا كثيرا من مناثر الجوامع والمساجد وعمروا بعد ذلك كأحسن ما كان واختص بعمارة جامع مصر الامير سيف الدين سلار نائب السلطنة المعظمة. وهدمت منارة اسكندرية وخربت أكثر دمنهور الوحش بالبحيرة خرابا شنيعا وكذلك مدينة أبيار بالمنوفية والجزيرة بالديار المصرية وحصل الخراب الشنيع في سائر إقليم ديار مصر وطلع البحر المالح إلى مدينة ثغر الاسكندرية فغرق كثيرمن قماش القصارين وغلال كثيرة كانت على ساحل البحر وهاج البحر هياجا عظيما وهدمت أبراج كثيرة عدة من الاسكندرية وهلك جماعة عدة من الناس تحت الردم عند حصولها في أول حال. ووصلت حتى عمت أرض برقة وبلاد تونس من المغرب وصقلية وقادس ومراكش ووصلت إلى بلاد بني الأحمر المرينيين وعمت السواحل وخربت قبرس الأرض

ولم تبق بهـا كنيسة إلا القليل وذلك جميعه حسبما وردت به الأخبار من جميع هذه النواحي بعد ذلك. وكذلك عمت أنطاكية وأعمالها إلى العلاية وأنطالية وبعض بلاد سيس ووصلت قسطنطينية العظمى.

The anonymous author of *Ta'rikh* (in Zettersteen, *Beiträge*, pp.126-7) records:
"At dawn on Thursday 23 *Dhu 'l-Hijja*, there was a tremendous earthquake at old and new Cairo and throughout the Egyptian provinces. It was so powerful that it reduced town walls to ruins, split open mountains, reduced buildings to ruins, split open rocks, and opened up springs of water. The earth shook under one's feet, houses swayed about their inhabitants, walls and pilasters cracked, and cries of terror resounded everywhere. Women fled into the streets unveiled, and since people were convinced that the time had come for the death of the living and the resurrection of the dead, they prayed to the God of Heaven. God showed his clemency by halting the earthquake, which would otherwise have obliterated everything on the face of the earth: this was a sign of the benevolence of God towards dwellers on his earth. So writes the humble servant of God, the author of this chronicle. At that time I was on the coast of Minya. At dawn we felt thunder beneath us: it was the earth shaking. I looked towards the mountains in the East, and saw rocks falling to right and left. I looked towards the Nile, and saw the waters part, revealing the river bed, before coming together again. In the city of Minya, the mosque collapsed, as did houses and other buildings".

بمصر والقاهرة وسائر وهو أنه لما كان بتأريخ يوم الخميس الثالث والعشرين من ذي الحجة سنة تأريخه حدثت زلزلة عظيمة بكرة النهار أعمال الديار المصرية وكانت عظيمة جدا حتى أن الجدر تساقطت والجبال تشققت والمباني تهدمت والصخور تقطعت والمياه تفجرت ومادت الأرض بمن عليه وماجت المساكن بساكنيها وتشققت الأسوار والأركان وثار الصراخ بكل مكان وخرج النساء حاسرات إلى الطرقات وظن الناس أنها إماتة الأحياء وقيامة الأموات وابتهلوا إلى رب السموات لما عراهم من المخافات فأدركتهم رأفته وأنقذتهم رحمته بأن سكن زلزالها لم يبق على وجه الأرض دار ولا بيت به جدار فكان قصر مسافتها وتخفيف آفتها لطفا من الله تعالى بعباده ومنه على ساكني بلاده.وقال العبد الفقير إلى الله تعالى مؤلف هذا التأريخ وجامعه لما حدث أمر هذه الزلزلة كنت الليلة بايت على ساحل منية ابن خصيب فعند ما بزغت الشمس واذا بالأرض ترعد من تحتنا وتهتز وأنا أنظر إلى الجبل الشرقي وهو يقطع ويقع يمينا وشمالا ثم نظرت إلى البحر واذا به انشق نصفين وبان قراره إلى أن تراجع وأما البلد التي هي المنية فان جامعها وغيرها وقع وكذلك بعض دورهم وأبنيتهم.

Mufaddal b. Abi 'l-Fadu'il, *Nahj al-sadid*, XX, pp.86-90 records:
"In this year [702 H.] at dawn on Thursday, the twenty-third day of the month of *Dhu 'l-Hijja*, the earth shook and there was an earthquake throughout the country of Syria. It was so violent at Safad that two of the citadel's towers collapsed. It extended as far as Egypt, with striking effect: it lasted for about a quarter of an hour, making a noise similar to that of a storm. The minarets at the al-Hakim mosque collapsed, and so did a large part of its walls: it was as badly damaged as it possibly could be. The minaret of the Mansuriyya madrasa was so badly cracked that it had to be demolished and rebuilt; and the same thing happened at the mosque of the Fakkahin, known as "the monument of Caliph al-Zafir" [a Fatimid caliph who reigned from 1149 to 1154], who was one of the caliphs of Egypt. The same thing happened at the Misr mosque [i.e. the mosque of 'Amr b. al-'As in old Cairo], and the Salih mosque, and the worst effects of the earthquake were felt by mosques great and small. These buildings were subsequently restored to their original form, and the work was carried out in the year 704. The lighthouse at Alexandria collapsed, and Damanhur al-Wahsh was very badly damaged, as were also the towns of Abyar and Qus. The disaster reached the whole of Egypt; the sea was whipped up by a terrible storm, and numerous towers collapsed [in the city walls] at Alexandria. He [the historian] has recorded: the earth continued to shake for twenty days, and people shook with terror. It has been said of the earthquake: What troubles your land that

stretches afar, what is the matter, that in broad daylight it is shaken by shocks? All the buildings erected on it have collapsed, and anyone who gazes on the horror of this disaster is overtaken by panic. As regards what has been reported about the earthquake, I have to say that in my opinion, when vapours and gases gather in quantity beneath the earth's surface, if they are not so affected by cold that they turn into water, and are so dense that there is insufficient heat to separate them, should they try to rise up, they fail to find any holes or apertures, because the earth's crust is compact, without holes or porosity, and so the earth's surface is shaken by them and trembles. Similarly, a human body possessed by fever trembles when the fever is high, because the humours which are inevitably imprisoned in the cavities in the various parts of the body are burned there by the powerful fever, and so liquefy, melt and change into vapour and gas. Then they emerge through the pores in the body's skin, and the body continues to be severely agitated and to tremble until those substances have come out, and only then does the body become calm again. The same is true of earthquake shocks in the various lands on earth; what happens is that the earth's surface splits open, and the materials which are imprisoned in the earth come out all at once. But God is wisest about the reality of things".

و فيها في بكرة يوم الخميس الثالث و العشرين من ذى الحجّة زلزلت الارض و امتدّت في جميع بلاد الشآم و كان بصفد لها تأثير كبير بحيث وقع برجين من ابرجة القلعة و امتدّت الى ديار مصر فأثرت تأثيرا كبيرا واقامت على ذلك تقدير ربع ساعة و كان لها دوي مثل دوي الهوى و هدمت مناثر الجامع الحاكمي و وقعت اكثر جدرانه و خرب خرابا شنيعا و لم تكن أثرت في شئ اكثر منه . و تشققت مأذنة المدرسة المنصورية الى ان احتيج الى هدمها و اعادتها و كذلك جامع الفكاهين المعروف بانشاء الخليفة الظافر احد الخلفاء المصريين و كذلك جامع مصر و جامع الصالح و اكثر ما أثرت في المساجد و الجوامع ثم عمروا كما كانوا و كانت المنارة في سنة اربع و سبعمائة . و هدمت منارة الاسكندرية و خربت دمنهور الوحش خرابا شنيعا و كذلك مدينة ابيار و مدينة قوص و حصل الخراب في كل ديار المصرية و طلع البحر الجميع تلف بالغرب و هاج البحر هيجان عظيم و هدم هدة ابرجة من الاسكندرية . قال و بقيت الارض ترجف الى مدة عشرين يوما و الناس خائفين مرجوفين و ممّا قيل في الزلزلة ما بال أرضكم البسيطة ما لها قد زلزلت عند الضحى زلزالها أهوى لها بنيان كل مشيد و ارتاع ذعرا من رأى أهوالها اقول و ممّا ذكروه في زلزلة زعموا ان الأبخرة و الأدخنة الكثيرة إذا اجتمعت تحت الأرض و لا يقاومها برودة حتى تصير ماء و تكون مادّتها كثيرة لا تقبل التحليل بأدنى حرارة و يكون وجه الأرض صلبا لا يكون فيها منفذ و مسام فالبخارات إذا قصدت الصعود لا تجد المسام و امنافذ فتهتز منها بقاع الأرض و تضطرب . كما يرتعد بدن المحموم عند شدّة الحمّى بسبب رطوبات عنقة احتسبت في خليل أجزاء البدن فتشتعل فيها الحرارة العزيزيّة فتذيبها و تحللها و تصيرها بخارا و دخانا فتخرج من مسام جلد البدن فيهتز من ذلك البدن و يرتعد و لا يزال كذلك الى ان تخرج تلك المواد فاذا خرجت يسكن . و هكذي حركات بقاع الأرض بالزلازل فربما ينشق ظاهر الأرض و تخرج من الشق تلك المواد المحتسبة دفعة واحدة والله اعلم بحقائق الامور.

Here is the text of al-'Ayni (*Iqd al-juman*, IV, pp.260-5):

"Baybars has recorded as follows in his history: in that year [702], in the early morning of Thursday 23 of the month of *Dhu 'l-Hijja*, there was a terrible earthquake in old and new Cairo and in the other provinces of Egypt, and especially at the port of Alexandria. The earthquake was so intense that walls collapsed, mountains split open, buildings were reduced to ruins, and water burst violently forth from cracks in the ground. The earth violently shook those who were on it, houses swayed around their inhabitants, walls and pilasters cracked and shouts were heard everywhere. Women came out into the streets unveiled, and since people thought the moment of death had come for the living and of resurrection for the dead, they prayed to the Lord of Heaven that what they feared should not take place. Then his pity reached them, and his mercy saved them, for he calmed the earthquake and reduced its terrible power, for if it had lasted for a third of an hour longer, not a single house would have been left on the earth, nor would a single wall have remained standing. Thus the decrease in the extent of the earthquake and the reduction in the damage it caused was a sign of the grace of God towards his servants and of his mercy on the inhabitants of his earth.

The earthquake affected the Nile and the sea, causing waves in both. They were stirred up with extreme violence and the effects of that were greatest at Alexandria and in western regions; in fact, the towers and walls were largely destroyed in the port, and the earthquake also destroyed a large part of the lighthouse. The sea rose and flooded [the port], the water soaked the launderers' stuffs, sank the sailors' boats, and broke the moorings of the Frankish ships, throwing most of them against the walls and rocks.

When the inhabitants of the port saw with their own eyes that the waves were in a fury, the lighthouse had been destroyed, the town walls and minarets had collapsed, pieces of stone from walls were scattered around, and the massive foundations of buildings were about to collapse, they rushed out in flight to Bab Sidra [the Gate of the Lotus, one of the principal city gates, on the south side]; and when at last God calmed the earthquake shocks and caused the shaking to cease, people returned to their own dwellings and made their way back to their own homes.

