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EARTHQUAKES AT CONSTANTINOPLE AND VICINITY, A.D. 342-1454

By GLANVILLE DOWNEY

THE frequency of earthquakes of all grades of severity at Constantinople,¹ and the varying degrees of detail with which they are recorded in the sources, have made it difficult to draw up a definitive catalogue of these disasters. The seismologists, who have often had to use the literary sources at second or third hand, have not been able to study the ancient accounts critically, with the result that on occasion the same disaster, being described differently (and sometimes dated differently, or with different methods of reckoning) by various sources, appears in their catalogues as two or even more disasters.² The present list has been compiled in an effort to clear up these discrepancies and confusions; but it is realized that there may remain chronological problems which the present writer has thus far not detected. In some cases only the major source or sources for a given earthquake have been cited, and repetitious references in later historians have been omitted. Descriptions of the damage done have not been reproduced, though the major buildings and monuments are mentioned when they were affected. Earthquakes which probably affected Constantinople, or might have affected it, are listed even though the sources do not specifically mention the city. The present list, in conjunction with A.M. Schneider's catalogue of the fires in Constantinople,³ will, it is hoped, assist both the historian and the archaeologist in their researches on the history of the city.

A.D. 342. Jerome, *Chron.*, Olymp. 281, fifth year of Constantius: earthquakes in eastern part of Empire. This appears to be the first earthquake following the foundation of Constantinople for which evidence is preserved.

358 (24 August). Amm. Marc. 17.7.1-8: earthquake which destroyed Nicomedia (see W. Ruge, "Nikomedeia," Pauly-Wissowa, *Real-Encyclopädie*, xvii, 478). Ammianus states that the shocks were felt throughout Asia, Macedonia and Pontus.

¹ O. Weismantel calculates that between 500 B.C. and A.D. 1890 Byzantium and Constantinople suffered 584 earthquakes: *Die Erdbeben des vorderen Kleinasien in geschichtlicher Zeit* (Diss., Marburg, 1891), p. 9.

² Among the catalogues which may be consulted are: A. Perrey, "Mémoire sur les tremblements de terre ressentis dans la péninsule turco-hellénique et en Syrie," *Acad. Royale de Belgique, Mémoires couronnés et mémoires des savants étrangers*, xxiii (1848-1850), 1-73; R. and J. W. Mallet, *The Earthquake Catalogue of the British Association* (London, 1858); F. W. Unger, *Quellen der byz. Kunstgeschichte* (Vienna, 1878), pp. 92-100; Joh. Fried. Jul. Schmidt, *Studien über Vulkane und Erdbeben* (Leipzig, 1881), ii, 143-157; E. Oberhummer, list of earthquakes and fires in "Constantinopolis," Pauly-Wissowa, *Real-Encyclopädie*, iv (1901), 1000; J. Dück, "Die Erdbeben von Konstantinopel," *Die Erdbebenwarte*, iii (1903-04), 121-139, 177-196 (the best of the published catalogues); E. M. Antoniades, *Ekphrasis tes Hagias Sophias* (Athens 1907-1909), i, 22; W. Capelle, "Erdbebenforschung," Pauly-Wissowa, *Real-Encyclopädie*, Suppl. 4 (1924), p. 356; B. Willis, "Earthquakes in the Holy Land," *Bulletin of the Seismological Society of America*, xviii (1928), 73-103. For the bibliography of earthquakes, see F. Montessus de Ballore, *Bibliografía general de temblores y terremotos* (Santiago de Chile, 7 parts in 3 v., 1915-1919).

³ "Brände in Konstantinopel," *Byz. Ztschr.*, xli (1941), 382-403.

365 (21 July). Amm. Marc. 26.10.15-19; Socrates, *Hist. eccl.* 4.3=PG, LXVII, 468; Libanius, *Orat.* 18.292; *Chron. syr.* in Land. *Anec. syr.* I, 106; Hymn of Ephraemius, transl. by G. Bickell in *Zeitschrift f. Kirchengeschichte*, II (1878) 354; *Chron. Pasch.* p. 556.15-16 Bonn ed.; *Consularia Const.*, p. 240, ed. Mommsen, *Chron. min.*, I; *Consularia italica*, pp. 294-295, *ibid.*: an earthquake throughout the world, which was especially severe at Alexandria. Cf. Theophanes, A.M. 5859, p. 56.10 ff., ed. De Boor, who, with Jerome, *Chron.*, Olymp. 286, indicates 366 as the date.

