

- < 192 > 1349 January 22 Isernia Central Italy
- < 193 > 1349 September 9 Northern Latium ▷ clouding of springs ◁
- < 194 > 1349 September 9 L'Aquila and Cicolano areas
- < 195 > 1349 September 9 Sulmona area ▷ landslide ◁
- < 196 > 1349 September 9 Southern Latium-Northern Molise
▷ landslides, fissures, appearance and disappearance of springs ◁

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- literature Spadea *et al.* (1985); Guidoboni *et al.* [1986]; Molin and Guidoboni (1989); Guidoboni and Molin (1995); Esposito *et al.* (1996); Molin *et al.* (1999)
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- catalogues p. Giorgetti and Iaccarino (1971); Carrozzo *et al.* (1973); Postpischl (1985); CPTI (1999)

History of the earthquake's interpretation

The study of this great seismic event has its own history, which merits a brief survey. The earthquake was recorded in a vast number of medieval sources and documents, entered the erudite historiography of modern times, then took its place in the earliest historical earthquake catalogues (from Pirro Ligorio 1570-71 to Bonito 1691 and on to Baratta 1901), and passed from there into the first parametric catalogues. Baratta (1901) identified its location as being in the Abruzzo and Sannio regions, and traced its effects as far as Apulia.

When Italians first looked at it again in the 1970s, an urgent need was felt to provide it with numerical parameters, so that it would fit into the first parametric catalogues of historical earthquakes, its location then being given as the Abruzzo – Sannio region (Giorgetti and Iaccarino 1971), and specifically Sant'Elia Fiumerapido.

As one of central Italy's largest earthquakes, it underwent radical reinvestigation in 1983-85, in connection with macroseismic studies for the nuclear sites in Italy. On that occasion, massive and systematic research was carried out into documentary, annalistic and epigraphic sources, in order to establish an accurate picture of the event. It is thus only since new research was carried out in the 1980s that we have had a reliable macroseismic picture of effects, and also a more accurate analysis of the problems and limitations of information dating back to the time of the event (Guidoboni *et al.* 1986, Report for ENEL).

One problem involved in studying the earthquake is the difficulty of distinguishing between the effects of four earthquakes, and establishing their location. After the research of the 1980s, the earthquake again became the subject of attention in the period 1992-94. During this fresh phase of research, new documentary evidence was uncovered, but establishing the location of the four earthquakes remains an almost

insurmountable problem, especially since it is not clearly indicated in the sources. The *Catalogo dei forti terremoti* (Boschi *et al.* 1997, 2000) has nevertheless attempted to establish an overall picture of effects based on the geographical “congruence” of damage. At this stage in particular, specific research into the Perugia area was carried out, the only sources previously available being non-local and unofficial. As far as the location of effects and local intensities are concerned, the scenario we offer here is based on the sources which are closest in time to the event.

Problems of chronology

Most chronicles date the earthquake to 9 September, but Matteo Villani and Giovanni da Bazzano give 10 and 1 September respectively. There is telling evidence of uncertainty about the exact date even amongst contemporaries in a document compiled in September – October 1349 (Archivio Diocesano, Viterbo, S. Angelo de Spata, cart.1, fasc.34, fol.3r.), where the *canonico camerario* of Viterbo left a blank instead of writing in the day in September when the earthquake occurred.

Few sources give a time for the earthquake. Amongst those dating it to 9 September, the two most detailed agree on 8:15 UT (before or half way through the third hour). Another source provides a more descriptive suggestion: shortly before sunrise (which, at that time of year and at the latitude of Montecassino, would be 4:45-5:00 UT). Giovanni da Bazzano, who dates the earthquake to 1 September, nevertheless suggests a similar if not identical time to that of the above two sources: roughly between 7:00 and 8:00 UT (near the second hour and before the third). This similarity of time suggests that Giovanni da Bazzano may have mistaken the date.

There had been a strong earthquake at Isernia during the night of 22 January 1349, though no damage is reported; and from that night onwards, there was a more or less uninterrupted series of weak shocks almost every month until 8 September.

General effects of the earthquakes: the four areas of damage on September

The 1349 earthquake struck a vast area of central Italy, and proved to be one of Italy’s most extensive and destructive seismic events. The destructive shocks were preceded by an earthquake at Isernia during the night of 22 January 1349. It did not cause any damage. The strongest shocks occurred during the first ten days of September 1349; but uncertainties remain as to the exact chronology of the seismic sequence (see below). Overall, we have information about damage at **47** localities, and in **25** of these the damage was severe. On the basis of the distribution of effects, four separate epicentral areas have been suggested, but their outlines are blurred and partially overlap.

1. the first includes the Viterbo area and Umbria. The worst affected towns were Viterbo, where there were some collapses and serious damage to the churches of S. Angelo in Spata and S. Stefano as well as to the Gatteschi and Marcuccio towers, and Toscanella (present-day Tuscania) in the province of Viterbo, where the castle was badly affected. There was also substantial damage to the castle at Onano (in the province of Frosinone). At Orvieto, the town hall was damaged, as well as various private buildings. There was probably damage at Terni, and perhaps at Perugia as well. The earthquake was felt as far away as Bologna and Modena.

NORTHERN LATIUM

2. the second area includes the city of L’Aquila and the Cicolano area (corresponding to the upper and central valley of the river Salto, in the area of the eastern Latium Apennines, in the present-day province of Rieti). The most destructive effects were widespread collapses and serious damage to buildings at ten localities in the Cicolano area, which were partly abandoned by their inhabitants after the earthquake, namely Colle Sambuco, Gamagna, Girgenti, Mareri, Petrella Salto, Poggio Poponesco, Radicaro, Santa Maria, Staffoli and Vallebona. In addition to widespread damage in the city of L’Aquila, the cathedral and the church of S. Maria di Collemaggio collapsed, as well as many bell-towers, towers and palaces. The sources also record very serious damage at Bazzano and

L’AQUILA AND CICOLANO AREAS

Santa Maria della Vittoria, both of which are now in the province of L'Aquila. The church, monastery of S.Scolastica and castle collapsed at Subiaco. There were also substantial effects in Rome: the basilica of S.Pietro was damaged, as well as the churches of Dodici Apostoli, S.Giovanni in Laterano, S.Maria in Aracoeli and S.Paolo fuori le Mura, and also the Milizie and Conti towers. Part of the castle collapsed at Tarano (in the present-day province of Rieti). There was probably damage at Ascoli Piceno.

SULMONA AREA

3. the third area includes four localities in ancient Abruzzo Citra (in the present-day province of L'Aquila). The most serious effects were probably at Pacile and Rocca Gilberti, for there are substantial grounds for thinking that they were abandoned after the earthquake. Serious damage at Sulmona included the collapse of the town walls and the convent of S.Domenico; and at Pacentro two churches were damaged.

SOUTHERN LATIUM
AND NORTHERN MOLISE

4. the fourth area includes the Sora and Cassino areas as well as that of Isernia. There is evidence of more or less serious damage at 20 localities: Atina (in the province of Frosinone) and Venafrò (in the province of Isernia) were almost completely destroyed; in the town of Isernia many buildings collapsed or were seriously damaged, including the cathedral. There were also collapses and serious damage at Cerasuolo (in the province of Isernia), and at Cardito, Alvito and San Germano (present-day Cassino) and Sant'Elia Fiumerapido (in the province of Frosinone). There were substantial collapses in the abbey church at Montecassino, and the adjacent monastery was also damaged. The abbeys of S.Vincenzo al Volturno and S.Domenico were also destroyed. The earthquake also caused serious damage at Sora, Veroli, Balsorano Vecchio, Sant'Agnello, Aversa, San Vittore del Lazio and Le Fratte (present-day Ausonia), all of which are in the present-day province of Frosinone. There was also substantial damage at Ariano Irpino and Naples, where the façade and bell-tower of the cathedral collapsed.

Environmental effects

Many of the earthquake's environmental effects are recorded in general terms: fissures occurred at unspecified places; many springs, at unidentified places, dried up or suddenly appeared. However, the sources indicate the location of these effects only in a few cases. We set these out below, arranged according to the damage areas already established.

At Orvieto, which lies within epicentral area 1, a spring became cloudy for 12 days and then grew muddy.

Within epicentral area 3, a large landslide on the rock spurs of the La Maiella massif, between Pacentro and Campo di Giove, probably swept away the village of Rocca Gilberti. A landslide was also probably responsible for the collapse of the castle at Balsorano, in epicentral area 4.

Evidence of social and economic effects

This period of seismic activity involved extremely diverse human environments, from densely populated cities (such as Orvieto, Viterbo and Rome), to small isolated military settlements, such as the castles in the Abruzzo, and the great medieval monasteries of Montecassino, San Domenico, Sant'Agnello (in province of Frosinone) and San Vincenzo al Volturno (province of Caserta). Within the general picture of effects, therefore, we find substantial differences both as to the types of building affected (built-up areas in villages and towns, fortresses, isolated houses, towers, churches etc.), and different population densities. These substantial differences from one place to another make an assessment of effects very difficult, and it can often only be arrived at by indirect means. The earthquake occurred not long after the whole of Europe was struck by the famous Black Death of 1348 (see entry < 190 >). 1349 was also a black year for Europe because of the persecution of the Jews, whom Catholic fanatics held responsible for the spread of the plague epidemic. It was also the year in which Giovanni Boccaccio began writing the *Decameron*, a collection of 100 stories in a narrative setting which takes as its point of departure the tragic need to flee from the plague: a cheerful group of people take refuge

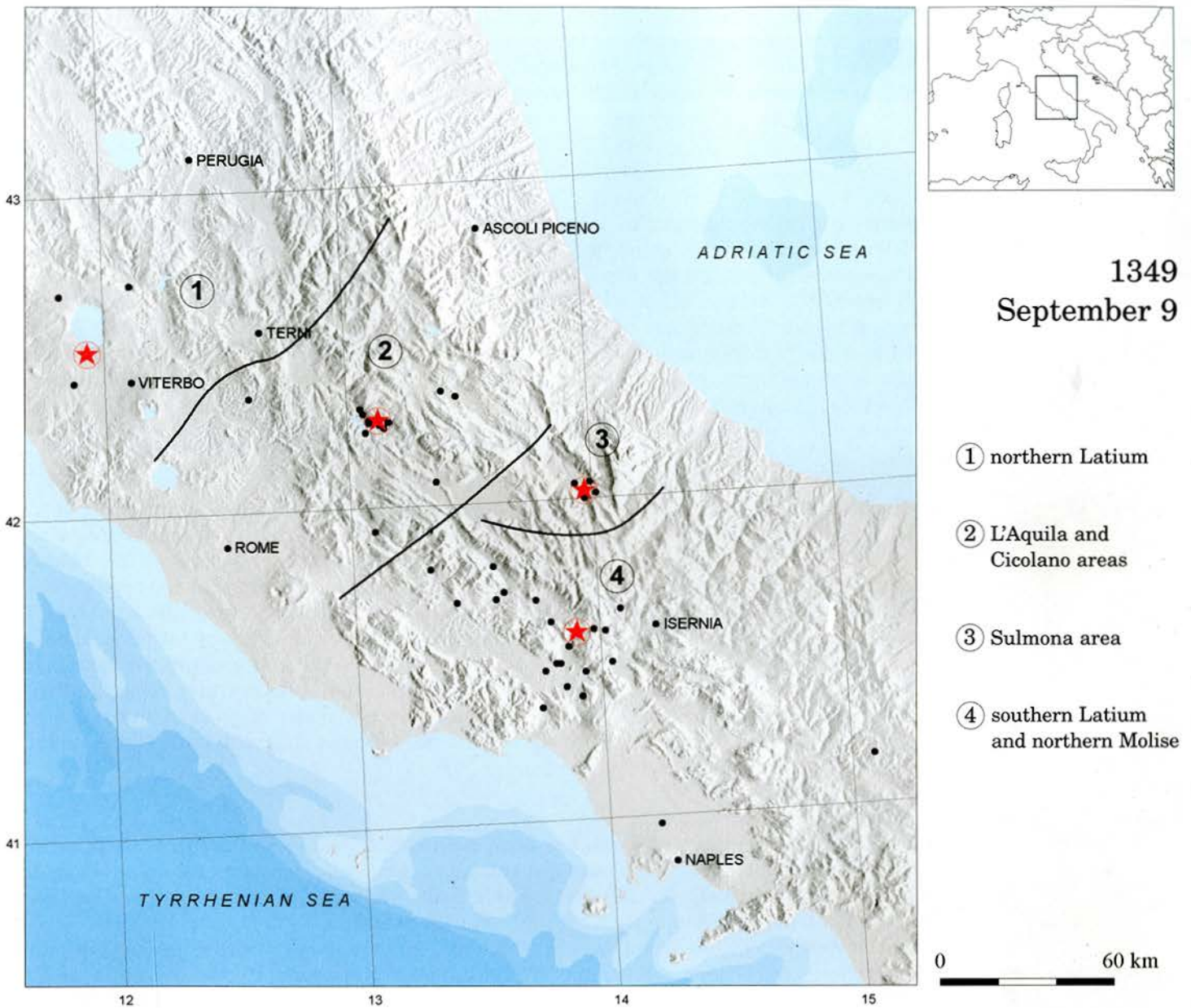


fig. 85 On the basis of the damage pattern four epicentres have been hypothesized. For further details, see the maps on pp.447, 451, 463, 467.