News arrived continuously: the said earthquake produced violent effects in western regions and in the islands along the Frankish routes, and the earthquake also took place at the same time on the same day in the lands of Karak and Shawbak and Sawad and in the areas round about.

They say that a merchant who sold fermented milk in the shops of Cairo was in his shop when it collapsed on top of him during the earthquake, so that people thought he was dead; but he remained under the ruins for three days and three nights, and when the earth was cleared away, he was found safe and sound, and was brought out alive and unharmed: for the wood in the building had formed a lattice above him, which bore the weight of the bricks and earth; and what is more, a jug of milk in his shop was undamaged, and he lived on the milk until the rubble was removed.

Part of the Umayyad mosque [in Damascus] collapsed, and rebuilding work was begun later on. People were in a turmoil of fear and fright for days, and moved from one place to another, because they thought the earthquake would start again. This happened in the summer, and after the earthquake came the *simum* [a very hot, dry wind from the desert], which dries up and burns one's face when it blows, but in spite of that, only a few people were killed in Cairo, Egypt and the port of Alexandria.

Nuwayri has recorded: the sea withdrew at Alexandria and then flowed back, destroying huge quantities of merchants' goods and drowning a large mass of people. But when the sea withdrew at Akko, there appeared on the sea bed a large quantity of objects which the people of 'Akka had thrown into the sea during the siege of the city [the city had been recaptured by the Muslims in 1291]. So people rushed to get them back, but the sea returned and drowned every one of them.

The author of the *Nuzha* [Digression] has recounted: we have already mentioned the care devoted to the construction of the new citadel, and how its decoration was a cause of great pride; celebrations began on the fifth day of *Ramadan* and ended in the last ten days of the month, and in spite of the supervision to which they were subjected, honoured women lost their reputation, showing no fear of God, and this went on until the beginning of the month of *Shawwal*, when reprehensible deeds and indecent acts spread amongst the population, and for each tower people began to bring prohibited things, displaying sinful conduct; and in this situation women kept in confinement were compromised, and those amongst honest people who feared dishonour were publicly dishonoured, and so there were no members of illustrious households, notables and others who did not come out of their homes in the company of young slaves, servants or porters, and their minds assumed that anything which amused or excited them was acceptable, to the extent that they rejected decency and took pleasure in shameful acts.

So God made their hearts blind, first by his decree and then by his order, until on Thursday 23 of the month of *Dhu 'l-Hijja*, towards the hour of morning prayer, he sent a terrible earthquake against them: the earth shook to its foundations, walls were felt to shake and rattle, roofs did likewise, and the earth pulled aside anyone who was walking, causing him to leave his path, and it knocked down anyone riding a horse. Then it was said that the sky was closing over the earth, and those who were on foot fled in terror down another alley, only to find there even greater shaking and rattling than in the alley they had just left, young women came out with heads uncovered, without picking up anything to cover themselves in their terror, and the same was true of young girls and children; beggars came out of the mosques and *zawaiya* [the houses of religious confraternities], and many women miscarried. In the sea, the wind whipped up violent waves which broke against one another, and so the sea rose up and crashed down on boats by the shore, carrying them on the wind for an arrow-shot, and then, when the sea returned to its normal state, the boats were left on dry land with broken moorings; and in the same way, the wind pulled boats at sea out of the water and threw them on to dry land. Many dignitaries erected tents in open spaces, bringing out the women of the family and taking them there, and similarly, many people went out towards Bulaq [a small port on the Nile near Cairo], the island of Rawda and other islands. In the morning, the city found itself in such a state that a close look would not have revealed a single house intact, for either a wall had been destroyed, or one side had collapsed, or the whole structure was undermined; the gutters on houses had been broken into pieces, and all that remained was a pile of dust and bricks in front of houses. Then people devoted themselves to deep prayer in all the mosques, great and small, during the day and night of Friday, staying up night and day until Friday prayers to petition the Almighty and implore his mercy.

Then news arrived from the western region that a village called Sakha had been completely destroyed, so that not a single wall remained standing, and the whole place had been reduced to a heap of rubble. Much the same had happened to two other villages, and this had also occurred in the eastern district.

On the orders of the sultan, Emir Salar successfully prevented the collapse of the 'Amr mosque in Cairo, and doing so cost him a great deal of money. Emir Rukn al-Din Baybars al-Jashankir undertook the rebuilding of the al-Hakim bi-'amri 'Allah mosque, where a large wall was destroyed and the minaret collapsed. When he surveyed the damage, he said to the architects and superintendents who accompanied him: Consider it your duty to demolish what needs to be demolished, for I have heard say that in one of the supports of this minaret there are many gold coins collected by al-Hakim, who in his wisdom probably wished to make an offering to the mosque in the form of this money for rebuilding work, for he was indeed a provident man. Then the emir suitably rebuilt it, arranged for worshippers to have extra space. He restored and enlarged the minaret, bequeathing advantageous *awqaf* [plural of *waqf*, a charitable bequest] for this purpose, and in addition he assigned to it a teacher, an expert in Islamic traditions and legal alms, muezzin and Koran readers, and experts in law, assigning to them a salary and alms, and setting up a *waqf* which would cover the total cost. When the minaret was demolished, they found in one of the supporting walls the palm of a hand with the wrist, wrapped in cotton, and on it was written a text which no-one could decipher. The palm was soft, but they could not decipher the writing.

Emir Sayf al-Din Salar undertook the rebuilding and restoration of the al-Azhar mosque, and also the repair of the minaret and what was left of the façade. He carried out all possible restoration work, reflooring the mosque and painting it white, at very considerable cost; and Shams al-Din Sanqar also shouldered the burden of joining him in the restoration of the al-Azhar mosque.

On the other hand, the Salih mosque, situated outside Bab Zuwayla [one of the gates of Cairo], was rebuilt at public expense, and the task was undertaken by Emir 'Alam al-Din Sanjar. Money for rebuilding the minaret at the Mansuriyya madrasa [built in

Cairo by Malik al-Mansur] was granted to Emir Sayf al-Din Kahruas al-Zarraq, who also spent some *waqf* money on this. Emir Rukn al-Din Baybars was ordered to go to the port of Alexandria to see how much of the lighthouse and other buildings had collapsed, and to carry out any necessary repairs; for the government representative had written to the sultan to say that 46 *badana* [in Mamluk buildings these are pilasters or supports, usually made of brick or stone, and rectangular or square in section] of the lighthouse and 15 *badana* of the city walls had been destroyed, so the sultan ordered that it should all be rebuilt at his expense".

ذكر الزلزلة الكائنة بالبلاد المصرية ، قال بيبرس في تاريخه : و فيها في يوم الخميس الثالث والعشرين من ذى الحجة ، حدثت زلزلة عظيمة بكرة النهار بقاهرة و مصر و سائر اعمال الديار المصرية ، و خاصة في ثغر الإسكندرية ، و كانت عظيمة حتى ان الجدر تساقطت، و الجبال تشققت، و الصخور تقلعت، و المياه مط خلال الأرضين تفجرت، و مادت الأرض بمن عليها، و ماجت امساكن بساكنيها، تشعثت الأسوار و الأركان، و ثار الصراخ بكل مكان، و خرجت النساء حاسرات إلى الطرقات، و ظن الناس أنها إماتة الأحياء و قيامة الأموات، وابتهلوا إلى رب السموات لما عراهم من المخافات، فأدركتهم رأفته، و أنقذتهم رحمته بأن سكّن زلزالها، و خفّف أهوالها، و لو دامت ثلث ساعة من النهار لم يبق على الأرض دار و لا ثبت بها جدار، فكان يقصير مسافتها و تخفيف آفتها لطفا من الله بعباده، و منّة على ساكنى بلاده، و أثرت في البحرين العذب و الأجاج، و أثارت فيهما الأمواج، و ارتج كل منهما غاية الإرتجاج، و كان تأثيرها قويا جدا بالإسكندرية و النواحي الغربية، و هدمت بالثغر أكثر الأبراج و الأسوار، و رمت جانبا وافرا من المنار، و فاض البحر المالح و طمى، و تعطمط الماء و أغرق قماش المقصارين، و كسر قوارب البحارين ، و قطع مراسى المراكب الفرنجية و طرح أكثرها إلى الأسوار و الشعاب.

و لما عاين اهل الثغر هيجان البحار، و انهدام المنار، و تساقط المآذن و الأسوار و تناثر الأحجار من الجدران، و تداعي الأركان المشيدة البنيان، بادروا مسرعين و خرجوا من باب السدرة هاربين، و اما سكّن الله حركتها، و أذهب رجفتها، تراجعوا إلى أمكانهم، و عادوا إلى مساكنهم.

و تواترت الأخبار، فإن الزلزلة المذكورة كانت قوية الأثر في البلاد الغربية و الجزائر البحرية، وجهات الفرنجية، و أنها أيضا حدثت في تلك الساعة و ذلك النهار ببلاد الكرك و الشوبك و السواد و تلك الأقطار .

و حكى أن شخصا من الباعة يبيع اللبن في بعض الحوانيت بالقاهرة سقط في الزلزلة حانوته عليه، و ظنه الناس قد مات و أقام ثلاثة أيام و ليالها تحت الردم، ثم نظف التراب و وجد الرجل سالما و أخرج حيّا سويا، لأنه تشبكت عليه الأخشاب، و حملت عنه الطوب و الطراب، و سلمت له من حانوته جرة لبن، فكان يقتات منها إلى أن نظف عنه الردم.

و فيها: سقط جانب من قلعة صفد و أسوارها، و برج الباب، عند حدوث هذه الزلزلة، فرممت في السنة القابلة.

و فيها: تهدم جانب من جامع بنى امية و أعيد ترميمه، و أقام الناس أياما و هم خائفون وجلون، و من مكان إلى مكان ينتقلون، و امعاودة الزلزلة متوقعون و كان ذلك في الصيف فتوالت بعدها سموم تلفح فتشوى الوجوه حين تنفخ، و لم يمت مع ذلك إلاّ نفر قليل بالقاهرة و مصر و ثغر الإسكندرية . و قال النويرى: و جزر البحر بإسكندرية، ثم رجع فأتلف أموالا عظيمة للتجار، و غرق جماعة كثيرة، و انكشف البحر بساحل عكا، فظهر في قاعه شئ كثير مما ألقاه أهل عكا في مدة حصارها، فتبادر الناس لأخذه، فرجع البحر عليهم فغرقهم عن آخرهم.

و قال صاحب النزهة: قد تقدم ذكر الاهتمام بعمل القلاع و التفاخر في زينتها، و كان ابتداء ذلك خامس رمضان و انتهاؤه في العشرة الأخيرة، و تهتكت الخلائق على التفرج عليها، و لم يخشو الله تعالى، و استمروا على ذلك إلى أن استهل شوال، و مشى فيهم المنكر و الأمور القبيحة، و صار لكل قلعة يحمل إليها من المحرمات، و يتجاهرون بالمعاصى، و تهتكت بسبب ذلك مخدّرات النساء، و افتضح من كان يخشى الفضيحة من كل مستور، و لم يبق في المدينة من أكابر البيوت من الأمراء و غيرهم من الأعيان إلا من خرج من بيته مع غلمان أو خدام أو قهرمانات، و كان يرى ما يذهله و يروع به عقله ، حتى كان يطرح الحشمة و يستحسن الفضيحة.