395 or 396. Glycas, p. 478.20 ff., Bonn ed.: a severe earthquake throughout the world.

402. Synesius, *Epist.* 61, p. 672, ed. Hercher, *Epistolographi Graeci*, speaks of an earthquake which occurred at Constantinople when he left the city in 402.

403. Theodoret, *hist. eccl.* 5.34: earthquake at Constantinople.

407 (April). *Chron. Pasch.* p. 570.3 ff., Bonn ed.: severe earthquake at Constantinople.

412. *Patria*, in *Scr. orig. Const.*, 2.150.5 ff., ed. Preger: earthquake at Constantinople.

417 (April). *Chron. Pasch.*, p. 574.7 ff., Bonn ed.: severe earthquake at Constantinople.

423 (April). *Chron. Pasch.*, p. 580.6 ff., Bonn ed.: many earthquakes, not located, but presumably including Constantinople.

437 (25 September). This severe earthquake at Constantinople is recorded by Theophanes (p. 93.5-20, ed. De Boor) under the year A.M. 5930, which began on 25 March A.D. 437, and in the twenty-ninth year of Theodosius II, which was reckoned conventionally from 1 September A.D. 437. The *Synaxarium eccl. Const.*, p. 79.18 ff., ed. Delehaye (*Prophylaeum ad Acta SS. Novembris*), records the date as 25 September, so that the event took place on 25 September A.D. 437. The disaster is also described by Cedrenus, 1.599.19 ff., Bonn ed.; Glycas p. 483.5 ff., Bonn ed.; Evagrius 1.17; Nicephorus Callistus Xanthopoulos, *Hist. eccl.* 14.46=PG, CXLVI, 1216-1221; Constantine Manasses, vv. 2746-2753, p. 119, Bonn ed.; Georgius Monachus 2.604.16 ff., ed. De Boor; Pope Felix III, *Epist.* 3=PL, LVIII, 909-910 C. See also F. X. Bauer, *Proklos von Konstantinopel* (Munich, 1919), pp. 50-56. Certain details of this earthquake are mistakenly given by some sources as belonging to the earthquake of 447 (see below).

442. Theophanes, A.M. 5934, p. 96.12, ed. De Boor: not located, but presumably at Constantinople.

447. *Chron. Pasch.* p. 586.6, Bonn ed.; Marcellinus Comes, *Chron.*, *ad ann.*: severe earthquake at Constantinople. Certain details of this disaster, as given in some accounts, belong to the earthquake of 437.

450 (26 January). Malalas, p. 363.20 Bonn ed.; *Chron. Pasch.* p. 589.6, Bonn ed.; cf. *Synaxarium eccl. Const.* p. 425.1-17, ed. Delehaye: severe earthquake at Constantinople.

About 467/8. Evagrius 2.14=Priscus, *frag.* 43, *FHG* 4.110: earthquakes in Thrace and the Hellespont; severe rains in Constantinople and Bithynia.

477 (25 September). Theophanes, A.M. 5970, p. 125.29 ff., ed. De Boor=Cedrenus 1.618.16 ff., Bonn ed.: severe earthquake at Constantinople.

487 (26 September). *Chron. Pasch.* p. 605.16, Bonn ed.: earthquake at Constantinople, the damage extending "for a short distance, as far as the Taurus."

525 (4-7 October). *Synaxarium eccl. Const.*, pp. 116.45, 117.1-3, ed. Delehaye; Cedrenus 1.640.10 ff., Bonn ed.: severe earthquake in center of Constantinople. There were also severe earthquakes at Antioch in this and the following year: C. O. Müller, *Antiquitates Antiochenae* (Göttingen 1839), pp. 15-16.