in the country and listen to carefree stories, thereby representing metaphorically the flight from and reaction to a particularly troubled and uncertain moment in history. In addition to the damage caused by the earthquake itself, there was that caused by contemporary warfare. At an early stage, a demographic and economic crisis caused appreciable impoverishment in some areas, as for instance in the diocese of Montecassino, which was still unable to pay its tithes in 1361. At L'Aquila and Orvieto, the earthquake brought production to a temporary halt; and at Orvieto the local authorities took it upon themselves to introduce emergency measures for repairing the most serious damage to public buildings. In the Abruzzo, where the administration was more strongly feudal, it was the local lords who organised reconstruction: the Cantelmo family for the fortresses of Alvito and Atina, and the counts Caponeschi for L'Aquila. The papal

chancery used a series of concessions of a religious nature (especially indulgences) to promote the collection of funds for the reconstruction of damaged buildings (this went on until 1376). Contemporary sources record a total of more than 2,500 victims, though the figures are not always reliable, since official documents of the time are not concerned with information of that kind. 800 victims are recorded for the city of L'Aquila; 700 for the Venafro area, and almost 1,000 for that of Montecassino. Deaths are also recorded for Atina and Balsorano, but without any number being specified. Isolated cases of depopulation and partial abandonment are also recorded for minor localities such as Venafro (province of Isernia) and all the localities struck in the Cicolano area.

There is no record of towns being abandoned, though in the case of L'Aquila, count Caponeschi prevented the populace from leaving by having a new palisade immediately erected at those places where the city walls had collapsed. The peasants from around L'Aquila were also made to clear the city streets of obstructing rubble.

In the late historiographical tradition, this earthquake is identified as the reason for the abandonment of numerous villages both in the Montecassino area (Giuntura, Mortula, Piumarola, San Pietro della Foresta and San Paolo della Foresta, Teramo), and that of Sulmona (Pacile and Rocca Gilberti).

Historical sources: an overall view

There is evidence for this earthquake in numerous contemporary sources: 60 documents, of which 39 are unpublished, and 20 other records, including chronicles, *Notulae*, letters, and lives of popes. The wealth of available contemporary sources is probably due to the earthquake's substantial destructive effects and the fact that they were widely spread across central Italy. These circumstances led to reports of the earthquake spreading widely and over a long period, as we can tell from the very large number of local and non-local chronicles which record it, as well as the historiographical works of later centuries. There are more than twenty 15th and 16th century records of the earthquake from the affected area, providing greater or lesser degrees of analysis.

There are two inscriptions, one at Alvito and the other at Ariano Irpino, which record earthquake damage to two buildings.

ARCHIVAL DOCUMENTS

Very extensive archive research has been carried out, leading to the discovery of strikingly important documents, and providing evidence of measures taken at various administrative levels for repairing earthquake damage, granting indulgences and other benefits, or drawing up wills and notarial deeds.

The corpus of archive documents in which the earthquake is recorded consists of public, private and church collections. The documents concerned are:

- (i) 21 papal and episcopal letters, some of which are in the Archivio Segreto Vaticano, while others have been published;
- (ii) 6 *Riformagioni* (official local authority documents) from the commune of Orvieto;
- (iii) 3 documents from the chancery of the Kingdom of Sicily;
- (iv) 19 notarial deeds.

In particular, there are:

- (i) papal letters from Clement VI (1342-1352), Innocent VI (1352-1362), Urban V (1362-1370) and Gregory XI (1370-1378), mostly still unpublished and now in the Archivio Segreto Vaticano, as well as some episcopal letters which illustrate the various measures taken by the Church for the repair of earthquake damage to various properties owned by ecclesiastical and papal institutions. These documents provide evidence of direct financing in the case of churches in Rome and fortresses in the Papal States (at Tarano, Onano and Toscanella, now Tuscania); the granting of indulgences in exchange for offerings for the restoration of monastic and episcopal property, such as churches at Montecassino, Veroli, L'Aquila and Sulmona; requests for tax exemption made to pub-

lic authorities; public appeals for alms; the exceptional application of monastic income to ecclesiastical property of great importance (the abbey of Montecassino).

(ii) *Riformagioni* of the commune of Orvieto, which are public documents of administrative and institutional importance recording measures taken by the city council for damage repair.

(iii) archive documents belonging to the Kingdom of Sicily and relating to the regions of Campania and the Abruzzo, where most of the stricken towns were situated; but they have suffered substantial losses over the centuries. Hence complete files are missing, and the only available documents are records (registes of a sort) describing measures taken by the court at Naples on behalf of castellans in the Abruzzo, the people of Sulmona and religious bodies.

(iv) the following public deeds drawn up by private individuals (notarial deeds) and containing explicit references to the earthquake: a will from Viterbo; 4 deeds of sale made by monks from Veroli (in the province of Frosinone) in order to pay for restoration work; a sale document drawn up by the abbot of the monastery of Collemaggio at L'Aquila; a deed concerning the reconstruction of the church at Venafro; and a list of expenses for the repair of the church of S. Angelo in Spata at Viterbo.

CHRONICLES

There is a very rich and varied group of contemporary chronicles containing original and independent reports of the earthquake: chronicles, *Notulae*, letters, and lives of popes. The chief chronicle, in terms of the diffusion it enjoyed in subsequent centuries, is that of Matteo Villani, a contemporary Florentine. The earthquake is also referred to a number of times in the letters of the poet and humanist Francesco Petrarca, who provides evidence of its effects in Rome; and there are also numerous local chronicles which record the earthquake in relation to individual regions or localities.

INSCRIPTIONS

Two inscriptions recording this earthquake have been found.

■ 1 – on the castle door at Alvito. This inscription is contemporary, and records the reconstruction of the building by Rostaino Cantelmo (Tauleri 1702).

■ 2 – in the cathedral at Ariano Irpino. This inscription was made in the year 1736, and records a series of earthquakes which struck the cathedral between 848 and 1732, including that of 1349. Although this is a late inscription, we have taken it into account as an official collective commemoration of the history of a church building (Pantosti and Valensise 1989).

Historiography

Because the damage was so great and the badly affected area so large, the earthquake appears in numerous historiographical texts of various kinds, ranging from erudite 17th century works to late 20th century historiographical research.

These texts deal with various subjects in which the earthquake is more or less directly referred to. They may be histories of towns or specific areas, works of town planning or architecture perhaps including items devoted to individual buildings, or archaeological works. We know of more than 60 such works, but for present purposes we have selected those which are most significant and authoritative.

Earthquakes effects by localities, based only on primary sources

(for each damage zone, the localities are arranged in descending order of severity of effects)

Set out below is a description of earthquake effects at the localities in question, together with the reactions of the authorities, arranged in a double hierarchy: (i) according to the four epicentral areas referred to above, and (ii) in decreasing order of severity of effects within each of these areas, with sources referring to the damage concerned.

AREA ① **Viterbo**

There is a record of damage to the arches, gutters and principal wall at the church of S. Angelo in Spata. The houses and arcade opposite the façade of the church of S. Stefano (no longer in existence) collapsed, as did the Torre dei Gatteschi and the Torre di Marcuccio in the S. Chirico district. There were many victims. The church of S. Angelo in Spata was restored. In a will of 1350, the proceeds from the sale of a vineyard were left for repairing the bell-tower and roof of the church of S. Maria in Gradi. Documentary sources consist of a note of 1349 concerning the cost of restoring the church of S. Angelo in Spata, and a notarial deed of 1350. Narrative sources consist of the 15th century chronicles of Nicola della Tuccia and Francesco di Andrea.

A note written in September or October 1349 by the *canonico camerario* Gerardo, sets out the cost of repairing the church of S. Angelo in Spata (Archivio Diocesano, Viterbo, *S. Angelo de Spata*, cart.1, fasc.34, fol.3r.). It is interesting to note that, although the document was written only a few weeks after the event, the date of the earthquake has been left blank. This is clear evidence of uncertainty about the exact chronology of the shocks even amongst contemporaries.

"In the name of God, amen. The following costs are those incurred in repairing the arches and gutter and putting right the great wall of the church [of S. Angelo in Spata] opposite the house of Arcius Tucci de Sanctolcleo, the damage having been caused by earthquakes which occurred in the year of Our Lord 1349, during the pontificate of Clement VI, in the second indiction, on the [blank space] of the month of September. These earthquakes also destroyed the towers opposite the door of the church of S. Stefano, and the Torre di Marcuccio belonging to signor Paolo [which stood] in the S. Quirico district by our mill. [There follows the list of costs]"

In nomine Domini amen. Infra scripte sunt expense facte in arcubus, in gronaria, pro adiutorio parietis magni ecclesie versus domum Arcii Tucii de Sanctolcleo propter terremotus qui fuerunt anno Domini .M.CCC.XLVIII., tempore domini Clementis pape .VI., indictione secunda, die [...] mensis septembris propter quos etiam in ruina fuerunt turres que erant in opposito hostii ecclesie Sancti Stephani verum et ipsa ecclesia et turris Marcucii domini Pauli que in contrata Sancti Quirici super molendinum nostrum.

A notarial deed of 15 July 1350, containing the will of an inhabitant of Viterbo, records the sale of some property, the proceeds of which were to go towards the repair of the bell-tower and roof of S. Maria in Gradi (Biblioteca del "Beato Angelico" at the Dominican convent of Santa Maria della Minerva, Rome, *Pergamene di Santa Maria in Gradi*):

"In the year 1350, during the pontificate of Clement VI, in the third indiction, on 15 of the month of July [...]. [using the proceeds of the sale of a vineyard] a contribution to be made to the repair of the bell-tower of the church of S. Maria in Gradi in Viterbo [...]. [a house in Viterbo and a meadow in the surrounding country] to be sold and the whole proceeds to be devoted to paying for repairs to the roof of the church of S. Maria in Gradi".

Anno millesimo trecentesimo quinquagesimo, tempore domini Clementis pape VI, indictione tertia, die XV mensis iulii [...]. fiat auxilium sive audiitorium ad campanile ecclesie Sancte Marie ad Gradus de Viterbio [...]. vendantur et pretium totum dictarum rerum integre distribuatur in opere tecti dicte ecclesie Sancte Marie ad Gradus.