و طمس الله على قلوبهم، لقضائه السابق و أمره اللاحق ، حتى أرسل الله عليهم زلزلة

getting to cover their faces in their terror: everything was plunged into chaos and confusion. Houses crumbled, walls split open, the minarets of mosques and madrasas collapsed; pregnant women gave birth prematurely. Then a storm wind blew up. The Nile overflowed its banks, taking boats that lay by the river bank and hurling them into the distance like arrows shot from a bow, and then it flowed back into its bed, leaving them stranded on dry land, with their moorings broken. Then the wind took the boats which were on the river and threw them on to the shore. (Roots were torn out of the ground, rocks split open and springs of water spurted out of the ground. People thought that the hour of Judgement had come, but the clemency of God halted the earthquake: if that had not been so, there would have been no trace of the city left in three hours). People lost a great deal of property; as all fled in panic, they left everything in their homes; thieves took advantage of this and looted as much as they liked. The population poured out of the city; most spent the night outside Bab al-Bahr [one of the city gates], setting up a camp in the suburb of Bulaq as far as the island of Rawda. Not a single house in new Cairo (*Al-Qahira*) was spared; those which did not collapse were badly damaged. All the roof gutters were in pieces, and all that was left of houses was a heap of bricks. Many people spent Friday night in mosques great and small, praying until the next day came. From the west came news that all the houses in the town of Sakha had collapsed: not a wall was left standing, and there were heaps of rubble everywhere. Two villages in the east were also completely destroyed. Then news came from Alexandria: there, the lighthouse had split open and about forty merlons had fallen from the top. The sea had risen up, with waves which reached as far as Bab al-Bahr [one of the gates of Alexandria], pushing the boats of the Frankish merchants on to dry land. The city walls also collapsed on one side, and there were many victims".

وفيها كانت الزلزلة العظيمة وذلك أنه حصل بالقاهرة في مدة نصف القلاع والزينة من الفساد في الحريم وشرب الخمور ما لا يمكن وصفه من خامس شهر رمضان إلى أن قلعت في اواخر شوال. فلما كان يوم الخميس ثالث عشري ذي الحجة عند صلاة الصبح اهتزت الأرض كلها وسمع للحيطان قعقعة وللسقوف أصوات شديدة وصار الماشي يميل والراكب يسقط حتى تخيل الناس أن السماء انطبقت على الأرض وخرجوا في الطرقات رجالا ونساء وقد أعجلهم الخوف والفزع عن ستر النساء وجوههن واشتد الصراخ وعظم الضجيج والعويل وتساقطت الدور وتشققت الجدران وانهدمت مآذن الجوامع والمدارس وروشن كثير من النساء الحوامل ما في بطونهن وخرجت رياح عاصفة فقاض ماء النيل حتى ألقى المراكب التي كان بالشاطيء قدر رمية سهم وغاد الماء عنها فصارت على اليبس وتقطعت مراسيها واقتلع الريح المراكب السائرة في وسط الماء وحذفها إلى الشاطيء وحتى أن الجدر تهدمت والصخور تقطعت والمياه من خلال الأرضين تفجرت وظن الناس أنها الساعة قد قامت فلطف الله بالناس وسكنها فلو دامت ثلاث ساعات لم يبق على الأرض دار. فقد للناس من الأموال شيء كثير فإنهم لما خرجوا من دورهم فزعين تركوها من غير أن يعواعلى شيء مما فيها فدخلها أهل الدعارة وأخذوا ما أحبوا وصار الناس إلى خارج القاهرة وبات أكثرهم خارج باب البحر ونصبوا الخيم من بولاق إلى الروضة ولم تكد دار بالقاهرة تسلم من الهدم أو تشعث بعضها وسقطت الزروب التي بأعلى الدور ولم تبق دار إلا وعلى بابها التراب والطوب ونحوه وبات الناس ليلة الجمعة بالجوامع والمساجد يدعون الله إلى وقت صلاة الجمعة. وتواترت الأخبار من الغربية بسقوط جميع دور مدينة سخا حتى لم يبق منها جدار قائم وصار كوما وأن ضيعتين بالشرقية خربتا حتى صارتا كوما. وقدم الخبر من الاسكندرية بأن المنار انشق وسقط من أعلاه نحو الأربعين شرفه وأن البحر هاج وألقى الريح العاصف موجه حتى وصل باب البحر وصعد بالمراكب الإفرنجية على البر وسقط جانب من السور وهلك خلق كثير.

In a later passage al-Maqrizi (*Kitab al-suluk*, I, p.944) records:
"From Upper Egypt came news of a dark wind which had arisen that same day, obscuring everything for an hour, and preventing people from seeing one another. Immediately afterwards, the ground had swayed and split open, letting forth white sand in some places and red sand in others. The wind had uncovered the earth, revealing

عظيمة يوم الخميس الثالث و العشرين من ذى الحجة عند صلاة الصبح، فتزلزلت الأرض بأركانها، و سمعت للحيطان قعقعة و رعدة، و كذلك السقوف، و مالت الأرض بالماشى و أخرجته عن طريقه، و أرمت الراكب، و قيل للخلق إن السماء انطبقت على الأرض، و كان الماشى يهرب من الخوف إلى زقاق آخر فيجد فيه من الرعد و القعقعة أكثر مما هرب منه، و عرجت النساء مستبيات حاسرات، فما قدرت من الخوف أن تأخذ شيئا تستتر به، و كذلك البنات و الأطفال، و خرجت العذراء من المساجد و الزوايا، و أسقطت كثير من النساء الحبالى حملها، و ورد على البحر ريح بموج عاصف متلاطم، فقاض البحر فيضا حتى طلع بالمراكب التى على ساحل البحر و حدفهم من البحر مع الريح مقدار رمية نشاب، ثم لما عاد الماء إلى حاله بقيت المراكب على اليبس، فتقطعت مراسيها و كذلك مراكب المسافرين اقتلعها الريح من وسط البحر إلى ساحل البر.

و قد ضرب كثير من الأمراء خياما في الفضاء و أخرجوا حريمهم إليهم و كملك خرجت خلق كثير نحو بولاق و الجزيرة و الروضة و غير ذلك، و أصبحت المدينة إذا نظر إليها إنسان لا يجد بيتا صحيحا، إما هادم أو مائل أو وقع من جاز، أو اشتق بناؤه، و هدمت الأزربة التى على البيوت، و بقيت الأتربة و الطوب أكواما أمام البيوت، و قضوا في صبح الجمعة و في ليلتها في سائر الجوامع و المساجد، و أقاموا ليلتهم و يومهم إلى حضر صلاة الجمعة واقفين يبتهلون إلى الله تعالى و يتضرعون. ثم جاءت الأخبار من إقليم الغربية أن بعض بلادها و هى تعرف بسخا هدم جميعه حتى لم يبق فيه حائط، فصار كوما، و كذا جرى على قريتين أخريتين و كذا وقع بإقليم الشرقية ثم شرع الأمراء و السلطان في افتقاد الأعمال الضرورية التى لا بد منها و من إصلاحها.

و قد أفلح الأمير سيف الدين سلار نائب السلطنة ما هدم من الجامع العمرى بمصر، و أصرف عليه مالا جزيلا.

و تصدى الأمير ركن الدين بيبرس الجاشنكير للعمارة جامع الحاكم بأمر الله، و قد كان هدم منه حائط كبير و وقعت مأذنته، و لما نزل إليه و معه المهندسون و المباشرون قال لهم: اجعلوا بالكم في هدم ما يستحق الهدم، فإنى سمعت أن في ركن من أركان هذه المأذنة عهبا كثيرا ادخره الحاكم بأمر الله، و ربما أحاط بحكمته أن يعرض على هذا الجامع عارض من أمر الله يكون ذلك الذهب برسمه و عمارته، فإنه كان رجلا حكيما، ثم إنه عمره كما ينبغى و زاد فيه زيادة واسعة للمصلين، و جدد المأذنة و أمر فيها زيادة، و أوقف عليه أوقافا حسنة، و وضع فيه مدرسا، و حديثا، و صدقا، و مؤذنين، و قراء، و فقهاء، و رتب لهم الرواتب و الصدقات، و أوقف وقفا يكفى ذلك كله، و عند هدم المأذنة وجدوا في ركن منها كفا بزنده مغلوفا في قطن، و عليه أسطر مكتوبة لم يعلم أحد ما هى، و الكف طرية، و عجزوا عن قراءة الكتابة.

و تصدى الأمير سيف الدين سلار لعمارة الجامع الأزهار و إصلاحه، و إصلاح مأذنته، و إصلاح الواجهة التى وقعت، و جدد فيه جميع أماكنه، و بلطه و بيضه، و أنفق عليه نفقات كثيرة، و كان للأمير شمس الدين سنقر الأعسكر مشاركة له في الجامع الأزهر.

و عمر جامع الصالح الذى خارج باب الزويلة من مال بيت المال، و كان الأمير علم امدين سنجر مشده، و أرصدوا لعمارة مأذنة المنصورية للأمير سيف الدين كهرواس الزراق، و أصرف على عمارتها من مال الوقف، و رسم للأمير ركن الدين بيبرس بالسفر لثغر إسكندرية ليكشف ما هدم من المنار و غيره، و أن يرمم جميع ما يحتاج إلى الترميم، و كان نائب إسكندرية كتب إلى السلطان أن الذى هدم المنار ستا و أربعين بدنة، و من السور خمس عشرة بدنة، و رسم السلطان أن يعمر جميع ذلك من مال السلطان.

al-Maqrizi (*Kitab al-suluk*, I, pp.942-3) records:
"In that year there was a terrible earthquake. The reason for this disaster was the wickedness in which people indulged from 5 *Ramadan* [12 April] until the end of *Shawwal* [June], on the occasion of celebrations for the inauguration of the new citadel: during these days, there was every excess in the consumption of alcohol, and it is impossible to describe the scandalous behaviour involved. On Thursday 23 *Dhu 'l-Hijja*, at the hour of dawn prayers, the whole earth shook. Walls were felt to creak, ceilings and floors made noises; anyone who was walking staggered, and anyone on a horse fell to the ground. People had the impression that the sky was pressing down on the earth; everybody poured out into the streets, men and women alike, the latter for-

ancient monuments. The city of Qus was destroyed. A man who was milking a cow was lifted up into the air by the earthquake along with the cow and the pail of milk. When the earthquake subsided, the man found himself a long way away, but not a drop of milk had spilt from the pail. News from Al-Buhayra told that not a single house was left standing at Damanhur al-Wahsh. Of the important buildings destroyed [in Cairo], one was the 'Amr ibn al-'As mosque in old Cairo (Misr); Emir Sallar undertook its reconstruction. Most of the walls of the al-Hakim mosque in new Cairo (Al-Qahira) were destroyed, together with its two minarets; rebuilding work at this mosque was entrusted to Emir Baybars al-Jashankir. The al-Azhar mosque was also destroyed, and Sallar and Emir Sanqar al-A'sar were in charge of rebuilding work. The Salih mosque outside Bab Zuwayla [one of the city gates] was also destroyed, and was rebuilt at the expense of the sultan, under the direction of Emir 'Alam al-Din Sanjar. The minaret of the Mansuriyya madrasa was destroyed, and rebuilding work was carried out using *waqf* funds [funds bequeathed to the madrasa], under the direction of Sayf al-Din Kahradash al-Zarraq The minaret of the Fakahiyyin mosque also collapsed. Then the damage at Alexandria was dealt with: 46 buttresses and seventeen towers were rebuilt there".