526. Zonaras 8.263.11, Bonn ed.; Glycas p. 493.18 (cf. p. 500.7), Bonn ed.: severe earthquake at Constantinople, causing collapse of many buildings and churches, and of the statues of Arcadius and Theodosius I. Damage was done at Nicomedia and Nicaea. A major earthquake occurred at Antioch in May of the same year (see preceding entry).

532. Malalas p. 456.19–20, Bonn ed.: earthquakes “everywhere.”

533 (November). Malalas p. 478.8, Bonn ed.; *Chron. Pasch.* p. 629.10, Bonn ed.: earthquake at Constantinople, which, according to the *Chronicon Paschale*, did no damage.

542 (16 August). Theophanes, A.M. 6034, p. 222.25, ed. De Boor; Cedrenus 1.656.2, Bonn ed. Severe earthquake at Constantinople.

543 (6 September). Malalas p. 482–12 Bonn ed.; Theophanes, A.M. 6036, p. 224.11 ff., ed. De Boor. Earthquakes throughout the world, especially severe at Cyzicus.

546. Theophanes, A.M. 6038, p. 225.5 ff., ed. De Boor: earthquake at Constantinople.

548 (February). Theophanes, A.M. 6040, p. 226.4 ff., ed. De Boor; Procopius, *Wars* 7.29.4–5; Cedrenus 1.658.8, Bonn ed.; cf. Malalas p. 483.22, Bonn ed.: earthquake at Constantinople.

554 (August). Agathias 2.15, p. 95.18, Bonn ed.; Malalas p. 486.23 ff., Bonn ed.; Theophanes, A.M. 6046, p. 229.5, ed. De Boor; Cedrenus 1.674.12 ff., Bonn ed.: earthquakes at Constantinople and throughout the Empire.

555 (11 July). Theophanes, A.M. 6047, p. 229.29 ff., ed. De Boor: location not specified, presumably at Constantinople.

557 (14 December). Agathias 5.3, p. 281.19 ff. (cf. 5.9, p. 295.16 ff.), Bonn ed.: Malalas p. 488.20 ff., Bonn ed.; Theophanes, A.M. 6050, p. 231.13, ed. De Boor; cf. *Synaxarium eccl. Const.* p. 308.29–32, ed. Delehaye; Cedrenus 1.676.20, Bonn ed.; Zonaras 3.170.13, Bonn ed.; Malalas p. 489.19 ff., Bonn ed.; Theophanes, A.M. 6051, p. 232.27 ff., ed. De Boor. Severe earthquake at Constantinople; damage was done to the city walls and to churches, especially to those beyond the Hebdomon. This was the earthquake which led to the collapse of the eastern semi-dome and probably part of the main dome of St Sophia on 7 May 558.

About 580. Evagrius 5.17 mentions an earthquake at Antioch in 577 or 581 (on the date, which is not certain, see Valesius’ note in his commentary on Evagrius, ed. 2 [Moguntiae 1679], pt. 2, p. 119). He then goes on to say that there were other severe earthquakes (presumably at about the same time) at Antioch and Constantinople.

583 (10 May). Theophanes, A.M. 6075, p. 252.29 ff., ed. De Boor; Cedrenus 1.691.17 ff., Bonn ed.: severe earthquake at Constantinople.

611 (20 April). *Chron. Pasch.* p. 702.7 ff., Bonn ed.: earthquake at Constantinople,

740 (26 October). Theophanes, A.M. 6232, p. 412.6 ff., ed. De Boor; Cedrenus 1.801.9 ff. Bonn. ed.; *Il Menologio de Basilio II* (Turin 1907), p. 142 (*Codices e Vaticanis selecti*, 8) cf. *PG*, cxvii, 129 C–D; *Synaxarium eccl. Const.* p. 166.31–37, ed. Delehaye. The disaster is also mentioned by the Patriarch Nicephorus, *Hist. synt. (Nicephori opuscula historica*, p. 59.2–14, ed. De Boor). The date 732 assigned to the disaster by De Boor in the margin of his edition of Nicephorus, published in 1880, is an error; the disaster is the same as that described by Theophanes (which Theophanes dates in 740), as De Boor recognizes in his edition of Theophanes, published in 1883. Nicephorus does not date the event, but describes it immediately before his account of the death of Leo III in the same year (the twenty-fourth of his reign). This was a severe earthquake at Constantinople and its vicinity; damage to the Church of St Eirene and to other buildings is mentioned. Cf.