Further details are provided by two 15th century chroniclers from Viterbo: Francesco di Andrea and Nicola della Tuccia (in his continuation to 1473 of the chronicle by Ansillotto Viterbese, in the Biblioteca Nazionale Centrale, Florence, *G. Capponi*, 127, 6, fols.95r.-96v.). Both chroniclers provide very similar information, and both derive it from the 14th century chronicle of Girolamo and Cola di Covelluzzo, which is now lost. Nicola della Tuccia is the more detailed of the two:

In nomine domini Amen Infra scripte sunt expense facte et arduis et conatibus
 per aduocatum parochie magistri Gualterii de S. Angelo de Spata in diebus
 et tremotibus que fuerunt anno domini M. CCC. XLV. quibusdam diebus
 per diebus mensis Septembris per quos et saluata fuerunt
 muros que sunt in oppido hestis ecclesie S. Stephani uicini et ipsi ecclesie
 et tunc adiacenti domus parochie que sunt in via supra ostenduntur
 ann. In parte.
 In uictoria anni domini M. CCC. XLV. in diebus mensis Septembris per
 et in uictoria anni domini quatuordecimbris per.

fig. 86 Viterbo, cost account for repair work to the church of S. Angelo in Spata, which was damaged in the earthquakes of September 1349. The account was compiled in September or October of that year by the *canonico camerario* of the diocese of Viterbo. The red circle shows the space left by the person who drew up the document at the point where the date of the earthquake should have been written. It is likely that the sequence of shocks made it difficult to determine the exact day (Archivio Diocesano, Viterbo, *S. Angelo de Spata*, cart.1, fasc.34, fol.3r.).

"In the year of Our Lord 1349, there was a great earthquake at Viterbo. It caused a tower opposite S. Stefano to collapse on to some Gatteschi family houses and on to houses [opposite] the façade of S. Stefano, and it brought down the loggia in front of that church and killed a great many people who had come to see the body of Christ that Sunday morning. The only survivor was a man called Boccapane, who was buried in the ruins for three days and nights, and was fed through a narrow channel; and another tower collapsed in the S. Chirico district, destroying a number of houses, and the new shops were rebuilt later. And this tower was beside a small gate which led to the ditch of Sonza, where there was a fulling mill, and [the tower] crashed into a street opposite S. Chirico and killed many people, great and small.

Anno domini 1349 fu in Viterbo gran tremuoto, e fece cascare una torre, che stava dirimpetto a S. Stefano nelle case de' Gatteschi, e case nella facciata di S. Stefano, e fece cascare la loggia avanti detta chiesa e uccise gran quantità di gente, che stavano a vedere il corpo di Cristo la domenica mattina, che solo uno campò, chiamato Boccapane, e stette sotterrato fra li sassi tre di e tre notti, e governato per un poco di pertuso, e similmente cascò un'altra torre nella contrada di S. Chirico, che fece cascare tante case che poi furono rifatte le nuove botteghe, e stava detta torre, accanto ad una porticella, che andava al fossato da Sonva, ove era una valchiera, e scaricò insino ad una strada dirimpetto a S. Chirico, et uccise assai persone grandi e piccole.

Tuscania [formerly *Toscanella*] (province of Viterbo)

The castle was badly damaged. Two months after the earthquake, pope Clement VI allocated 500 gold florins towards the cost of repairs (see the following location).

Onano (province of Frosinone)

The castle tower completely collapsed, as did most of the other castle buildings. Two months after the earthquake, pope Clement VI allocated 400 florins for repair work. The source for both Tuscania and Onano is an order dated 13 November 1349 from

Clement VI to his treasurer, requesting him to provide the necessary funds for repair work (Archivio Segreto Vaticano, *Registra Vaticana*, vol.143, fol.101):

“To our beloved son, the treasurer of the Patrimony of St.Peter in *Tuscia* on our behalf and that of the Roman Church. A reliable report has informed us of the collapse [...] of the tower of Onano castle in its entirety [...] and most of the castle buildings, and says that the castle of the town of Tuscanella has split open because of the earthquake which has violently shaken those places, and that [...] the tower and buildings of Onano castle require four hundred [gold florins] and the castle of the said town of Tuscanella five hundred gold florins in order to pay for adequate repairs. [...] Given at Avignon on the Ides of November [13 November 1349] in the eighth year [of the pontificate of Clement VI]”.

Dilecto filio thesaurario Patrimoni beati Petri in Tuscia pro nobis et ecclesia Romana. Ad audienciam nostram insinuacio fidedigna perduxit quod [...] turris roche Onani [...] totaliter cum magna parte edificiorum ipsius roche corruerunt et quod rocha Onani civitatis Tuscanelle fissa est propter terremotum, qui partes illas graviter conquassit, [...] et turris cum edificiis ipsius roche Onani castrorum pro quadringentis et rocha civitatis Tuscanelle predictae pro quingentis florenis auri, possent commode reparari. [...] Datum Avinioni idibus novembris anno octavo.

Orvieto (province of Terni)

There was damage to the roof of the town hall, rendering it unusable, and also to the prison. The *podestà* and his staff, abandoned the *palazzo*, and took up residence in a nearby house. The damage to buildings, towers and palaces was so serious that the commune was obliged to issue a *riformagione* ordering the demolition of houses and other buildings which had been reduced to a dangerous state by the earthquake.

A column and the walls of the church of S.Andrea were also probably damaged. The water in a fountain became cloudy for more than 12 days.

The continued functioning of the judicial system was ensured by means of an enactment of the council authorising the *podestà* to continue trials outside the town hall. On 20 October and 3 November 1349, the town council allocated a total of 250 *lire* for repair work. Another enactment, on 25 November, gave permission for the demolition of houses which had been badly damaged in the earthquake. On 5 September 1350, the council allocated 15 florins for repairs to the column and walls of the church of S.Andrea, which stood next to the town hall; but there is no specific mention of the earthquake in the enactment.

The sources are public documents of great administrative and institutional importance, namely communal *riformagioni* containing enactments made by the city council for the repair of earthquake damage. There are five of these enactments made immediately after the earthquake (between 12 September and 25 November 1349), and one later enactment, made in September 1350. Further details about earthquake effects can be found in the *Ephemerides urbevetanae*. In the *riformagione* of 12 September 1349, the city council laid down that city officials could carry on their activities outside the town hall, which had been rendered unusable by the earthquake (Archivio di Stato, Terni, Sezione di Orvieto, *Riformagioni*, vol.136, fol.65v.):

“On 12 of the said month of September [1349] [...] That the *podestà* and *capitano*, because of the earthquakes, may carry out their duties outside the town hall. [...] The said council and its councillors [of the city of Orvieto] meeting in the said buildings and gathered together as set out above, bearing in mind that, because of the terrible earthquakes which struck the city and surrounding area a short while ago, the *podestà* and the *capitano* of the city of Orvieto, with their staff and household have left the *palazzi* of the commune and are living in guest houses and other places, [...] order, establish and decree that the *podestà*, the *capitano* and their staff shall be enti-



fig. 87

tled to exercise judicial activities, both civil and criminal, within the gates of the city”.

Die XII dicti mensis septembris [...] Quod potestas et capitaneus, occasione terremotus, possint eorum officia extra palatia exercere. [...] Dictum consilium et consilarii eius in dictis domibus congregati et adunati ut supra considerantes quod propter novitates magni et orribilis terremotus pridem in dicta civitate et aliis partibus circumquamque occursi presentes domini potestas et capitaneus civitatis Urbisveteris et quilibet eorum, cum eorum officialibus et familia, palatia communis et populi inhabitata dimiserunt et in hospitiiis et locis aliis commorentur [...] ordinaverunt, statuerunt, firmaverunt et decreverunt quod ipsi domini potestas et capitaneus et quilibet eorum [...] poterint et possint eorum officia in civilibus et criminalibus, dampnis datis et distractis exercuisse in preteritum et exercere imposterum intus ianuas civitatis.

By means of a *riformazione* dated 6 October 1349, the town council decided to pay the rent for the 15 days which the *podestà* and his staff had spent in a guest house, since the town hall was damaged (Archivio di Stato, Terni, Sezione di Orvieto, *Riformagioni*, vol.136, fol.72v.):

“[The town councillors] having regard to the fact that the noble Giovanni di Tommaso, *podestà* of Orvieto, being afraid to continue living in the town hall because it was damaged in the recent earthquakes which struck the city so violently, at the request of the *priori del popolo* and city officials took residence with his staff at the guest house of Giovanni di Piero Vasconis for 15 days, [...], have laid down, ordered and decreed that the town finance office can and should undertake to pay twenty-two *librae* and ten *soldi* of council money for the said 15 days to the aforesaid Giovanni di Piero for rent at the said guest house”.

Item considerantes ed advertentes quod vir nobilis et potens Iohannes domini Tomassi presens honorabilis potestas civitatis Urbisveteris, timens et merito in palatio communis morari ob ruinam quam evidenter ipsum palatium minabatur occasione

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terremotus pridem in dicta civitate vehementer occursi, de voluntate dominorum priorum populi com suis officialibus, equis et familia ivit et stetit in hospitio Iohannis Perii Vasconis diebus quindecim [...], statuerunt, ordinaverunt et decreverunt quod camera communis Urbisveteris de ipsius communis pecunia possit et teneatur et debeat cum effectu dare et solvere pro pensione et nomine pensionis dicti hospitii prefato Iohannis Perii pro dictis XV diebus viginti duas libras et decem soldos denariurum curie.

The *reformagioni* of 20 October and 3 November 1349 show that sums of 50 and 200 *lire* were allocated to pay for damage to the prison and the roof of the town hall, where the headquarters of the *podestà* was also situated.

The *reformagione* of 20 October (Archivio di Stato, Terni, Sezione di Orvieto, *Riformagioni*, vol.136) states:

“*maestro Gianni, son of maestro Damiano, blacksmith and one of the said councillors [...] said that the prison in the palace of podestà needed repairs and reconstruction work [...] and that the cost of this work and of repairing the roof of the same palazzo would be fifty librae denariorum*”.

Magister Iannis magistri Damiani faber, unus ex dictis consiliariis, [...] dixit [...] quod cum carcere palatii domini potestatis indigeat reparatione et acconcimine [...] liceat absque sui preiudicio expendere usque ad quantitatem quinquaginta librarum denariorum in dictis acconcime et reparatione et acconcimine tecti palatii supradicti.

The *reformagione* of 3 November 1349 (Archivio di Stato, Terni, Sezione di Orvieto, *Riformagioni*, vol.136) states:

“In the year of Our Lord 1349 [...] on 3 November. The council of the *priori del popolo* of Orvieto [...], having in mind that the town hall of Orvieto obviously requires repairs and restoration work to the roof, the prison area and various other places, [...] orders [...] that a total sum of up to two hundred *librae denariorum* shall be spent on this work”.

Anno Domini millesimo CCCXLVIII [...] die tertia mensis novembris. Consilio prudentum virorum dominorum priorum urbeveterani populi [...], considerantes [...] quod palatium communis Urbisveteris indiget reparatione et acconcimine, tam circa tectum, quam etiam circa carcerem ipsius palatii et circa loca et in locis aliis dicti palatii, prout evidenter patere potest, [...] statuerunt [...] quod in accocimine et reparatione predictis et pro actatione dicti palatii [...] liceat [...] expendere usque ad quantitatem ducentarum librarum denariorum.