وقد ورد الخبر من الوجه القبلي بأن في اليوم المذكور هبت ريح سوداء مظلمة حتى لم ير أحد أحدا قدر ساعة ثم ماجت الأرض وتشققت وظهر من تحته رمل أبيض وفي بعض المواضع رمل أحمر وكشط الريح مواضع من الأرض فظهرت عمائر قد ركبها الماء وخربت مدينة قوص وأن رجلا كان يحلب بقرة فارتفع وقت الزلزلة وبيده المحلب وارتفعت البقرة حتى سكنت الزلزلة ثم انحط إلى مكان من غير أن يتبدد شيء من اللبن الذي في المحلب . وقدم الخبر من البحيرة أن دمنهور الوحش لم يبق بها بيت عامر. وخرب من المواضع المشهورة جامع عمرو بن العاص بمصر فالتزم الأمير سلار النائب بعمارته وخربت أكثر سواري الجامع الحاكمي بالقاهرة وسقطت مأذنتاه فالتزم بيبرس الجاشنكير بعمارته وخرب الجامع الأزهرفالتزم الأمير سلار بعمارته أيضا وشاركه فيه الأمير سنقر الأعسر وخرب جامع الصالح خارج باب زويلة فعمر من الخاص السلطاني وتول عمارته الأميرعلم الدين سنجر وخربت مأذنة المنصورية فعمرت من الوقف على يد الأمير سيف الدين كهرداش الزراق وسقطت مأذنة جامع الفكاهين وكتب بعمارة ماتهدم بالاسكندرية فوجد قد انهدم من السور ست وأربعون بدنة وسبعة عشربرجا فعمرت.

al-Maqrizi (*al suluk*, I, 3, pp.944-5) subsequently adds:
"News from Safad reported that one side of the citadel had collapsed on the day of the earthquake. At Acre, the sea withdrew about two parasangs [12.8 km], revealing a great many objects and commercial goods on the sea bed. The walls of the Umayyad mosque in Damascus cracked. The shock lasted for five *daraja*, but the earth continued shaking for twenty days. Countless victims were buried in the rubble. It was summer, and after the earthquake, the very hot *samum* wind blew for days. In old and new Cairo people set about rebuilding what had been destroyed: the price of building materials rose to dizzy heights because of the demand. Anyone who saw Cairo would have thought that the enemy had come that way and razed it to the ground. It was a sign to the faithful from God; they abandoned all the excesses of the previous days. Many abandoned sin, for news kept arriving from the lands of the Franks and other places struck by the earthquake".

وقدم البريد من صفد أنه في يوم الزلزلة سقط جانب كبير من قلعة صفد وأن البحر من جهة عكا انحسر قدر فرسخين وانتقل عن موضع إلى البر فظهر في موضع أشياء كثيرة في قعر البحر من أصناف التجارة وتشققت جدر جامع بني أمية بدمشق. واستمرت الزلزلة خمس درج إلا أن الأرض أقامت عشرين يوما ترجف وهلك تحت الردم خلائق لا تحصى وكان الزمان صيفا فتوالى بعد ذلك سموم شديدة الحر عدة أيام. واشتغل الناس بالقاهرة ومصر مدة في رم ما تشعث وبنى ما هدم وغلت أصناف العمارة لكثرة طلبها فإن القاهرة ومصر صارت بحيث إذا رآها الانسان يتخيل أن العدو أغار عليها وخربها فكان في ذلك لطف من الله بعباده فإنهم رجعوا عن بعض ما كانوا عليه من اللهو والفساد أيام الزينة وفيهم من أقلع عن ذلك لكثرة توارد الأخبار

من بلاد الفرنج وسائر الأقطار بما كان من هذه الزلزلة.

Furthermore, al-Maqrizi, records in another work (*al-Kitab*, II, p.278):
"Almost all the buttresses collapsed; the tops of two minarets were destroyed, and ceilings and walls suffered massive damage. The task of directing restoration work was entrusted to Emir Rukn al-Din Baybars; he went there in the company of the civil authorities and the generals to assess the damage. He gave the order for the work to begin: what had been destroyed was rebuilt, the buttress arches were reinforced, the roof was renewed, and the walls were painted, so that the mosque became as new. The emir settled many legacies on the region of Jiza, Upper Egypt and Alexandria, thereby producing a substantial annual income. Once more the mosque had its courses in jurisprudence, organised according to the four schools, as well as a course in the Sunna; [the emir] also endowed the mosque with a teacher for each course, and many students flocked to them. [...] During restoration work, an extraordinary thing happened. I was told about this in Mecca, in the year 787, by our master Abu 'Abdallah Muhammad Ibn Dargan Shukr al-Muqri', known as al-Mu'ammar, who had been told by someone who observed the reconstruction work on the al-Hakim mosque, that a chest was found in a niche in the minaret facing Bab al-Futuh. The foreman opened it and found inside, wrapped in a piece of cloth, a human hand with some writing on it which no-one could decipher".

سقط كثير من البدنات التي فيه وخرب أعالي المئذنتين وتشعث سقوف وجدران فانتدب لذلك الأمير ركن الدين بيبرس الجاشنكير ونزل إليه ومعه القضاة والامراء فكشفه بنفسه وأمر برم ما تهدم منه وإعادة ما سقط من البدنات فأعيدت و في كل بدنة منها طاق وأقام سقوف الجامع وبيضه حتى عاد جديدا وجعل له عدة أوقاف بناحية الجيزة و في الصعيد وفي الاسكندرية تغل كل سنة شيئا كثيرا ورتب فيه دروسا أربعة لإقرار الفقه على مذاهب الائمة الأربعة ودرسا لإقراء الحديث النبوي وجعل لكل درس مدرسا وعدة كثيرة من الطلبة. (...) وجرى في بنائه لهذا الجامع أمر يتعجب منه وهو ما حدثني به شيخنا المعروف المسند المعمر ابو عبد الله محمد ابن ضرغان شكر القرىء بمكة في سنة سبع وثمانين وسبعمائة قال أخبرني من حضر عمارة الأمير بيبرس للجامع الحاكمي عند سقوطه في سنة الزلزلة أنه لما شرع البناة في ترميم ما وهي من المئذنة التي هي من جهة باب الفتوح ظهر لهم صندوق من تضايف البنيان فأخرجه الموكل بالعمارة وفتحه فاذا فيه قطن ملفوف على كف انسان بزبدة وعليه أسطر مكتوبة لم يدر ما هي.

INSCRIPTIONS

There are three inscriptions recording the rebuilding of a minaret in Cairo which had collapsed in the earthquake. They have been thoroughly studied by Ciccarello (1996).

■ 1 – Madrasa of Qalawun, Cairo. Date 703/1303-1304 (*RCEA*, XII, 1944, p.243, no.5160).
"[In the name of Allah the All-Merciful]. Our lord, the sultan, the victorious king, victorious in the world and in religion, Muhammmad b. Qalawun as-Salihi, ordered [?] the reconstruction [?] of this minaret, at the time of the phenomenon [?] of the earthquake and the collapse [?] of its upper parts, in the months of the year 703 of the prophetic Hegira."

بسملة (*Kor.* XXIV 36) أمر(؟) بتجديد(؟) هذه المأذنة مولانا السلطان الملك \ الناصر ناصر الدنيا و الدين محمد بن قلاون الصالحي عند ظهور (؟) الزلزلة \ و سقوط أعاليها في شهور سنة ثلاث و سبعمائة من الهجرة النبوية

■ 2 – Madrasa of Qalawun, Cairo. Date 703/1303-1304 (*RCEA*, XII, 1944, p.243, no.5161).
"[In the name of Allah the All-Merciful.] Our lord, the sultan, the victorious king, victorious in the world and in religion, Muhammad b. Qalawun as-Salihi, ordered the reconstruction of this minaret, at the time of the phenomenon of the earthquake and the collapse of its upper parts, in the months of the year 703 of the prophetic Hegira".

There is no mention of the earthquake, however, in other reliable contemporary sources, such as the *Annales Veronenses De Romano* (1259-1306), the *Notae veronenses* (1328-1409) and the *Chronica illorum de la Scala* (823-1341), all of which were published by Cipolla in the collection devoted to *Antiche cronache veronesi* (1890).
The event does appear in the Veronese historiographical tradition. In the 15th century *Cronica di Verona* by Pier Zagata and the anonymous 16th century *Cronica di Verona* (Biblioteca Civica, Verona, *Manoscritti*, 786) it is recorded in very similar terms to those found in the above-mentioned 14th century source. To the bare mention of an earthquake found in the contemporary source, the Veronese historian Dalla Corte (1594) was the first to add the suggestion that many houses collapsed.
Another item of information was added by the 18th century scholar Biancolini (1749), according to whom another shock was felt at Verona on 31 December 1334.
The picture of effects delineated by Dalla Corte and Biancolini became part of the seismological tradition through Goiran (1880) and Bettoni (1888), and penetrated as far as Baratta's catalogue (1901).
In order to improve our state of knowledge, we carried out archive research, but without result. Since the documents of the commune of Verona and of other Veneto towns are largely lost, we also examined church documents (Archivio di Stato, Biblioteca Civica and Biblioteca Capitolare, Verona, and Archivio di Stato, Vicenza).
The fact that chronicle sources for all the rest of the Veneto area are silent on the matter, suggests that the earthquake was both moderate and localised. It also has to be remembered that there was famine and an epidemic in 1334, which may have caused any less than serious effects of the earthquake to be pushed into the background.

▲ 1334 12 04

localities	lat.	long.	I
Verona	45 26	11 00	VI-VII?

⟨ 177 ⟩ **1339 January 13 – February 11** [*Rajab* 739 H.] **Tripoli [Lebanon]**

source 1 al-Yafi'i, *Mir'at*, IV, p.300
source 2 Ibn al-'Imad, *Shadharat*, VI, p.120
literature Taher (1979)
catalogues d. von Hoff (1840); Mallet (1853); Sieberg (1932a)
catalogues p. Poirier and Taher (1980); al-Hakeem (1988); Bektur and Alpay (1988)

In the month of *Rajab* in the year of the Hegira 739, which corresponds to the period 13 January – 11 February 1339, Tripoli (present-day Tarabulus, in Lebanon) was struck by a strong earthquake which killed 60 people.
The principal source for this earthquake is the contemporary Yemeni Arab historian al-Yafi'i (1300-1367), who records:
"In the month of *Rajab* sixty people died in an earthquake at Tripoli in Syria".

في شهر رجب مات فيها ستون نفسا بالزلزة في طرابلس الشام.

The report in Ibn al-'Imad (1622-1679), a late source, is almost identical:
"There was an earthquake at Tripoli in Syria, which killed 60 people".

فيها هلك بطرابلس الشام تحت الزلزلة ستون نفسا.