S. Der Nersessian, "Remarks on the Date of the Menologium and the Psalter Written for Basil II," *Byzantion*, xv (1940-41), 104.

742. Theophanes, A.M. 6234, p. 416.11 ff., ed. De Boor: earthquakes "everywhere."

780-797 (17 March). The *Synaxarium eccl. Const.*, p. 544.27-31, ed. Delehaye, records an earthquake in the reign of Constantine VI (780-797), on 17 March, which does not seem to be identical with the disasters of 790 or 796.

790 (9 February). Theophanes, A.M. 6282, p. 464.25 ff., ed. De Boor; Cedrenus 2.23.23 ff., Bonn ed.: severe earthquake at Constantinople.

796 (May). Theophanes, A.M. 6288, p. 470.9-10, ed. De Boor: severe earthquake at Constantinople.

862. *Theoph. Cont.* 4.34, p. 196.20 ff., Bonn ed. (cf. p. 198.4); Scylitzes in Cedrenus 2.173.15 ff., Bonn ed.; cf. Nicetas Paphlagon, *Vita Ignatii*, in *PG* cv, 525 A-B. Severe earthquake at Constantinople. See A. A. Vasiliev, *The Russian Attack on Constantinople in 860* (Cambridge, Mass., 1946) 224-225 and J. B. Bury, *A History of the Eastern Roman Empire* (London, 1912), p. 198, n. 4; 445, n. 1.

866 (between 25 March and 21 April). Symeon Magister describes this earthquake (*De Michaele et Theodora* 41, p. 677.5 ff., Bonn ed.) after his account of the oath taken at the Chalkoprataia on the festival of the Annunciation, 25 March (p. 676.17 ff.) and before his account of the murder of Bardas, which took place on 21 April (p. 678.20 ff.; cf. J. B. Bury, *A History of the Eastern Roman Empire* [London, 1912], 171-172. Symeon mentions that the statue on the column at St Anne's at the Deuteron was thrown down. Georgius Hamartolus appears to have confused the chronology of this disaster with the date of the earthquake which occurred on 9 January 869 (see below), though he describes both earthquakes (his account of that of 866 appears at p. 12 of the edition of V. M. Istrin).

869 (9 January). The great earthquake which occurred on this day, and continued for forty days and nights, is described by a number of sources, listed below. The principal results of the disaster, according to these accounts, were damage to St Sophia and destruction of the Church of the Virgin of the Sigma. The Church of the Holy Apostles, though it is not specifically mentioned, was presumably damaged in the earthquake of 866 or in that of 869 (or both), for it was repaired and strengthened by Basil I (867-886): Constantine Porphyrogenitus, *Vita Basilii* 80, p. 323.1-5, Bonn ed. The date of the disaster is given by Symeon Magister, *De Basilio Maced.* 5, p. 688.14 ff., Bonn ed., as the third year of Basil I (who reigned 867-886), on the festival of St Polyeuctus, 9 January. This date is confirmed by the notice of the earthquake in the *Patria*, p. 272.13 ff., ed. Preger, which dates the event on Sunday, the festival of St Polyeuctus; and 9 January was a Sunday in 869. The *Synaxarium eccl. Const.*, p. 380.19-23, ed. Delehaye, under 9 January, records the commemoration of the "great earthquake" which occurred "at the beginning of the reign of Basil." Nicetas Paphlagon, *Vita Ignatii*, *PG*, cv, 549 A-B, dates the event on 9 January, before the opening of the eighth synod, which met on 5 October 869. Leo Grammaticus, p. 254.11 ff., Bonn ed., dates the event on the festival of St Polyeuctus, and the same date is given by Theodosius of Melitene, p. 177, ed. Tafel. Georgius Hamartolus, p. 18, ed. Istrin, gives the date as the festival of St Polyeuctus, but relates the event before he describes the deposition of Photius, which took place on 23 November 867. He may have confused the chronology of this earthquake with that of 866, which took place between 25 March and 21 April (see above), though he does describe the disaster of 866 (p. 12, ed. Istrin).