By means of a *reformagione* dated 25 November 1349, the town council authorised the total or partial demolition of buildings in a dangerous state (Archivio di Stato, Terni, Sezione di Orvieto, *Riformagioni*, vol.136, fols.77v.-78r.):

“[...] houses and other buildings damaged by the earthquake or some other unforeseen cause may be demolished, wholly or in part, in order that they may be better rebuilt, without incurring any penalty”.

[...] domus vero et hedificia que quamlibet ruina minarentur occasione terremotus vel alterius casus inopinati vel devastanda pro rehedificando ipsa cum melioramento pro parte vel in totum scarcari et dirrui possint sine pena.

By means of a *reformagione* dated 5 September 1350, the town council decided to allocate 15 florins for repairs to the church of S.Andrea (Archivio di Stato, Terni, Sezione di Orvieto, *Riformagioni*, vol.137):

“5 September [1350]. [...] The council of the *priori del popolo* of Orvieto and the *otto sapienti* meeting as above [...] ordered that the finance office of Orvieto should pay to the canons of the church of S.Andrea the sum of fifteen gold florins for repairs to the

column and walls of the said church situated by the town hall, for the latter might otherwise be in danger of serious damage [...]”.

Die V. mensis septembris [...]. Consilio dominorum priorum populi urbevetani et octo sapientum predicto adunato et congregato ut supra [...] ordinauerunt quod camera communis urbevetani que qualibet ipsius communi pecunia det et solvat et dare et solvere possit et teneatur et debeat cum effectu ad requisitionem canonicorum sive presbiterorum ecclesie Sancti Andree pro acconcimine et reparatione columne et muritii ecclesie Sancti Andree predicti faciendi subter palatium communis urbevetani quindecim florenos de auro, cum nisi dicta reparetur columna, palatium ipsum pro maiori parte minetur ruinam quod in dicti communis dampnum redundaret et periculum et iacturam.

A contemporary local chronicle, the *Discorso storico* (p.29), reports that one of the effects of the earthquake was the clouding of the water in a fountain for more than 12 days:

“On Wednesday, less than half way through the third hour, that is to say on 9 September in the year 1349, there was a very great earthquake, which brought down many walls and large buildings, towers and palaces; and the running water which comes to the fountain in Orvieto became so cloudy that it looked like milk or liquid mud. And the water remained very cloudy for more than twelve days. And it was the same in many other towns and villages, so that people were very frightened and workmen spent more than six days in idleness. And every day processions and penances were held”.

Mercordì, innanzi menza terza, cioè fu a dì nove di settembre, anno mille e trecento quaranta nove, fu sì grandissimo terremoto, che caddero molte muraglie et grandi edefici et torri et palazzi; et l'acqua viva, che viene in Orvieto alla fontana, intorbidò sì, che pareva che fosse latte et creta stemperata. Et durò questa acqua così torbida più di dodici giorni. Et così come fu in Orvieto, così fu in molte altre città e castella, onde che la gente impauriro molto et stettero più di sei giorni che li artefici non lavoravano. Et ogni dì si facevano processioni et discipline.

Perugia

Giovanni da Bazzano was a notary from Modena who wrote at the time of the earthquakes, but he was a long way from the major effects areas. He records very serious damage to towers and other buildings in Perugia. Archive research into the collection of documents produced by local officials and religious bodies did not lead to the discovery of any documents which recorded the earthquake, but it must be pointed out that the registers of the *Consigli e riformanze*, containing decisions made by local councils, are missing for the years 1327-1350 and 1352-1375.

However, there are certain factors which lead us to believe that damage cannot have been serious. In the first place, the local judicial authorities (*Capitano del Popolo* and *Podestà*) continued to work normally; and in addition, there is no trace of an earthquake in the documents of the authorities responsible either for the city's finances (*Annona*, *Conservatori della moneta* and *Gabelle*) or for public works, or in the archive collections of religious bodies. It therefore seems appropriate to scale down the effects described by Giovanni da Bazzano. In any case, his text pays no particular attention to Perugia, simply attributing very serious damage to three towns (L'Aquila, Perugia and Ascoli Piceno) which were far from where he was living. What he wrote was (p.147):

“In the said year [1349], on 1 September, almost at the second hour and before the third, the world was struck by an earthquake [...]. In Apulia and those parts several towns collapsed with most of their buildings [...] and the town of Perugia, too, was damaged in the said earthquake, for many towers and other buildings collapsed there”.

Dicto millesimo primo septembris quasi in hora secunda et ante terciam fuit

terraemotus in orbe [...]. In Apulea [et] in partibus illis plures terrae et edificia ibi existentes pro parte maxima corruerunt, [...] et etiam civitas Perusina [propter] dictum terraemotum cum damno quia ibi multae turres et edificia corruerunt.

In the late local historiographical tradition, this earthquake is held responsible for damage to the fontana maggiore, also known as the fontana di Piazza.

Terni

Between September and mid-November 1349 there were many earthquakes. Although this information is generic and indirect, it seems to be reliable. It appears in a history of the town of Terni written by a scholar named Angeloni (1646), who lived in the second half of the 16th and the first half of the 17th century. He gives as his source a passage from the chronicles of Merlino di Filippo, a 14th century writer.

Bologna

The shock of 9 September 1349 was felt there.

The source is the contemporary local chronicle by Pietro Villola (vol.2, p.597):

"In that same year [1349], on 9 September, there was an earthquake; it happened in the morning, before the third hour".

In lo dicto millesimo di viiii^o de setembre vene lo teramoto; fo la doman innanzi terza.

The same information is repeated in the *Cronaca Rampona*, another local chronicle.

Modena

The shock was felt by some people, but far fewer than those who were unaware of it. The source is the contemporary *Chronicon Mutinense* by Giovanni da Bazzano (p.147), who dates the earthquake to 1 September 1349 (for the chronological uncertainties pertaining to this source, see the paragraph "problems of chronology"). The text is as follows: "In that year [1349], on the first of September, at about the second hour and before the third, there was an earthquake in the world, and it was stronger in the East than in the West; some people felt the earthquake in the city of Modena, but few compared with those who did not feel it".

Dicto millesimo primo septembris quasi in hora secunda et ante terciam fuit terraemotus in orbe, scilicet fortior fuit in partibus Orientis quam Occidentis: quem terraemotum aliqui senserunt in civitate Mutinae, pauci respectu aliorum qui non senserunt.

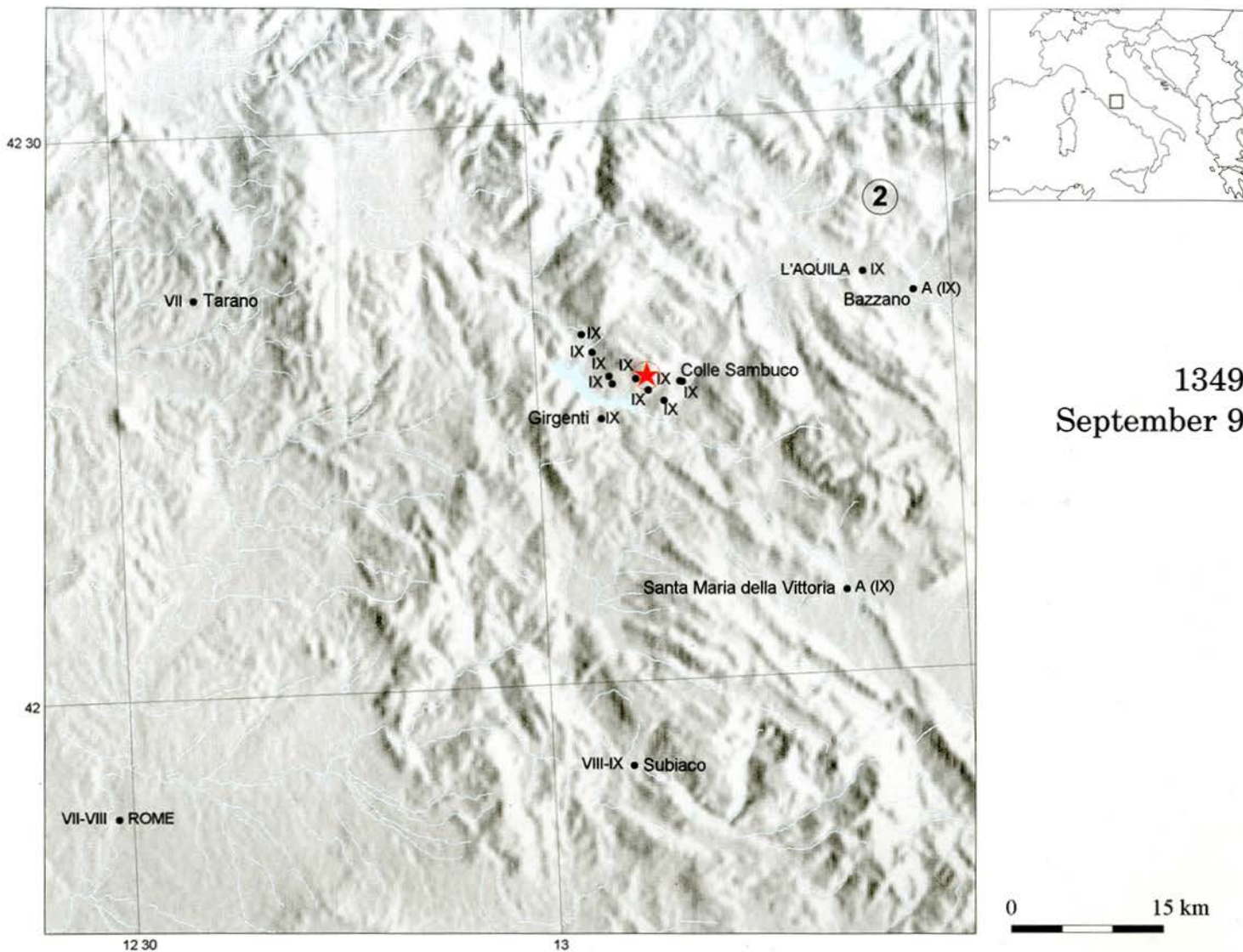
Pisa

The shock was not felt: the *Secunda vita Clementis VI* excludes Pisa from the felt area. "In that same year [1349] and during the same pontificate [that of Clement VI, 1342-1352] already mentioned, namely on 9 September at about the first hour, there were very great earthquakes in the Kingdom of Sicily, in Rome, and in neighbouring areas up to but not including the city of Pisa".

Eodem anno et Pontificatu supradictis, IX. videlicet die Septembris circa primam horam, terraemotus maximi fuerunt in Regno Siciliae, in Urbe, ac partibus convicinis usque ad Civitatem Pisanam exclusive.

AREA ② **Colle Sambuco, Gamagna, Girgenti, Mareri, Petrella Salto, Poggio Poponesco, Radicaro, Santa Maria, Staffoli, Vallebona** (province of Rieti)

The above ten localities (in the present-day province of Rieti) suffered major effects: there were widespread collapses, and buildings were so badly damaged that some local people abandoned their homes. There is evidence for this in a document drawn up by the royal authorities in Naples, in which their state of need is recognised, and in order to prevent depopulation they are granted exemption from half their taxes.