▲ 1339 01 13 – 02 11 [*Rajab* 739 H.]

localities	lat.	long.	I
Tripoli	34 26	35 51	VIII

⟨ 178 ⟩ **1343 May 26 – 1344 May 14** [744 H.] **Egypt**

sources [manuscript] BNFrance, ms. Ar. 1536, Ibn al-Shihna, *Rawd*, fol.63v.; al-Suyuti, *Kashf*, p.55; Ibn Habib, *Tadhkirat*, II, p.58
catalogue d. *Ambraseys *et al.* (1994)

In the year of the Hegira 744, which corresponds to the period 26 May 1343 – 14 May 1344, Egypt was probably struck by a violent earthquake, but its exact effects are not known. The Arab sources for this earthquake record it along with the disastrous earthquake of 3 January 1344 (see the relative entry) which struck northern Syria and central and southern Turkey. In all probability, however, these were two separate events, since the earthquake of 3 January 1344 was slightly felt at Damascus – the most southerly place to be affected. Effects in Syria and Egypt were mistakenly conflated by various Arab historians, starting with Ibn Habib (1310-1377), a Syrian writer at the time. He provides an exact date for the earthquake, placing it in the month of *Sha'ban* in 744, which corresponds to the period 19 December 1343 – 16 January 1344. There is no doubt, however, that this dating applies to the earthquake in Syria and Turkey, as all the sources for that earthquake agree, and so it is preferable to apply a less precise date (744 of the Hegira) for the Egyptian earthquake, as the other sources confirm. It should also be noted that in the catalogue of Ambraseys *et al.* (1994) the seismic event in Egypt is considered doubtful.
Ibn Habib states:
"In the month of *Sha'ban* in this year [744 of the Hegira], there was a violent earthquake which brought trouble, caused panic, affected the whole country and worried the inhabitants, moving fixed objects and destroying buildings, and that is how it affected Egypt and Syria".

وفي شعبان منها كانت الزلزلة العظيمة المزعجة المحرجة العميمة التي عمت البلاد وغمت العباد وحركت الساكن وخربت الاماكن دخلت الى مصر والشام

Ibn al-Shihna, a historian who was active in the late 14th and early 15th century, records:
"In the year 744 [of the Hegira], there was a violent earthquake in Egypt and Syria and people left for the desert: the earth was shaken by the earthquake and everyone wondered what was happening. I said: flee into the country where you will find that the earth has freed itself of its burdens" [*Kor.* IX, 1-3)].

وفي سنة أربع وأربعين وسبعمائة كانت الزلزلة العظيمة بمصر والشام وخرج الناس الى الصحارى وتواثرت بعدها زلازل وقال زلزلت الارض بنا زلزالها وقال كل من عليها ما لها فقلت ادبروا الى الصحرى فيها قد اخرجت ارضكم أثقالها.

Finally, al-Suyuti (1445-1505) states:
"There was a violent earthquake in Egypt and Syria. People fled out of the towns into the countryside. The first shock was followed by other shocks".

كانت الزلزلة عظيمة في مصر والشام وخرج الناس إلى الصحارى وتواترت بعدها زلازل مرة.

△ There are no elements with which to indicate the parameters.

⟨ 179 ⟩ **1343 October 14 Sea of Marmara** **[Turkey]**

⟨ 180 ⟩ **1343 October 18 Sea of Marmara** ▷ **tsunami** ◁

⟨ 181 ⟩ **1343 November 20 Sea of Marmara**

And the earth [...] trembles, as it is just that it should, ready to devour those who commit similar deeds".

μέχρι τίνος οὐκ ὀργισθήσεται καὶ κλονήσει τὴν γῆν [...] κοινὴ πάντων μήτηρ, ταράσσεται εἰκότως, καταπιεῖν ὀργῶσα τοὺς ταῦτα πράττοντας.

There is what seems to be another reference to these events in a document by the patriarch Callistus I, dating to the autumn of 1350. In it, he lists amongst the signs of divine wrath:
"[...] the terrible earthquakes and movements of the earth which shake it to its foundations, and the sea-waves which drag the angry sea beyond its limits".

[...] οἱ τῆς γῆς ἀναπιναγμοὶ καὶ σεισμοί, ἐκ θεμελίων ταύτην σαλεύοντες, καὶ αἱ τῆς θαλάσσης φοβεραὶ ἐκδρομαὶ καὶ ἐπικλύσεις, βρυχωμένης ὥσπερ ἐν θυμῷ καὶ παρερχομένης τὰ ἑαυτῆς ὅρια.

Tsunami
Set out below are selected passages from the sources in which the effects of the tsunami are mentioned. Nicephorus Gregoras records:
"At the same time, the waters of the sea overflowed, flooding the land over a long stretch where it was flat and suitable for horse-riding, to a depth of ten stades [about 1.8 km]. At times the sea dragged away light vessels, dragging them inland from the ports and coastline where they were lying. And it flooded a great deal of land, overwhelming men, flocks and beasts of burden. The sea-wave returned to its usual and established shores after a considerable time, and mud and dead fish were to be seen everywhere".

Ἐκκέχυται δ' ὁμοῦ καὶ τὸ τῆς θαλάττης ῥόθιον ὡς πορρώτατω τῆς χέρσου. καὶ μάλισθ' ὅπη πεδιὰς καὶ ἱππήλατος ἦν ἡ γῆ, μέχρι καὶ ἐς δέκα σταδίους. συνέξήλασε δ' ἔνια καὶ ἐνιαχοῦ τῶν ἀκατίων, ὅσα πρὸς τοῖς λιμέσι καὶ τοῖς ἄλλοις παραλίοις, καὶ συνέτριψεν ἐν τῷ μεσογείω· καὶ πλείστας δὲ κατέκλυσε χώρας, αὐτοῖς ἀνδράσι καὶ ποιμνίοις καὶ ζεύγεσι. παλινδρομοῦντός γε μὴν τοῦ ῥοθίου μεθ' ἱκανὸν πρὸς τὰς συνήθεις καὶ τεταγμένας εὐνάς, ἦν ἰδεῖν ἰλύος τὰ πάντα μεστὰ καὶ ἰχθύων νεκρῶν.

The chronicle in Bologna, Bibhoteca Universitaria, manuscript 3632 (published in Schreiner 1975, no.9), provides a specific geographical detail about the tsunami at fol.352v.:
"In the year 6852 on [18] October [1343], there was a great earthquake, and the sea rose up as far as Stauros".

ἔτει ,ϛωνβ', ὀκτωβρίω <ιη'>, γέγονε σεισμὸς μέγας, ὅτε ὑψώθη καὶ ἡ θάλασσα ἕως Σταυροῦ.

Stauros (modern Beylerbey) is now situated within the metropolitan area of Istanbul to the north of Chrysoceramus (Janin 1964, p.489).
At fol.147v. in Istanbul codex Hagia Triada 72 (published in Schreiner 1975, no.87.1), we find further chronographical information in the form of details which seem to suggest that the tsunami began at the same time as the earthquake of the evening of 18 October:
"And that same evening [18 October 1343], at the first hour of the night, there was another great and terrifying earthquake, with the result that the sea, too, was disturbed and overflowed its limits. And the sea-wave caused ships to be thrown violently [lacuna] over a large area. And when the sea returned to its place, they were left high and dry".

καὶ τῇ αὐτῇ ἑσπέρᾳ, ὥρᾳ α' τῆς νυκτός, πάλιν σεισμὸς μέγας ἐγένετο καὶ φοβερός, ὡς καὶ τὴν θάλασσαν ταραχθῆναι καὶ ἐκβῆναι ἀπὸ τῶν ὁρίων αὐτῆς. καὶ ἐκ τοῦ ταύτης βρασμοῦ τὰ εὑρεθέντα πλοῖα ἀπὸ τῆς πολλῆς ῥύμης *** ἀπορριφθέντα τόπῳ μακρῷ. καὶ ὑποστρέψασα εἰς τὸν τόπον αὐτῆς ἔμειναν τὰ πλοῖα ἐν τῇ ξηρᾷ.

At fol.47 in Athens manuscript Ethn. Bibl. 1429 (Schreiner 1975, no.113.1), the same information appears in abbreviated form:
"[...] and the sea boiled and overflowed its limits and covered nearby dwellings".

[...] καὶ ἡ θάλασσα ἀνέβρασσε καὶ ἐξῆλθε ἀπὸ τῶν ὁρίων αὐτῆς καὶ ἐκάλυψε τὰ πλησίον αὐτῆς οἰκήματα.

The *Notula* in Istanbul manuscript Chalki Panaghia 78, fol.37v. (published in Athenagoras 1935, p.178), contains this description:
"And also during the night [of 18 October 1343 the earthquake] struck again more powerfully, and the sea rose up towards the walls to the height of a man, or that of two or three men. In both a westerly and easterly direction on the following day, 20 of the month. [the sea] was agitated from the ninth to the eleventh hour".

ἔτι δὲ καὶ τὴν νύκτα γέγονεν σφοδρότερος καὶ ὑψώθη ἡ θάλασσα εἰς τὰ τείχη εἰς μέρη ἀνδρός καὶ εἰς μέρος ψ καὶ εἰς μέρος γ γέγονε δὲ καὶ ἐν τῇ δύσει καὶ ἀνατολῇ τῇ δὲ ψ ημέρα ἤγουν τῇ κ τοῦ μηνὸς ὥρα θ ἐσχίσθη ἕως ὥρας ια'

Grumel (1958, p.481) wrongly dates the earthquake to 11 October. Some catalogues (Papadopoulos and Chalkis 1984, p.311 tab.1; Papazachos *et al.* 1986, p.81, tab.1) wrongly date the tsunami to 1344. According to Papadopoulos and Chalkis (1984, p.311, tab.1) the tsunami also struck Chios, but they are probably confusing it with the tsunami of 20 March 1389, which did indeed strike Chios (see the relative entry).

▲

1343 10 14 at morning

localities	lat.	long.	I	localities	lat.	long.	I
Istanbul	41 02	28 57	VIII	Orta Köy	40 36	26 51	F

1343 10 18 16:15 UT Ts

localities	lat.	long.	I
Beylerbey	41 03	29 04	Ts

1343 11 20

localities	lat.	long.	I
Istanbul	41 02	28 57	F

⟨ 182 ⟩ 1344 January 3 South-easthern Turkey and northern Syria

sources 1: Ibn al-Wardi, *Tatimmat*, II, p.338; Ibn Kathir, *al-Bidaya*, XIV, p.211; al-Maqrizi, *al-Suluk*, II, 3, p.652; al-'Ayni, *'Iqd*, XXIV, 1, p.70 (in Taher 1979, part in Arabic, p.196)
sources 2: BNFrance, ms. Ar 1536, Ibn al-Shihna, *Rawd*, fol.63v.; al-Suyuti, *Kashf*, p.55; Ibn Habib, *Tadhkirat*, II, p.58
literature: Taher (1979); Poirier *et al.* (1980)
historiography: Alishan (1881); Zeyt'unyan (1991)
catalogues d.: von Hoff (1840); Perrey (1850); Sieberg (1932a); *Ambraseys *et al.* (1994)
catalogues p.: Poirier and Taher (1980); al-Hakeem (1988)

On 3 January 1344, a destructive earthquake struck the area comprising present-day central and southern Turkey (eastern Anatolia) and northern Syria. The earthquake is recorded as involving two shocks in close sequence. The effects may have been due to a number of earthquakes which are not easily identifiable in the sources.
At the citadel (castle) of Manbij in Syria, almost all buildings collapsed and there were a great many victims. There was similar damage at other localities in its dis-

trict: the fortresses of Bayra (present-day Birecik), 'Ayntab (present-day Gaziantep) and Rawandan, all of which are in Turkey, and that of Muslimi-ya, in Syria, were largely reduced to ruins. Farther north, there was also massive destruction and widespread collapses at the fortress of Bahasna (present-day Besni in Turkey). Aleppo (Halab) also suffered very serious damage: 32 towers collapsed at its citadel and many houses, mosques and shrines were destroyed. The town walls were also badly damaged. In relation to the worst affected area, it is recorded that the places concerned were abandoned by their inhabitants for more than a month. The felt area stretched as far east as Mardin, and to the south, the earthquake was slightly felt by a few people at Damascus. The report by some sources that it was strongly felt in Syria and Egypt is in all probability to be explained as a conflation of two quite separate seismic events, which have in common only the year in which they occurred (see also entry ⟨ 178 ⟩).