948. *Theophanes Continuatus* p. 441.15 ff., Bonn ed.: earthquake at Constantinople.

989 (26 October). Leo Diaconus, p. 175.21 ff., Bonn ed.; Scylitzes in Cedrenus 2.438.3 ff., Bonn ed.; Glycas, p. 576.7 ff., Bonn ed.; Johannes Geometres, *PG*, cvi, 919 A; *Synaxarium*

eccl. Const., p. 166.38-44, ed. Delehay. This was a disastrous earthquake affecting Constantinople, Nicomedia, Thrace, Bithynia and Laconia; the shocks were even felt in Italy. Many churches in Constantinople were damaged. The western dome of St Sophia collapsed, and the repairs instituted by Basil required six years to be completed. Cedrenus (Scylitzes) wrongly dates the event in 986. Cf. S. Der Nersessian, "Remarks on the Date of the Menologium and the Psalter Written for Basil II," *Byzantion*, xv (1940-41), 104-106, 110-111.

1010 (January-March). Scylitzes in Cedrenus, 2.456.15 ff., Bonn ed.: earthquake at Constantinople, causing collapse of the domes of the churches of All the Saints and of the Forty Saints.

1037 (18 December). Scylitzes in Cedrenus, 2.515.14-16, Bonn ed.: earthquake, location not specified, but presumably at Constantinople.

1038 (2 November). Scylitzes in Cedrenus, 2.518.6-8, Bonn ed.: earthquake, location not specified, but presumably at Constantinople.

1041 (February). Scylitzes in Cedrenus, 2.522.4-6, Bonn ed.: earthquakes at Constantinople and elsewhere, especially Smyrna.

1042 (June). Scylitzes in Cedrenus, 2.532.21-22, Bonn ed.: earthquake, location not specified, presumably at Constantinople.

1064 (September). *Scylitzes Continuatus*, p. 657.7 ff., Bonn ed.; Glycas, p. 605.14 ff., Bonn ed.: earthquake in the western part of Constantinople, also in the suburbs and in Cyzicus and Nicaea.

1081. Glycas, p. 620.15 ff., Bonn ed.: earthquake, location not specified, presumably at Constantinople.

1202. Nicetas Choniates, *De Alexio* 3.6, p. 703.10 ff., Bonn ed.: shocks at Constantinople.

1296. Pachymeres, *De Andron. Pal.* 3.15, 2.234.1 ff., Bonn ed.; Nicephorus Gregoras 6.9, 1.202.7 ff., Bonn ed. Earthquake at Constantinople and to the East, as far as Persia. Damage to the Church of All the Saints and to the statue of the Archangel Michael which stood before it.

1323. Phrantzes 1.5, p. 32.10 ff., Bonn ed.: earthquake at Constantinople, causing severe damage to buildings, churches and monumental columns, which are not named.

1331. Nicephorus Gregoras 9.14, 1.460.9 ff., Bonn ed.: earthquake at Constantinople.

1346. Nicephorus Gregoras 2.694.13 ff., 2.749.10 ff., Bonn ed.; Cantacuzenus 3.29.18 ff., Bonn ed.; short chronicle in *Marcianus* 408, in P. Charanis, "Les *Brachea Chronika* comme source historique," *Byzantion*, xiii (1938), 345-346. There were earthquakes lasting over a year which caused the collapse of the eastern arch and part of the dome of St Sophia.

1354 (2 March). An earthquake which destroyed the walls of Kallipolis and other places in Thrace, and damaged the walls of Constantinople: F. Babinger, *Beiträge zur Frühgeschichte der Türkenherrschaft in Rumelien, 14-15. Jahrhundert* (Brünn, 1944), p. 41.

1454. Phrantzes 4.8, p. 379.3 ff., Bonn ed., speaks of "light earthquakes" which occurred for eighteen days in the spring of this year, accompanied by unusual heat. The context indicates that these earthquakes occurred at Constantinople.

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