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fig. 88

The source in question is a privilege issued in Naples on 28 June 1352 in favour of some communities in Abruzzo Ulteriore (in the present-day province of Rieti) by king Louis of Anjou and queen Joanna, reducing by half the tax burden payable to the Royal Court. The original document was formerly preserved in the Archivio della Regia Zecca, that is to say the Archivio della Cancelleria Angioina, but is now lost. We know its contents, however, from the transcription by Bonito (1691, pp.570-1). The fact that the indiction is given as the second when it should be the fifth, may be a transcription error by Bonito:

“To the *giustiziere* [governor] of Abruzzo beyond the river Pescara etc., We have recently read at our audience in the presence of our faithful servants Nicola and Lippo di Mario, the petition of the lords of the fortified settlements of [Colle] Sambuco, Poggio [Santa] Maria, Radicaro, Gamagna, Poggio Pecunisco [Poponesco], Mareri, Girgenti, Vallebona, Petrella and Staffoli, situated in *Abruzzo Ultra*, to the effect that the said settlements, partly as a result of the recent violent earthquake, which caused their buildings to collapse or suffer damage, partly because of the intolerable tax burden, and no less because of divisions in the past and the fresh wars which have disturbed

the kingdom owing to their proximity to the territories of the Empire, are reduced to a state of extreme penury and have been abandoned by their usual inhabitants, with the result that their economic prospects are reduced, since those few who have remained in residence are quite unable to bear the burden of the taxes and contributions which have been imposed on them in the past and will be imposed in the future, and rather than do so they think it preferable to give up living in these settlements and go elsewhere. On investigation, these claims have proved to be true. Therefore, they are exempted from half of the general taxes and contributions etc. Given on 28 June, in the second indiction, in the year 1352. By king Louis and queen Joanna etc.”

Iustitiario Aprutii ultra flumen Piscariae, etc. lecta dudum in Auditorio nostro Nicolai, et Lippi de Mario, fidelium nostrorum, Dominorum Castri Sambugi, Podii Marii, Castri Radicarii, Castri Germaniae, Castri Podii Pecunischii, Castri Marerii, Castri Grigenti, Castri Vallisbonae, Castri Petrellae, et Castri Staffilium sitorum in Apr. ult. oblata petitio continebat, quod praedicta Castra, tum propter impetum generalis Terraemotus praeteriti proximo, eorum aedificia data sunt in praecipitem, in ruinam, tum propter etiam intolerabilia onera fiscalium collectarum, nec minus praeteritorum discrimina temporum, et guerrarum etiam novitates, quae fremuerunt in Regno, et propter vicinitatem terrarum Imperii ad extremam paupertatis inopiam sunt reducta, et a suis Incolis solitis derelicta, adeo nunc est facultatibus diminuta, quod illi pauci, qui remanserunt ibidem nullo modo supportare possunt onera ipsarum Collectarum, et subventionum, quae pro tempore impositae sunt, et imponentur eis in posterum, potius cogentur ipsorum Castrorum deserere incolatum, et alibi se transferre; Unde facta Inquisitione, vera inventa sunt exposita. Propterea relaxatur eis medietas generalium Collectarum, et subventionum, etc. sub datum die 28. Iunii secundae Indictionis anno 1352. Per Ludovicum, et Ioannam Reges, etc.

Bazzano (province of L'Aquila)

The church of S.Giusta was badly damaged. A notarial deed dated 11 January 1367 shows that the canons and provost asked the bishop's permission to sell a vineyard in order to pay for repairs to the church (Biblioteca Provinciale "S.Tommasi", L'Aquila, 582, E.Mariani, *Memorie istoriche della città di Aquila*, 19th c.).

Santa Maria della Vittoria (province of L'Aquila)

The convent was so badly damaged that it had to be rebuilt. A notarial deed of 1350, quoted in Mattiocco (1976, p.140), shows that the friars sold a house in Sulmona in order to be able to rebuild the convent.

L'Aquila

A large part of the town suffered serious damage. The cathedral collapsed, as well as many bell-towers, towers and large buildings. The church of S.Maria di Collemaggio suffered collapses and other serious damage. There were 800 victims, out of an estimated total population of several thousand. The populace was obliged to abandon the town, and spent 9 weeks living in the country. Count Camponeschi, the lord of the town, had some palisades erected at places where the town walls had collapsed, in order to prevent the inhabitants from fleeing. In 1353, pope Innocent VI granted indulgences of one year and forty days to those who contributed to funds for the restoration of the cathedral.

Sources for this earthquake are the contemporary chronicles of Buccio di Ranallo and Matteo Villani, a letter dated 2 June 1353 from pope Innocent VI, and a deed of sale dated 1 June 1374.

Buccio di Ranallo's *Cronaca Aquilana* is a verse composition in medieval Italian, in which we read (pp.188-90):

“Just when we thought we were in a safer place, there suddenly came a greater earthquake than any seen since the birth of Christ; it was difficult to find anyone who was not dazed by it. It was reckoned that eight hundred people died in the earthquake ruins. Some were seen wailing piteously, some wept over their sons, wives or brothers. Some wept over their mothers, father or sisters; some beat their breasts and others their jaws. And they went clearing every street and alley with words of misery as they sought for bodies. That was a time when we had much more cold than warmth; and we little repented for our sins! It was in the year of Our Lord 1349, believe me for I do not lie, when this earthquake and destruction occurred; and may God save those who died. For L'Aquila was reduced to such a state, deprived of so many churches and other buildings, and no longer surrounded by walls, that many thought it was no longer inhabited. And indeed many began to flee, for they wanted to go and live outside [the town], thinking that L'Aquila would never be rebuilt. When the count heard about this, he began to ponder what was to be done. Then the count saw how desolate and reduced to ruins the place was as a result of the earthquake; the walls were down and had not been repaired; so he immediately decided to erect a palisade. On his orders palisades were made of good strong wood, and placed close together; they surrounded the town along many districts and were very useful, because they provided us with protection. When houses collapsed, there was so much dust that people could not see one another that morning; many were killed [by the earthquake] quite apart from the collapses. They must have become well acquainted with the power of God! Now what wrecked buildings and houses could be seen! All the churches were razed to the ground, and, if the truth be known, that was the worst damage suffered by the town, apart from the victims. The streets were full of rubble and wood; it would be a lengthy matter for L'Aquila to clear up the ruins! There was great distress; our peasants came

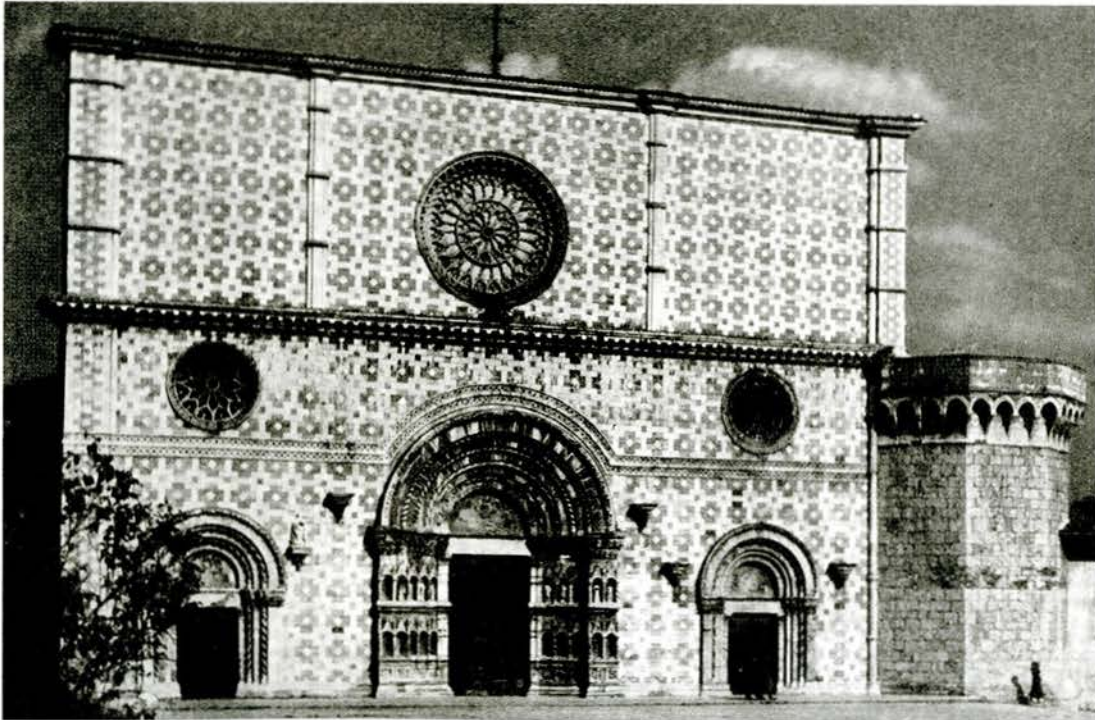


fig. 89 L'Aquila, church of S.Maria di Collemaggio, founded in 1287. According to a document drawn up by the prior and monks of the Collemaggio monastery, the church suffered serious damage in the 1349 earthquake. In 1374 the monks sold a piece of land in order to acquire enough money to pay the master builders who had carried out the restoration work.

from the countryside to clear the streets. We did not stay at home, but erected tents; we were away from our homes for more than nine weeks”.

Quando credevamo stare in loco più tuto, / Subitamente venne sì gran terremuto, / Dalla morte de Christo non fo mayure veduto; / Appena homo trovosenci che non gesse storduto. / De persone ottocento d'Aquila fo stimate / Che per lo terremuto foro morte et sotterrate. / Chi se vedeva strillare et fare pietate, / Chi plangea lo fillio, chi mollie et chi lo frate. / Chi plangeva la matre, chi patre et chi sorella, / Chi se grattava lo petto, et chi la mascella; / Et geano scommorando omne strada et ruella, / Per ritrovare li corpi, con amara favella. / Più frido assai che calla in quillo tempo abembo; / Et de nostri peccati poco ne penetembo! / Correa li anni Domini mille et trecento / Et plu quaranta nove, credate ca non mento, / Quando fo lo terremuto et quisto desertamento; / Et quilli che moreronci, Dio ly agia ad salvamento! / Però che era l'Aquila così male adrivata, / De ecclesie et ediftia cotanto desertata, / Et anchi delle mura non era circumdata, / Multi homini credevano non foxe habitata. / Et anchi comensaro parichi ad scommorare, / Ché nne voleano gire de fore ad abitare; / Credeanose che Aquila non se degia refare. / Lo conte sappe questo, abese ad conselliare. / Vedendo poi lo conte la terra desolata / Per granni terremuti così male adobata; / Le mura erano ad terra, non era reparata; / Pensò subitamente de fare la sticconata. / Como illo comandò, foro facti li sticcati / De bono lename grosso, multo ben chiovati; / Sticcavano la terra per multi vicinati, / Et forone grandi utili, ca stevamo inserrati. / Quando le case cadero, tanta era polverina, / Non vedea l'uno l'altro in quella matina; / Multi ne abe ad occidere senza male de ruina. / Ben se lli dé ad cognoscere la potentia divina! / Or chi vedesse edefitia et case derupate! / Tuctequante le ecclesie erano atterrate, / Che fo lo majure danno che avesse la citate, / Salvo la morte delli homini, ad dire la veritate. / Le strade erano incomorate de prete et de legname; / Forria forte ad Abruczo scommorare lo marrame! / Assay fo granne affanno; vinneroce tuctotame / Li nostri contadini ad scomborare le strade. / Non jaceamo in casa, ma le logie fecemmo; / Più che nove semane pur de fore jacquembo.

Buccio di Ranallo only gives the year of the earthquake; but the early 15th century *Cronachetta anonima delle cose dell'Aquila dell'anno 1055-1414*, published in Pansa (1902, p.4) gives the date as 9 September:

“and there were great earthquakes on 9 September”.

e furono li Terramuti grandi adì 9 settembre.

Matteo Villani's *Cronaca* (ed. Porta 1995, I, pp.87-7), on the other hand, gives the date as 10 September:

“On the earthquakes which occurred in Italy.

In this year [1349], on 10 September, extraordinary and amazing earthquakes began in Italy, and in many parts of the world they lasted for a number of days [...] The city of L'Aquila was almost destroyed as a result, for all the churches and large buildings in the city collapsed, killing many men and women; and since these earthquakes lasted for a number of days, all the inhabitants, and strangers as well, began to spend all day and all night in the squares and out in the fields, as long as the movement of the earth continued, and it lasted for eight days or more. And they [the earthquakes] were so great that it was difficult for a man to stand up on level ground”.