The earthquake is recorded briefly by the contemporary Syrian Arab historian Ibn al-Wardi (1290-1349):

"In that year, towards the middle of *Sha'ban*, there was a tremendous earthquake which caused a great deal of destruction in Aleppo and its province, especially at Manbij, where the fine fortress of Rawandan was damaged".

وفيها في منتصف شعبان وقعت الزلزلة العظيمة وخربت بحلب وبلادهـــا أماكن ولاسيما منبج فإنها أقلت وأزالت محاسنها وكذلك قلعـة الراوندان.

The reliable contemporary Damascene historian Ibn Kathir (1300-1373) provides some extra items of information, reporting in particular that the earthquake was slightly felt at Damascus:

"On Saturday 15 [indeed 16] *Sha'ban*, there was an earthquake at Damascus, of which many were unaware, because it was so weak, thanks be to God. Then there came news that there had been massive [earthquake] damage in the province of Aleppo: some towers had collapsed at the citadel, as had many houses and mosques, shrines and town walls. Many citadels in the surrounding area were also destroyed. It was said that little or nothing remained of the fortress at the town of Manbij and that all those who lived there had died in the ruins. God have mercy on them".

في يوم السبت الخامس عشر منه (شعبان) جاءت زلزلة بدمشق لـم يشعر بها كثير من الناس لخفتها ولله الحمد والمنة ثم تواترت الأخبـار بأنها شعثت في بلاد حلب شيئا كثيرا من العمران حتى سقط بعـض الأبراج بقلعة حلب وكثيرا من دورها ومساجدها ومشاهدها وجدرانهـا وأما في القلاع حولها فكثير جدا وذكروا أن مدينة منبج لم يبق منـها إلا القليل وأن عامة الساكنين بها هلكوا تحت الردم ورحمهم الله.

The contemporary Syrian Arab historian Ibn Habib (1310-1377) is one of the sources for this earthquake who extends the damage zone to Egypt as well:

"In the month of *Sha'ban* in this year [744 of the Hegira], there was a violent earthquake which brought trouble, caused panic, affected the whole country and worried the inhabitants, putting them in a state of agitation and destroying buildings, and that is how it affected Egypt and Syria".

وفي شعبان منها كانت الزلزلة العظيمة المزعجة المحرجة العميمة التي عمت البلاد وغمت العباد وحركت الساكن وخربت الاماكن دخلت الى مصر والشام

Valuable as well as detailed information is to be found in al-'Ayni (1361-1451), a Turkish historian who wrote a chronicle in Arabic. Although he was not alive at the time of the event, he was able to base his record on the first-hand, eye-witness evidence of his father:

"In that year there was a tremendous and dreadful earthquake which caused much destruction in the Egyptian province and above all in Syria, especially in the mountain region. At the fourth hour of the day on Saturday 16 *Sha'ban* in the year 744, the

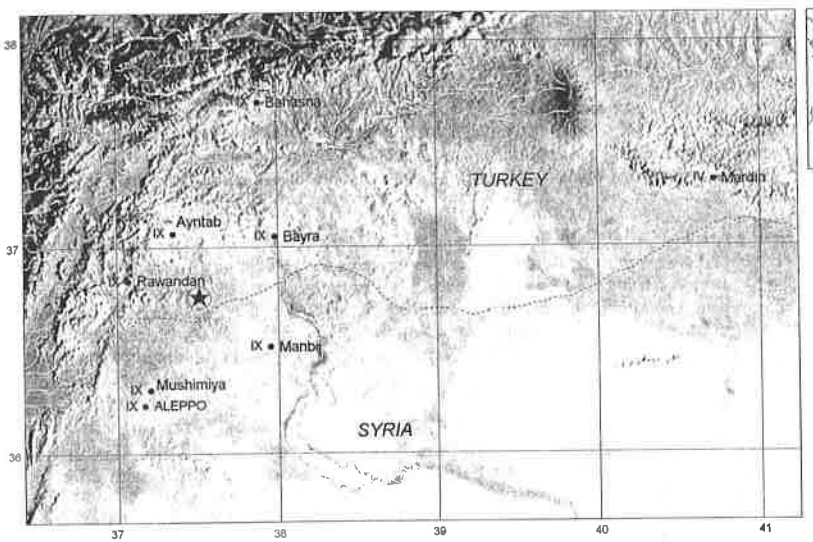


fig. 78

1344
January 3

earthquake struck Aleppo and the surrounding area, causing much of the citadel [of Aleppo] to collapse, and spreading ruin along the northern coast: at 'Ayntab, for example, and at the fortress of the Muslims [Muslimi-ya] [and that] of Al-Bayra. It was said that the shock reached as far as Mardin. The first shock was followed by a second, weaker one. The earthquake inflicted a severe wound on the people of Aleppo. They went out into the countryside and camped there for days. The earthquake was most violent at the town of Manbij, which was entirely destroyed, burying most of the inhabitants in the ruins. About 5,700 men and women survived, but to God we belong and to God we return. My father, who was very young at the time of the earthquake, has told me that the people of 'Ayntab stayed in tents for forty days, as did the inhabitants of Aleppo and the other Syrian towns [affected by the earthquake]".

وفيها كانـــت الزلزلـة العظمى المزعجة التي حركـت السواكـــن وأخربت كثيرا من الأماكن دخلت إلى الشام والديار المصرية وكانت في الشام أكثر ضررا ولا سيما في البلاد الجبلية ويقال في الساعة الرابعـة من نهار السبت السادس عشر من شعبان المكرم من سنة أربع وأربعين وسبعمائة حصلت زلزلة عظيمة بحلب وبلادها وأخربت شيئا كثيرا بقلعـة حلب وبالثغور الشمالية مثل عينتاب وقلعة المسلمين والبيرة وقيل إنهـا وصلت إلى ماردين وحصلت بعد هذه الزلزلة زلزلة لطيفة وحصل عنـد أهل حلب وبلاد بها من ذلك جرح عظيمة فخرجوا إلى ظاهر البلـــد ونصبوا خياما وأقاموا بظاهر البلد أياما وكانـت قوة هذه الزلزلـة في مدينة منبج وتهدمت جميعها وهلك معظم أهلها تحت الردم وما سلم من أهلها من الرجال والنساء مقدار خمسة آلاف وسبعمائة نفس إنا لله وإنا إليه راجعون. ولقد أخبرني والدي أنه كان في أيام الزلزلـة مـا دون البلوغ وأنهم أقاموا بظاهر مدينة عينتاب مقدار أربعين يوما تحت خباء وخيام وكذلك أهل حلب وأهل البلاد الشامية.

Al-Maqrizi (1364-1442) is a reliable source, and well-informed about the earthquake:

"[In the month of *Rajab*], this message came from Aleppo: 'On Saturday 16 *Sha'ban*, thunder and lightning heralded a tremendous, fear-inspiring earthquake felt up to half a mile from Aleppo. Thirty-two towers in the citadel [of Aleppo] were destroyed,

as well as houses. The fortress at Bayra was more than half destroyed, as were the fortresses of 'Ayntab, Rawandan, that of Bahasna and that of the Muslims [Muslimiya]. The district of Manbij was also destroyed. The inhabitants of Aleppo fled into the countryside, setting up tented camps, and leaving the markets closed. Every hour a terrible roar was heard. People gathered in groups, bared their heads, and with their children, Koran in hand, they began praying to God to take this catastrophe away from men. Only God knows exactly how many victims were buried in the ruins. For the work of reconstruction, the assistance of the financial authorities was sought".

في رجب قدم البريد بمحضر ثابت على قضاة بحلب يتضمن أنه لما كان يوم السبت سادس عشر شعبان إذا برعد وبرق أعقبتـه زلزلـة عظيمـة سمع حسها من نصف ميل عن حلب وهو حس مزعج يرض القلوب فهدم من قلعة البيرة أكثر من نصفها وكذلك من قلعة عينتاب وقلعة راونـد يسمع دوى جاريا ثم إنهم تجمعوا وابتهلوا وبلاد منبج وقلعة المسلمين. فخرج أهل حلب إلى ظاهرها وضربوا الخيام وغلقت أسواقها وفي كل ساعة من آخرهم وكشفوا رؤسهم رجموم أطفالهم والصاحة مرفوعة وهم يضجون بالدعاء والابتهال إلى الله برفع هذه المقت فأقاموا على ذلك أياما إلـى خامس عشرية حتى رفع الله ذلك عنهم بعدما هلكت بتلك البلاد تحت الردم خلائق لا يحصيها إلا خالقها فكتب بتجديد عمارة ما هدم مـن القلاع من الأموال الديوانية.

Like Ibn Habib and the historians of later centuries, Ibn al-Shihna, a historian who was active in the late 14th and early 15th century, records an earthquake affecting Syria and Egypt:
"In the year 744 [of the Hegira], there was a violent earthquake in Egypt and Syria and people left for the desert. And the earthquakes continued. It is said [this is a reference to *Sura* 99 of the Koran, entitled 'The Earthquake']: the earth has brought to bear its earthquake upon us and each one who was there asked what ailed her. I said: issue forth into the desert, your earth has shown her strength".

وفي سنة أربع وأربعين وسبعمائة كانت الزلزلة العظيمة بمصر والشام وخرج الناس الى الصحارى وتواترت بعدها زلازل وقال زلزلت الارض بنا زلزالها وقال كل من عليها ما لها فقلت ادبروا الى الصحرى فيها قد اخرجت ارضكم أثقالها.

Finally, al-Suyuti, a reliable source who lived from 1445 to 1505, states:
"There was a violent earthquake in Egypt and Syria. People fled out of the towns into the countryside. The first shock was followed by other shocks".

كانت الزلزلة عظيمة في مصر والشام وخرج الناس إلى الصحارى وتواترت بعدها زلازل مرة.

In our opinion the effects in Egypt were the result of a separate earthquake (see the event listed at the date 1343 May 26 – 1344 May 14).

▲ 1344 01 03 8:00 UT ⊛ = 36 45 37 31 I_0 = IX Me = 6.0 Sites: 9

localities	lat.	long.	I	localities	lat.	long.	I
Aleppo SYR	36 14	37 10	IX	Muslimi-ya SYR	36 18	37 12	IX
Besni TR	37 42	37 53	IX	Rawandan TR	36 50	37 04	IX
Birecik TR	37 03	37 59	IX	Mardin TR	37 19	40 43	IV
Gaziantep TR	37 04	37 21	IX	Damascus SYR	33 30	36 19	IV
Manbij SYR	36 31	37 57	IX				

⟨ 183 ⟩ **1344 November 6 Sea of Marmara [Turkey]**

sources Greg., *Hist.*, 14.2, II, pp.695-6; Cantac., *Hist.*, 3.76, II, p.477; *Chron. min. Byz.* 87.2, in Schreiner (1975, p.613)

historiography Schreiner (1977)
literature Guidoboni and Comastri (2002)
catalogues d. Grumel (1958); Ambraseys and Finkel (1991); Evangelatou-Notara (1993); *Papazachos and Papazachou (1997)

After the earthquake sequence lasting from the autumn of 1343 to the summer of 1344 (see the relative entry), there were further frequent shocks in the autumn of 1344, affecting Constantinople and the Thracian coast at the western end of the Sea of Marmara. The strongest shock occurred on 6 November 1344: on the Thracian coast, the fortresses of Ganos (present-day Gaziköy) were completely destroyed, as was that of Marmara, known as *Teichos*. At the citadel of Chora (Höşköy), the walls and more than half the houses collapsed; and more than three hundred people were buried in the ruins. In Constantinople the east side of the apse in the church of St.Sophia, which had already been damaged in the shocks of the previous year, slowly continued splitting open, with the result that a large number of bricks and mosaic tesserae fell to the ground. The bronze statue of St.Michael on a column in front of the basilica of the Holy Apostles was again damaged, having already suffered in the earthquake of 1296. As a result of damage from the earthquakes of 1343 and 1344, and for lack of prompt restoration work, the east apse and a third of the dome of the church of St.Sophia collapsed on 19 May 1346. But there were no earthquakes on that day. For this "delayed" collapse, see Guidoboni and Comastri (2002). Information about this earthquake is to be found in the writings of two contemporary Byzantine authors: the historian Nicephorus Gregoras and the Emperor John VI Cantacuzenus (1347-1354), as well as in a Byzantine *Notula*. After referring to the shocks which struck Constantinople from the autumn of 1343 to the summer of 1344, Nicephorus Gregoras continues as follows: "But on the very day of the arrival of the following autumn [1344], similar shocks began to disturb and shake the earth again. The shocks were so frequent that their violence overcame the resistance of the bronze statue in angel's garb placed on a brick column, so that its head leaned over on to both shoulders, whereas in the case of the previous statue erected by the Emperor Palaeologus, the model of the city which he held in his hands fell to the ground. These prodigies caused some to suggest and prophesy that

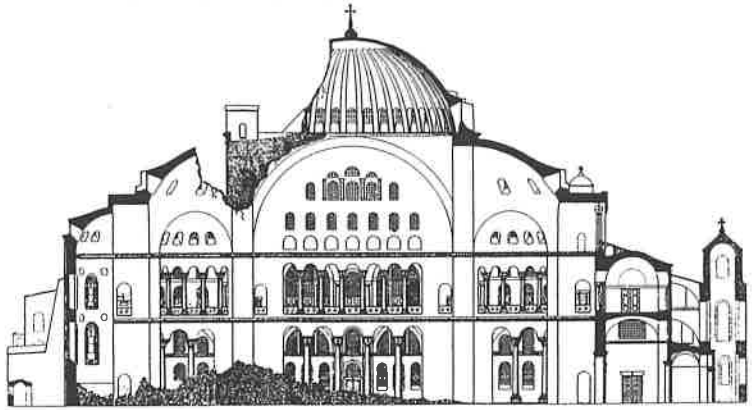


fig. 79 Constantinople (Istanbul): on 19 May 1346, about two years after the earthquake of 6 November 1344, the west side of the dome of the church of St.Sofia collapsed (from Antoniadis 1907). The date of this collapse subsequently became attached in the literature to an (obviously false) earthquake.

palazzi e torri in Ferrara e nelle ville casamenti, fenili, pieze et altri edifitii. Ciò s'intese secondo li avvisi che furono mandati da diverse parti del mondo, del mese et giorno che tirò, qual terremoto durò poco manco di tre hore prima che la terra si fermasse, il che pose grandissimo spavento nel cuore di ciascheduna creatura.

The description of the event provided by Filippo Rodi, a 16th century chronicler (Biblioteca Comunale Ariostea, Ferrara, *Manuscripts*, cl.I, 645), not only repeats much of the evidence from the earlier chronicle, but also adds the detail that many people died in the ruins. This may perhaps be due to the fact that Rodi was *sindaco generale* for the entire Este dominions, and therefore had access to the rich documentary material in the Este state archives, part of which is no longer available.
The shock of 22 February is also recorded in the *Chronicon Regiense*, compiled by another contemporary writer, the notary Sagacino Levalossi: the description is rather confused, but the reference to evening is a detail which suggests that the earthquake was also felt at Reggio Emilia. Levalossi records:
"On 22 February in 1346, there was a great earthquake throughout the world, and it happened late in the day, causing the destruction of many towers and houses".

MCCCXLVI die XXII februarii factus est terraemotus maximus per universum orbem, et fuit in sero, ex quo multae turres, et domus dirutae sunt.

Keeping in mind the way writers expressed themselves in those days, we can use this piece of information — which was taken up in later centuries by chroniclers and historians — to establish one important characteristic of the 1346 earthquake: namely, that it affected a very large area. In *La città di Monza* (ed. Mezzotti, 1838-40, p.69), an anonymous local chronicle of Monza covering twelve centuries, we read:
"Monza 1346. A very violent earthquake occurred on 22 February".

Monza 1346. Terremoto assai gagliardo avvenuto ai 22 di febbraio.

The exact chronology of this seismic sequence is something of a puzzle: were there various shocks or only one? Giovanni da Bazzano provides the most chronological detail by specifying Wednesday, 8 February; and 8 February was indeed a Wednesday. Those other sources which give the date as 22 February do not tell us the day of the week. 22 February was in fact also a Wednesday, but that may be a coincidence. There are also partial discrepancies about the time of day when the shocks occurred. Giovanni da Bazzano says "about the time of one's first sleep", while Sagacino Levalossi uses the vague expression "late in the day"; and when Giacomo da Marano says "at dinner time", he may be referring to the evening meal. All these indications suggest the late evening or night time, but though they agree to some extent, they do not completely coincide. In view of the fact that Giovanni da Bazzano and the other sources have in common only the day of the week, but not the date or the exact hour, we think that there were two earthquake tremors: one on 8 and the other on 22 February 1346, and that they may have been part of a single, more complex seismic sequence.
As for the Lombard area in general, the information provided by Corio's *Historia di Milano* (1503) is too vague to allow us to establish whether the city of Milan suffered earthquake damage or not.
There are a great many references to the earthquake in northern Italian chronicles. In many cases, however, while works we have examined agree in recognising the earthquake as a major event, they do not tell us what places were affected. Conventional expressions are often found:
"almost throughout the universe, the earth was shaken by a huge earthquake...", "terrible earthquakes in Italy and elsewhere", "there was a very great earthquake throughout the world..." etc. Expressions of this kind are repeated by various chroniclers and historians from the 14th century onwards, and also occur in late local historiography.

But the generic nature of this kind of evidence makes it difficult to infer that the earthquake affected all the places where the chronicles were compiled.

▲
1346 02 08

localities	lat.	long.	I
Modena	44 39	10 56	V

1346 02 22 11:00 UT Sites: 3

localities	lat.	long.	I	localities	lat.	long.	I
Ferrara	44 50	11 37	VII-VIII	Reggio nell'Emilia	44 41	10 37	F
Monza	45 35	09 16	V				

⟨ 189 ⟩ 1347 December 8 Cairo [Egypt]

source 1 al-Maqrizi, *Suluk*, II/3, p.741
source 2 al-Suyuti, *Kashf*, p.55
literature Taher (1979)
catalogue d. *Ambraseys *et al.* (1994)
catalogue p. Poirier and Taher (1980)

On 8 December 1347, two earthquake shocks were felt in Cairo, but there is no report of damage. The principal source for the earthquake is al-Maqrizi, a contemporary writer from Cairo, who records: "On Saturday 4 *Ramadan* [748 H. = 8 December 1347], Cairo was twice shaken by an earthquake in a single hour".

و في يوم السبت رابع رمضان زلزلت القاهرة مرتين في ساعة واحدة.

al-Suyuti repeats the same information: "On 4 *Ramadan*, the earth shook twice in an hour at Cairo. Al-Maqrizi mentions this in his chronicle".

في رابع رمضان زلزلت القاهرة مرتين في ساعة واحدة. ذكره المقريزي في تأريخه.

Poirier and Taher (1980, p.2193) give this earthquake an intensity value of grade VI (MM); Ambraseys *et al.* (1994, p.102) give it an epicentral intensity of class F, which is equivalent in their classification to a range from felt to strong (up to grade VI MSK).

▲ 1347 12 08

localities	lat.	long.	I
Cairo	30 03	31 15	V

⟨ 190 ⟩ 1348 January 25 Carinthia [southern Austria] and north-eastern Italy ▷ landslides, obstruction of watercourses, fissures, clouding of water in wells, tsunami? ◁

sources 1 Documents

[manuscripts] ASVe, *Senato*, Misti, reg. 24, fol.71r, 23 aprile 1348; fol.74r, 8 maggio 1348; Resolution by the Chapter at Aquileia, 23 May 1351, in *Cod. dipl. istr.* (ed. Kaendler 1996, pp.1245-6); Innocent VI (pope), Letter to the patriarch of Grado, 14 March 1354, in Joppi (1895, pp.249-51); Lodovico (patriarch of Aquileia), Letter to the king of Hungary, 1362, in Joppi (1895, pp.253-54); four documents in *Monum. Hist. Duc. Carin.* (ed.Wiessner 1968): no.340, 10 January 1351; no.640, 23 August 1364; no.867, 31 March 1380; no.981, 29 November 1391

inter quos maximus bellator [...] Capitaneus exercitus; unus ejus filius parvus non est ibi inventus, sed inventus est longe a Castro per unum milliare, qui erat in lecto cum patre. Interrogatus, quomodo huc portatus fuisset, dixit, quod portatus fuit per unum cancellum, sed quomodo, nec a quo nesciebat. Hoc maximum damnum fuit Januensibus.

Byzantine sources are more succinct, for they simply mention the death of Francesco Gattilusio. What is known as the *Short Chronicle of Lesbos* (in Schreiner 1975, no.30) records:
"And he [Francesco Gattilusio, lord of Lesbos] was killed by the earthquake which occurred on 6 August in the year 6891 [1 September 1382 – 31 August 1383], dating from the Creation of the World, and from the Coming of Christ, the year 1384 [...]".

καὶ ἀπεκτάνθη ὑπὸ τοῦ γεγονότος σεισμοῦ κατὰ τὴν ς' τοῦ αὐγούστου ἐν ἔτει ,ςωϙα', ἔτους ἀπὸ κτίσεως κόσμου, ἀπὸ δὲ Χριστοῦ καταβάσεως ,ατπδ' [...].

There is a short *Notula* in the Andros ms. Monastery of Zoodochos Pigi 88 (in Schreiner 1977, p.613, no.49; previously published in Lampros 1910, p.144, no.73), which may derive from the above chronicle (as is suggested by the wrong dating to 6891: Schreiner 1975, p.218), or more likely, from a more extensive common source:
"Then [after a devastating typhoon on 6 August 6891 = 1383] frequent terrible earthquakes occurred, and the rest of the city [of Mitylene] collapsed, falling on most of the inhabitants".