Di tremuoti furono in Italia.

In questo anno, a dì X di settembre, si cominciarono in Italia tremuoti disusati e maravigliosi, i quali i[n] molte parti del mondo durarono più di [...] La città dell'Aquila ne fu quasi distrutta, che tutte le chiese e' grandi difici della città caddono, con grande mortalità d'uomini e di femine; e durando per più di i detti tremuoti, tutti i cittadini, ed eziandio i forestieri, si missono a stare il dì e lla notte su per le piazze e di fuori a campo, mentre che quello movimento della terra fu, che durò otto dì e più. Ed erano sì grandi,

che in piana terra avea l'uomo fatica di potersi tenere in piede.

In a letter dated 2 June 1353, pope Innocent VI granted an indulgence to those who contributed to the restoration of the cathedral (Archivio Segreto Vaticano, *Registra Vaticana*, vol.125, fol.180v.):

“To all the faithful in Christ who receive this letter, greetings etc. [...] Since we have learned from petitions recently presented by our venerable brother Isaia, bishop of L'Aquila, that of the old cathedral church of L'Aquila built outside the town and the later one built inside, the old church outside the town, containing the bodies of the blessed Massimo martyr and Raniero the Confessor, was suddenly razed to the ground not long ago in the extraordinary earthquake which occurred in the area, together with episcopal houses and many others belonging to the church, together with turrets, towers and large buildings. And since we have also learned that the income and earnings of the said church have become so modest and slight that they are insufficient for the maintenance of the bishop and the reconstruction of the church, unless they are subsidised by the Church and the charitable alms of the faithful, we therefore beg your community and exhort you in the name of God for the remission of sins that you arrange for the reconstruction of the said church with part of the goods which God has committed to you, and to give your alms and charitable contributions so that thanks to your support [...] the said church may be repaired [...]. We therefore [...] grant one year and forty days' indulgence to all those who truly repent and make confession and who contribute [...]. Given at Villeneuve in the diocese of Avignon on the fourth day before the Nones of June [2 June 1353], in the first year [of the pontificate of Innocent VI]”.

Universis Christi fidelibus presentes litteras inspecturis salutem etc. [...] Cum itaque sicut ex petitionis serie venerabilis fratris nostri Ysah episcopi Aquilensis nobis nuper exhibite precepimus ecclesiam Aquilensem tam extra ubi antiquitas quam intra civitatem Aquilensem in qua postmodum constructa extitit in qua ecclesia extra antiqua beatorum Maximi martiris et Ranerii confessoris corpora requiescunt cum episcopalibus domibus et multis aliis earumdem ecclesie et civitatibus pinnaculis turribus et magnis edificiis usque ad fundamentum ex nimio terremotu qui in illis partibus et precipue in civitate praedicta a modicis retro temporibus repente corruerit ac redditus et proventus ecclesie eiusdem adeo modici exiles ac tenues sint effici quod ad sustentationem episcopi et reparacionem ecclesie predictorum nequeunt sufficere nisi per favorem sedis apostolice et pias fidelium elemosinas succurratur eisdem universitatem vestram rogamus et hortamur in domino vobis in remissionem peccaminum iniungentes quatenus ad reparacionem dicte ecclesie de bonis a deo vobis collatis vestras elemosinas et pia caritatis subsidia erogetis ut per subvencionem vestram [...] dictam ecclesiam valeat reparari [...]. Nos enim [...] omnibus vere penitentibus et confessis qui manus ad hoc porrexerint adiutrices unum annum et quadraginta dies de iniunctis eis penitentiis [...]. Datum apud Villanovam Avinionensis diocesis IIII none junii anno primo.

A deed of sale dated 1 June 1374 (published in Pansa 1900, p.260) provides evidence of damage suffered by the church of S.Maria di Collemaggio:

“1374. First of June. At the monastery of Collemaggio. Brother Petrus De Anglone, the prior, and sixteen friars of the said monastery who are in need of money to pay the master builders of the said church of Collemaggio which was destroyed by the force of the great earthquake [of 1349] which occurred some time ago at L'Aquila etc., with the approval of brother Ioannes abbot of S.Spirito etc., have sold to Petrus Iacobi Vincenti of Santa Maria in Furfona, a piece of land in the territory of Bagno, at the place called Campu, for 32 gold ducats”.

1374. Primo Iunij. In Monasterio Collismadij – F. Petrus de Anglone Prior, et fratres

sexdecim conventuales dicti Mon.rij indingentes pecunijs pro Magistris fabricatoribus in dicta Ecclesia Collismadij diruta impetu magni terrae motus iam contingentis in Aquila, etc., cum licentia F.Ioannis Abbatis S.ti Spiritus etc., vendiderunt Petro Iacobi Vincentij de Sancta Maria in Furfona, petiam terrae in territorio Balnei, ubi dicitur Campu, pro praetio ducatorum auri 32.

Subiaco (province of Rome)

According to the monastery chronicle, the church of S.Scolastica was destroyed, together with the monastery and castle.

Our source is the contemporary *Chronicon Sublacense* (p.44):

“In the year of Our Lord 1349, the abbot after Giovanni was Pietro of Perugia, in whose time an earthquake almost completely destroyed the monastery and *Rocca* of Subiaco and other fortified abbey buildings. The abbot himself was in his room in the castle when the destruction occurred, and he was so frightened that he lived for only a short while after [the earthquake]”.

Anno domini MCCCXLIX post Iohannem fuit Petrus abbas nacione perusinus cuius tempore terremotus monasterium et roccam Sublaci et nonnullas alias roccas abacie ad solum pene prostravit in qua ruina cum esset idem abbas in camera sua apud roccam sublacensem territus parvo tempore supervixit.

Rome

There was widespread damage affecting many important monuments.

Basilicas and churches:

- Dodici Apostoli: damaged; no other details are available;
- S.Giovanni in Laterano: the roof collapsed;
- S.Maria in Aracoeli: badly shaken; this is probably the church which Petrarch calls “*Virginis domus*”;
- S.Paolo fuori le Mura: badly damaged; the bell-tower collapsed, as well as part of the loggia; the building was already in a precarious state before the earthquake because of its age;
- S.Pietro: it suffered unspecified damage, which was repaired on the orders of pope Clement VI;

Towers:

- delle Milizie (built in the 13th c.): partly collapsed;
- dei Conti (built in the early 13th c. by pope Innocent III, 1198-1216): large cracks appeared, and the upper part collapsed.

There is evidence of damage in Rome in many documentary and chronicle sources. Papal orders and letters written by Clement VI between 1350 and 1351 pay particular attention to damage to the principal basilicas (partly because 1350 was the year of the second jubilee). The picture of effects on the principal monuments in Rome is enlarged and enriched by the contemporary chronicles of Matteo Villani, Giovanni da Bazzano and Henricus Surdus de Selbach, and especially by three letters from Francesco Petrarca.

Pope Clement VI sent three orders to Ponzio, bishop of Orvieto and vicar of Rome.

The order dated 20 February 1350 concerns the basilica of S.Pietro (Archivio Segreto Vaticano, *Registra Vaticana*, vol.143, fol.163v.):

“The disquiet caused by the news that an earthquake has damaged the basilica of the Prince of the Apostles [S.Pietro in Rome] has filled our mind with bitterness and aroused great compassion towards the church. Therefore, since we anxiously desire that it should be repaired, [...] we have decided that you should choose on our authority an honest man [...] belonging to the secular clergy, or a regular of any religious order, as *altararius* [...] of the said basilica [...] Given at Avignon on the tenth day

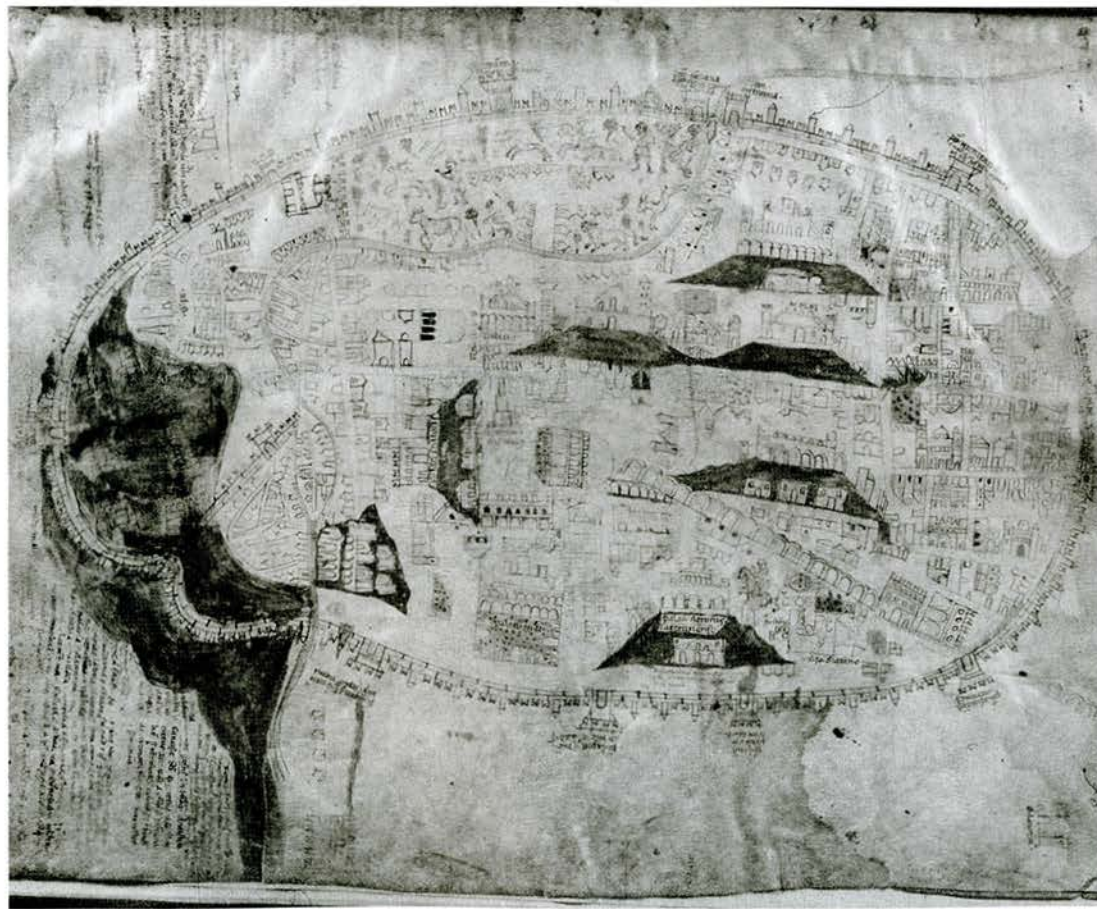
before the Calends of March [20 February 1350], in the eighth year [of the pontificate of Clemente VI]”.

venerande Basilice [Principis Apostolorum] de urbe qua eam terremotus fertur quassasse commocio animum nostrum multo saviavit absinchio multaque ad illam compassione commovit. Propter quod de reparatione illius solícite cogitantes [...] mandamus [...] aliquem probum virum [...] secularem vel et regularem cuiscumque professionis religiosi et ordinis sicut altararium auctoritate nostro in Basilica deputed predicta [...] Datum Avinionis X Kalendas martii anno octavo.

The order dated 12 May 1350 concerns the basilica of S.Paolo fuori le Mura (Archivio Segreto Vaticano, *Registra Vaticana*, vol.143, fol.211r.):

“considering how much the venerable basilica of S.Paolo the Apostle in Rome has been troubled and shaken by old age and earthquakes and is in need of repair, in our desire to find suitable remedies, we have decided that from now on offerings already made or which will be made in the said basilica in this fiftieth jubilee year shall be devoted to its restoration”.

attendentes quantum venerabilis basilica Beati Pauli apostoli de Urbe vetustate quassata et fatigata terremotibus indiget reparari super hiis oportuna remedia prospicem cupientes omnes oblationes factas iam et facendas de cetero in basilica memorata hoc instanti anno quinquagesimo iubileo operi fabríce basilice deputavimus memorate.



ROME
monuments damaged
in the earthquakes
of September 1349

Churches

S.Pietro
Dodici Apostoli
S.Giovanni in Laterano
S.Paolo fuori le Mura
S.Maria in Aracoeli

Towers

delle Milizie
dei Conti

fig. 90 14th century map of Rome showing the most important buildings in the city (Biblioteca Nazionale Marciana, *Mss. Latini*, Z. 399 (=1610), Paulinus, *Chronologia Magna*, fol.982).

Another order, also dated 12 May 1350, concerns the basilica of S.Giovanni in Laterano (Archivio Segreto Vaticano, *Registra Vaticana*, vol.143, fol.212v.):

"[...] since we desire that repairs and all other necessities for the Lateran church shall be undertaken, we have disposed that offerings which the church receives in this fiftieth jubilee year shall be devoted to that purpose."

[...] reparationibus et aliis oportunitatibus ecclesie Lateranensis prospicere cupientes, oblationes factas et faciendas in eadem ecclesia hoc presenti anno quinquagesimo iubileo reparationi et aliis oportunitatibus huiusmodi duximus deputandas.

In a letter dated 7 July 1351, Clement VI exhorted the faithful to contribute to the restoration of the basilica of S.Paolo fuori le Mura (Archivio Segreto Vaticano, *Registra Vaticana*, vol.145, fol.22):

"To all the faithful in Christ who shall see this letter, good health and [apostolic blessing]. The fact that the venerable basilica of the city [of Rome] dedicated to S.Paolo the Apostle, *doctor gentium*, in recent days was shaken in many parts and partly demolished by the earthquake [of 1349], urges us all the more to have it repaired because the outstanding merits of the apostle make the matter one of urgency, and because it is clear that the structure of this very ancient church is another reason why it needs the benefits of fresh repairs. [...] Avignon, on the Nones of July [7 July 1351], in the tenth year [of the pontificate of Clement VI]"

Universis Christi fidelibus presentes litteras inspecturis, salutem et cetera ... [Apostolicam benedictionem]. Doctoris gentium beati Pauli apostoli veneranda Basilica de urbe quam diebus preteritis tremotus in plerisque suis partibus conquassavit et in quibusdam diruens deformavit eandem ad reparationem suam tanto ferventius nos inducit quanto eiusdem apostoli preclaris meritis convenit amplius ut ad eam sollicitius intendatur quantoque ipsius structum basilice multis antiqua temporibus nove reparationis beneficia etiam alias noscitur indigere [...]. [Avinioni nonis iulii anno decimo].

On 1 July 1351, Clement VI gave authority for transporting the timber needed to repair the basilicas of S.Pietro and S.Paolo fuori le Mura (Archivio Segreto Vaticano, *Registra Vaticana*, vol.145, fol.53r.):

"Since our venerable brother Ponzio, bishop of Orvieto and our vicar in Rome for spiritual matters, has made arrangements for finding, transporting and delivering a certain quantity of timber from Calabria and other places by certain merchants, for repairs to the basilicas of S.Pietro and S.Paolo in Rome, we request your community [...]"

Cum venerabilis frater noster Poncius episcopus Urbevetanensis noster in spiritualibus in urbe vicarius certam quantitatem lignaminum de Calabria et certis aliis partibus pro reparatione beatorum Petri et Pauli Basilicarum de urbe per certos mercatores haberi deferri et conduci ordinaverit ad Basilicas memoratas universitatem vostram rogamus [...].

Matteo Villani's *Cronaca* (I, pp.86-7) also records damage to the Torre delle Milizie and the Torre dei Conti:

"On the earthquakes which occurred in Italy.

In this year [1349], on 10 September, extraordinary and amazing earthquakes began in Italy, and in many parts of the world they lasted for a number of days, and in Rome they caused the collapse of the bell-tower of the great church of S.Paolo, as well as part of the church loggia, and part of the noble Torre delle Milizie and the Torre del Conte, leaving a reminder of its disastrous effect in many other parts of Rome.

Di tremuoti furono in Italia.

In questo anno, a di X di settembre, si cominciarono in Italia tremuoti disusati e

maravigliosi, i quali i[n] molte parti del mondo durarono più di, e a Roma feciono cadere il campanile della chiesa grande di San Paolo, con parte delle loggi di quella chiesa, e una parte della nobile torre delle Milizie, e la torre del Conte, lasciando i[n] molte altri parti di Roma memoria delle sue rovine.

The contemporary *Chronicon Mutinense* by Giovanni da Bazzano (p.147) dates the earthquake to 1 September, and records further details about the basilica of S.Paolo: "In the said year [1349], on 1 September, almost at the second hour and before the third, the world was struck by an earthquake which was stronger in the East than in the West; [...] In Rome, indeed, a marble column supporting the church of S.Paolo collapsed, together with about a third of the church loggia, and many more churches and other buildings in the city collapsed in an amazing way".

Dicto millesimo primo septembris quasi in hora secunda et ante terciam fuit terraemotus in orbe, scilicet fortior fuit in partibus Orientis quam Occidentis: [...] In Urbe vero cecidit quaedam colupna de marmore quae sustinebat ecclesiam Sancti Pauli cum tercia parte vel circa cooperti ipsius ecclesiae et multae aliae ecclesiae ibi et edificia mirabiliter ceciderunt.

The humanist and poet Francesco Petrarca records this earthquake in three letters, dating to 1351, 1353 and 1368.

The first of these is to Luigi Santo di Campinia (*ad Socratem*), and was written at Piacenza on 11 June 1351 (*Familiarum Rerum*, 11, 7, vol.11, p.338):

"To his Socrates, the earthquake at the city of Rome and the sad omen to be derived from it. [...] here is something you perhaps do not know: that Rome has been more seriously shaken by an unusual earthquake than at any time since its foundation more than two thousand years ago. Ancient buildings which were neglected by the local people but admired by pilgrims, collapsed; that unique tower called the 'tower of the count' has been split open with great cracks, and now, in its mutilation, sees its own head, the pride of its noble summit, lying scattered on the ground; furthermore, lest evidence of heavenly wrath should be lacking, a considerable part of many

fig. 91 Rome, the column of Marcus Aurelius, also known as the Antonine column (2nd century A.D.). Adjacent drums (cylindrical stone blocks) slipped, very probably as a result of seismic effects. These effects may well have been those of the 1349 earthquake, one of the most serious in Rome before the second half of the 16th century, when the column was restored. Drawings and written evidence in fact show that this movement of the drums (now fairly well concealed but still visible) was very obvious, and the work of 16th century restorers, which is described in detail in the site account book, included repairs and restoring the displaced drums to their original position (Martines 1983).



churches, and especially that dedicated to the apostle Paul, has collapsed, and the top of the Lateran church has fallen, all of which throws a pall of cold gloom over the joy of the Jubilee [...]. On the third day before the Ides of June [11 June], at Piacenza”.

Ad Socratem suum, terremotus urbis Rome et mestum inde presagium. [...] ecce, quod adhuc forsitan ignoras, Roma ipsa insolito tremore concussa est tam graviter ut ab eadem urbe condita, supra duo annorum milia, tale ibi nichil acciderit. Cecidit edificiorum veterum neglecta civibus stupenda peregrinis moles; turris illa toto orbe unica que Comitibus dicebatur, ingentibus rimis laxata dissiluit et nunc velut trunca caput, superbi verticis honorem, solo effusum despicit; denique ut ire celestis argumenta non desint, multorum species templorum, atque in promissis Paulo Apostolo dicatae edis bona pars humi collapsa et Lateranensis ecclesie deiectus apex, Iubilei ardorem gelido horrore contristant; [...] III Idus Iunias, Placentie.

The second letter is addressed to Angelo di Pietro Stefano dei Tosetti (*ad Lelium*), and was written in 1353 (*Familiarum Rerum*, 15, 9, vol.12, p.162):

“To the same Lelio [...] This is the fourth year [1353] since the church of the apostle Paul was almost completely destroyed in a terrible earthquake, and the church of the Virgin which stands on top of a hill [Ara coeli] was badly shaken; surely no-one could claim that earthquakes are not as clear a sign of divine wrath as lightning [...]”.

Ad eundem Lelium [...] Quartus annus agitur ex quo terremotu terribili et apostoli Pauli templum pene funditus ruit et Virginis domus supremo colle consistens graviter concussa est; nisi forte dicat quispiam non tam clarum celestis iracundie indicium terremotum esse quam fulmen [...] [1353].

The third letter, addressed to Guido Sette, archbishop of Genova, was written in Venice in 1368 (*Rerum Senilium Libri*, 15, 2, pp.962-3):

“In the next year [1349], there was an earthquake in Rome (and towers and churches collapsed as a result) and it extended as far as nearby Etruria, as I recall having written to my Socrates [Venice 1368]”.

Qui hunc proxime secutus est anno, Roma tremuit usque ad ruinam turrium ac templorum; simul et partes Etrurie tremuerunt, de quo tunc sollicitus ad Socratem nostrum scripsi.

In the contemporary chronicle of Henricus Surdus de Selbach (p.99), who was chancellor at the bishopric of Eichstatt, there is a reference to the basilica of the Dodici Apostoli, not mentioned in any other source of the time:

“In the same month [September 1349], on the feast of the Blessed Gorgonius [9 September], both in the city of Rome and its surroundings and in the kingdom of Apulia, there was a very great earthquake, even greater than that of the previous year in Germany.

It caused so much of the church of S.Paolo in Laterano to collapse that barely a third was left. The basilica of the Dodici Apostoli, towers and many other buildings in Rome were destroyed, [...] And the Romans were so terror-stricken by this that they would not live in their houses, but slept in tents and buildings away from their homes”.

Eodem mense ac in die beati Gorgonii in urbe Romana et locis vicinis ac in regno Apulie maximus terre motus fuit, etiam maior quam de quo supra anno precedenti in Almania. Unde ex hoc ecclesia sancti Pauli in Laterano corruit, ita quod vix tertia pars eiusdem remansit. Basilica XII apostolorum, turres et multa alia edificia in Urbe corruerunt [...] Et ex eo territi Romani non audebant inhabitare domos suas, set in tentoriis et extra domorum tecta dormiebant.

Tarano (province of Rieti)

The castle partially collapsed. Two months after the earthquake, pope Clement VI allocated 400 gold florins for repair work.

Our source is an order dated 13 November 1349 in which Clement VI ordered his treasurer to allocate the necessary funds for repairs (Archivio Segreto Vaticano, *Registra Vaticana*, vol.143, fol.101):

“To our beloved son who is treasurer of the Patrimony of St.Peter in *Tuscia* on our behalf and that of the Roman Church. A trustworthy report has informed us that part of the castle of Tarano has collapsed [...] in an earthquake which violently shook that area, and that the castle of Tarano can be suitably repaired at a cost of three hundred [gold florins]. [...] Given at Avignon on the Ides of November [13 November 1349] in the eighth year [of the pontificate of Clement VI]”.

Dilecto filio thesaurario Patrimoni beati Petri in Tuscia pro nobis et ecclesia Romana. Ad audienciam nostram insinuacio fidedigna perduxit quod roche Tarani in parte [...] propter terremotum qui partes illas graviter conquassit quodque rocha Tarani pro trecentis [...] possent commode reparari. [...] Datum Avinionis idibus novembris anno octavo.