εἶτα ἐπεγένοντο φρικώδεις σεισμοὶ καὶ συνεχεῖς ὧν καὶ ἡ λοιπὴ κατέπεσε πόλις καὶ πλείστους τῶν πολιτῶν συνέχωσεν.

Lampros wrongly dated the *Notula* to 1374. *Prosopographisches Lexikon der Palaiologenzeit* 3594 dates the death of Francesco Gattilusio to 6 August 1384.
Reference is also made to this earthquake by Demetrius Cydones, a Byzantine theologian and politician, in a letter to Rhadenus:
"Francesco [Gattilusio] lies buried under a great quantity of dust, mud, wood, iron and stone. Great earthquakes caused towers which he had built to collapse on top of him, as he sought safety for himself and his children. But he found a tomb instead of a bed and a rock instead of a haven".

Φραντζίσκος, καὶ κεῖται πολλῇ δὴ κόνει καὶ πηλῷ καὶ ξύλοις καὶ σιδήρῳ καὶ λίθοις συγκεχωσμένος, μεγάλων σεισμῶν αὐτοῖς κατενεγκόντων τοὺς πύργους, οὓς ἐκεῖνος σωτηρίαν μὲν αὑτῷ καὶ παισὶ μηχανώμενος ἤγειρεν, εὗρε δὲ τάφους ἀντὶ θαλάμων καὶ σκοπέλους ἀντὶ λιμένων.

The story of how Francesco Gattilusio's son was saved is not only related in Pietro Gazata's chronicle, but also mentioned in the diary of a Spanish ambassador, Ruy Gonzalez de Clavijo, who stopped at Mitylene at the beginning of October 1403, during a long journey which took him from Cadiz (in Spain) to the court of Tamerlane at Samarkand (in present-day Uzbekistan). Clavijo writes:
"The inhabitants of the island are Greek, and were once subject to the empire of Constantinople, but now [in 1403] they are ruled by a Genoese called *messer* Giovanni Gattilusio, whose father married a daughter of the emperor. We heard an extraordinary story about the present lord of the island, according to which, about twenty years ago, while he and his father, mother and two brothers were sleeping in a castle building, the island was shaken by an earthquake. The building collapsed and everyone was killed, except for Giovanni, who was protected by his cradle. Amazingly, he was found the next day, safe and sound, in a vineyard below the castle, at the foot of a very high crag.".

é la gente desta isla es Griega, é solian ser del Imperio de Constantinopla, é agora es de un Genovés que ha nombre Micer Juan de Catalus, é su padre ovo casado con una fija del Emperador de Constantinopla, é de que [desque] agora es Señor desta isla contaban una muy grande maravilla, y decian, que agora puede aver veinte años, que temblára aquella isla una noche, é que este Señor y su padre é su madre é otros dos sus hermanos, que dormian en un palacio del castillo, é que cayera aquella noche, é que murieran todos salvo este que escapó en una cuna en que estaba, é fallaronlo otro dia en una viña que al pie del castillo estaba, ayuso de unas peñas muy altas, que fué una gran maravilla escapar.

The date 6 August 1383 is accepted by Perrey (1850, p.19), Mallet (1853, p.44), Wirth (1966, p.394), Galanopoulos (1961, p.8; 1981, p.693), Evangelatou-Notara (1993, p.77), and Papazachos and Papazachou (1997, p.194). The date 6 August 1384 has to be kept, since Francesco Gattilusio was still alive in June of that year.

▲ 1384 08 6 at night

localities	lat.	long.	I
Mitylene	39 06	26 33	IX

⟨ 226 ⟩ **1385 September 19–20 Cairo [Egypt]**

sources 1 Ibn Hajar, *Inba'*, I, p.303; al-Maqrizi, *al-Suluk*, III/2, p.534; al-Jawhari, *Nuzhat*, I, p.120
source 2 al-Suyuti, *Kashf*, p.56
literature Taher (1979)
catalogue d. *Ambraseys *et al.* (1994)
catalogue p. Poirier and Taher (1980)

During the night of 19-20 September 1385, two weak earthquake shocks were felt in Cairo. They are recorded by the Arab historians al-Maqrizi (1364-1442), Ibn Hajar (1372-1449), al-Jawhari (15th – 16th century) and al-Suyuti (1445-1505). Al-Maqrizi records:
"On the night of Tuesday 13 [*Sha'ban*], there was an earthquake at new Cairo which caused the earth to shake slightly, twice".

في ليلة الثلاثاء ثالث عشر (شعبان) زلزلت القاهرة مرتين زلزالا قليلا.

Ibn Hajar writes:
"In the month of *Sha'ban*, the earth shook slightly in old and new Cairo (*Misr wa'l-Qahira*). It happened on 13 of that month".

في شعبان زلزلت مصر والقاهرة زلزلة لطيفة وذلك في الثالث عشر منه.

Al-Jawhari's report is similar:
"on Tuesday 13 *Sha'ban*, there were two earthquake shocks at new Cairo, but they were slight".

و في يوم الثلاثاء ثالث عشر شعبان وقعت بالقاهرة زلزلة مرتين ، لكنها خفيفة.

Finally, al-Suyuti records:
"In the year 787, during the night of 13 *Sha'ban*, old and new Cairo shook in a weak earthquake shock".

و في سنة سبع و ثمانين زلزلت مصر و القاهرة زلزلة لطيفة في ليلة الثالث عشر من شعبان.

▲ 1385 09 19–20 at night

localities	lat.	long.	I
Cairo	30 03	31 15	III-IV

⟨ 227 ⟩ **1386 March 17 Naples [southern Italy]**

source *Cron. Sic.*, p.64

This earthquake is unknown to Italian seismic catalogues.
On 17 March 1386, Naples was struck by an earthquake described as "very great" (*maximus*). In our present state of knowledge, the only available source is the contemporary *Cronicon Siculum*, which was written in the second half of the 14th century by an anonymous chronicler who was probably Neapolitan. The source does not directly state what damage was caused, but provides a qualitative assessment (*maximus*) of the event. In doing so it is following a common practice amongst medieval chroniclers. Such adjectives are all the more significant in texts as terse as those of medieval chronicles. By making comparisons as to the use of these terms in documentary or epigraphic texts, it has often transpired that an earthquake described as maximus was one which caused damage. We therefore think it likely that there was damage at Naples The relevant text of the *Cronicon Siculum* (p.64) reads as follows:
"In the same year [1386], in the same month [March], on 17 of that month, [...] there was a very great earthquake at the city of Naples".

Eodem anno, eodem mense XVII eiusdem mensis [...] fuit maximus terremotus in civitate Neapolis.

▲ 1386 03 17

localities	lat.	long.	I
Naples	40 51	14 16	VII-VIII?

⟨ 228 ⟩ **1386 July 17 Cairo [Egypt]**

sources 1 al-Maqrizi, *al-Suluk*, III/2, p.546; Ibn Hajar, *Inba'*, I, p.315; al-Jawhari, *Nuzhat*, I, p.134
sources 2 al-Suyuti, *Kashf*, p.56; al-Suyuti, *Husn*, II, p.307
literature ·Taher (1979)
catalogue d. *Ambraseys *et al.* (1994)

On 17 July 1386, a slight earthquake shock was felt in Cairo. Al Maqrizi (1364-1442) records it amongst the events of *Jumada II* in 788 (= 2 February 1386 – 21 January 1387):
"On Tuesday 18 at the fourth hour, new Cairo shook in a slight earthquake shock".

و في يوم الاثنينُ ثامن عشره زلزلت القاهرة في الساعة الرابعة زلزلة خفيفة.

Ibn Hajar (1372-1449) is a little vaguer:
"in the month of *Jumada II*, the earth shook slightly".

و في جمادى الآخرة زلزلت الأرض زلزلة لطيفة.

Al-Jawhari (15th – 16th century) extends the felt area to include old Cairo as well:
"On 18, which was a Monday, there was a slight earthquake shock at about the fourth hour in old and new Cairo".

و في ثمان عشره – الذي هو الاثنين – زلزلت القاهرة و مصر في الساعة الرابعة زلزلة خفيفة.

Finally, the report is also taken up by al-Suyuti (1445-1505) in two different works: in *Husn* (II, 307), he writes:
"in the year [7]88, in the month of *Jumada II*, the earth was shaken by a slight earthquake".

و في سنة ثمان و ثمانين في جمادى الآخرة زلزلت الأرض زلزلة لطيفة.

And in *Kashf* (56): "On 18 *Jumada II*, there was a slight earthquake".

في ثامن عشر جمادى الآخرة زلزلت الأرض لطيفة.

▲ 1386 07 17 7:45 UT

localities	lat.	long.	I
Cairo	30 03	31 15	III-IV

⟨ 229 ⟩ **1387 March 5 Iadera [Croatia]**

sources Paolo de Paolo, *Mem.*, p.424
literature Albini (2004)
catalogues d. Kispatic (1891-92)
catalogues p. Shebalin *et al.* (1974)

This earthquake is listed in Kispatic's catalogue (1891-92) and recorded in the parametric catalogue of Shebalin *et al.* (1974), but studies are still at a preliminary stage. The review carried out by Albini (2004) considers the single source currently known to record it.
All our information about this and another four earthquakes felt at Iadera (present-day Zadar) in the late 14th and early 15th century (see entries ⟨ 233 ⟩, ⟨ 250 ⟩, ⟨ 251 ⟩, ⟨ 261 ⟩ in this catalogue) come from the sole contemporary author to record them, namely Paolo de Paolo. He lived at Zadar and wrote a chronicle recording events at the city between 1371 and 1407. However, no manuscript copies or critical editions of Paolo de Paolo's work survive; all we have is a 1668 edition published by Giovanni Lucio, and we do not know whether it is complete and/or revised. In Thomas Trattner's republished edition of 1758, Paolo de Paolo's text is shorter than in Lucio's 1668 edition, so it is difficult to assess this "lost" source.
On 5 March 1387, between 5:00 and 8:00 UT ("during the third hour", in canonical time) there was an earthquake at Zadar, described as "great" (*magnus*). Since Paolo de Paolo does not provide further information about effects, any intensity estimate for this earthquake is based solely on the term "great".
Paolo de Paolo's text, as published by Lucio (1668, p.424) is the following:
"1387. [...] In the same year, on 5 March, at the third hour, there was a great earthquake at Iadera".

1387 [...] Eodem anno die 5. Martii, hora tertiarum fuit in Iadra terraemotus magnus.

The earthquake is listed in Shebalin *et al.* (1974) with an epicentral intensity of grade IX MSK, but doubt is expressed by means of a question mark. According to Albini (1994, p.686), the fact that the indication of the date and time of the earthquake does not follow the description of effects, and that the writer goes on to describe life in the town without recording any substantial change, suggests that the intensity has been overestimated and should be reassessed. However, he does not provide a suggested intensity.
The source does not tell us whether the earthquake was felt elsewhere. It is therefore not possible to attribute an epicentral intensity to the event, but only to the site. We agree with Albini that it must be much lower than the value given in Shebalin *et al.* (1974).

▲ 1387 03 05 5:00–8:00 UT

localities	lat.	long.	I
Zadar	44 07	15 15	V-VI