Ascoli Piceno

Giovanni da Bazzano was a notary from Modena who wrote at the time of the earthquakes, but he was a long way from the major effects areas. He records very serious damage to towers and other buildings at Ascoli Piceno. In view of that fact, and because Ascoli Piceno is fairly distant from the major effects areas, it seems appropriate to re-evaluate the picture of effects described by Giovanni da Bazzano for that town. In any case, his text pays no particular attention to Ascoli, simply attributing very serious damage to three towns (L'Aquila, Perugia and Ascoli Piceno) which were far from where he was living.

He wrote as follows (p.147):

“In the said year [1349], on 1 September, almost at the second hour and before the third, the world was struck by an earthquake [...] In Apulia and those parts, several towns collapsed with most of their buildings, and the towns of L'Aquila and Ascoli and that of Perugia, too, were damaged in the said earthquake, for many towers and other buildings collapsed there”.

Dicto millesimo primo septembris quasi in hora secunda et ante terciam fuit terraemotus in orbe, scilicet fortior fuit in partibus Orientis quam Occidentis: [...] In Apulea [et] in partibus illis plures terrae et edificia ibi existentes pro parte maxima corruerunt, ut civitas Aquilae, civitas Esculana et etiam civitas Perusina [propter] dictum terraemotum cum damno quia ibi multae turres et edificia corruerunt.

There are two passages in the *Cronaca ascolana dal 1345 al 1523* (pp.4, 8) which record the earthquake. In the second, we have corrected the date 1352 to 1349, because 9 September was a Wednesday in that year:

“In the year of Our Lord 1349, on 9 of the said month of September, there was a very great earthquake, [...] and later on in that year, there were such very great earthquakes that bells rang of their own accord”.

“In the year of Our Lord 1352 [1349], on Wednesday 9 September, a little before half way through the third hour, there was so great an earthquake that the bell in the *palazzo* in the main square rang of its own accord and so did many other bells in the town [of Ascoli] because of the tremendous shaking of the towers; and many buildings and towns were reduced to ruins”.

Anno Domini 1349, die nono dicti mensis septembris, fuit terremotus maximus, [...] et post de dicto anno maximi terremotus fuere adeo ut campane ex semetipsis pulsarent. [...] Anno Domini 1352, die mercuri et nona mensis septembris, parum ante horam medie

tertie, fuit tam maximus terremotus, quod campana palatii de platea superiori per se sonavit et multe alie per civitatem propter maximam turrium concussionem et multa edificia et urbes ruinate sunt.

AREA ③ **Sulmona** (province of L'Aquila)

There was severe earthquake damage. The town walls collapsed and the church of the convent of S.Domenico was badly damaged. An annual subsidy of 12 *unciae* was granted towards the work of reconstruction. In 1354, the commune of Sulmona was granted a tax exemption privilege.

There are some documents in the Archivio di Stato at L'Aquila (Sezione di Sulmona, *Opera pia Casa Santa dell'Annunziata*, no.242) — especially wills — which mention legacies for rebuilding or restoring ecclesiastical buildings in the town. These legacies were made not only for private buildings, but also for numerous church buildings: S.Maria Annunziata, S.Panfilo, S.Francesco, S.Domenico, S.Croce, S.Maria de Tumba, S.Agostino, and S.Andrea. There are also two legacies for repairs to bridges near Sulmona and to a mill at Mola dei Martelli. But the damage mentioned is never explicitly related to 1349 earthquake effects.

The sources consist of a verse autobiography by the Sulmona poet Giovanni Quatrario, and two documents from the Angevin chancery dated 1354 and 1382.

At the time of the earthquake, Giovanni Quatrario was living in the town with his family, so his evidence is based on personal experience (ed. Pansa 1912, pp.305-6):

“Sulmona is lying in a heap of rubble, overlaid with tall clouds of dust. Shouts are heard, and the ground is about to be swallowed up. With difficulty we make our way out of doors and amid dark clouds of dust we seek a way through the ruins of houses. In the wretched darkness of these clouds you count your children; you are distraught to find some of your beautiful daughters missing. You seek calm as the earth trembles, but you cannot find any, and you seem to be cast down towards the waters of Styx. While all around the encircling town walls shake and collapse, the terror-stricken crowd wanders through open spaces. You look towards the spot where your home is normally to be seen, and you see it reduced to a pile of stones, rubble and broken beams. Then your strength of mind is weighed down by these disasters and prostrated by so many troubles, so that it is almost overcome and cries out in lamentation. You cried out about that spot, that hole which was perhaps the tomb of your dying daughter, and you peered into dark corners as you searched, calling out or falling silent as you listened in case some faint cry reached you in reply”.

Obruta Sulmo iacet. nebulis contexitur altis. / Exoritur stridor. terra subire parat. / Exilimus timidi. spatio pellente neblaque / Nubiferas. versas cernimus ante domos. / Pulverulenta tuos numeras ingloria natos. / Obruta de numero filia pulcra vacat; / Accesti dum terra tremit reperire quietem / Nescit. et in Stigios credimus ire lacus; / Dum circum cadidant concussis menia limbis. / In vacuum volitat territa turba locum; / Prospicis unde domus solita est se ostendere. versa / In calcem et lapides. tignaue rupta coit; / Tunc virtus onerata malis. tantisque procellis / Obruta. mugitus dat prope victa suos; / Clamabas si forte locus. si forte caverna / Seminecem natam conderet ulla tuam; / Inque caput latebras infora, clamando. silendo. / Auribus an aliquid murmur habere queas.

On 4 March 1354, Louis and Joanna I of Anjou issued a privilege in Naples in favour of the town of Sulmona (in Faraglia 1888, pp.212-3):

“In view of the fact that your aforesaid fellow citizens have been troubled by earthquake damage and many deaths in the past, as well as by the subsequent turbulence of the said war [...]. Given in Naples in our Chamber in the year of Our Lord 1354, on 4 March, in the seventh indiction, in the sixth year of our reigns and the twelfth year of our queen”.

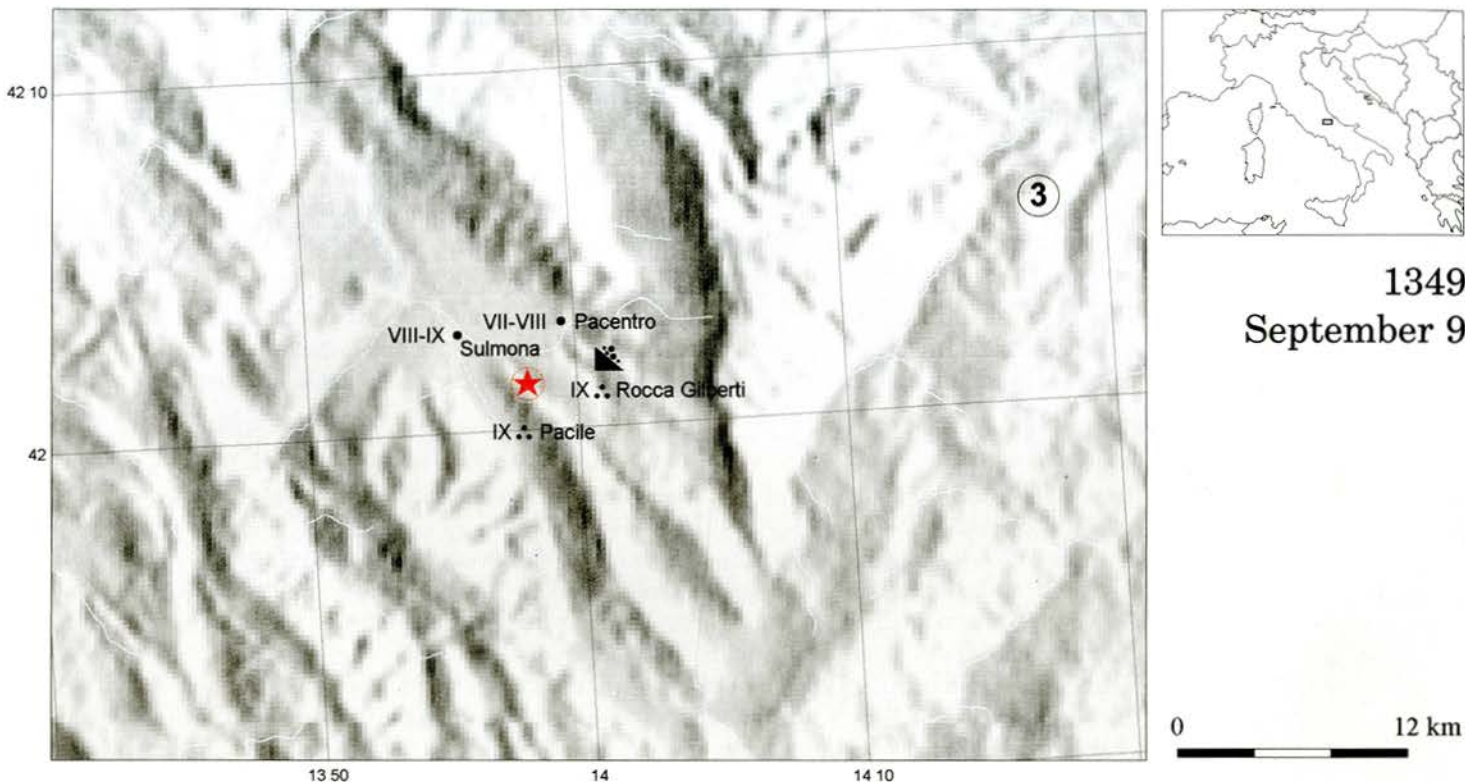


fig. 92

Pro relevamine quoque vestrum prefatorum hominum gravatorum tum ex inavalia Terremotus, tum ex mortalitate preteriti temporis imminente, tum etiam ex subsequito fremitu guerre predictae [...].

Datum Neapoli in Camera nostra Anno Dominij Millesimo Trecentesimo quinquagesimo quarto die quarto Martij septime Ind. Regnorum nostri Regio Anno sexto, nostri vero Regine anno duodecimo.

In a diploma dated 31 December 1382, king Charles III of Durazzo confirmed the privileges previously granted by Louis and Joanna I of Anjou to the Franciscan friars of Sulmona for the restoration of the convent church, which had been destroyed in the earthquake, establishing an annual grant of twelve *unciae* (in Faraglia 1888, p.208).

Pacentro (province of L'Aquila)

There was damage to the churches of S. Antonio and S. Marcello and to the spring at Pacentro castle. These effects are recorded in a will dated 3 July 1362 now in the Archivio di Stato at Sulmona (*Opera pia Casa Santa dell'Annunziata*, no.242, cass.II, doc.329), but the document does not specify the cause of the damage, so its relationship to the 1349 earthquake is hypothetical.

Pacile and Rocca Gilberti (province of L'Aquila)

That the earthquakes of 1349 had destructive effects at these two places, both of which are now abandoned, was suggested by the local historian Mattiocco (1978). This suggestion is based on substantial documentary evidence, and we are inclined to accept it, though the primary sources do not refer to these two localities explicitly.

The ruins of Pacile can be made out to the south of Colle Mitra, between the territory of Cansano and that of Pettorano.

1349

September 9

0 12 km

Rocca Gilberti was situated on the slopes of La Maiella, along the old road from Pacentro to Campo di Giove. Little of the village remains, and Mattiocco (1978) thinks it was swept away in a landslide, probably started by the earthquake.

AREA ④ **Atina** (province of Frosinone)

Atina was completely destroyed and there were a great many victims.

Our source is the contemporary *Chronicon breve Atinensis ecclesiae* (col.910):

"In the year of Our Lord 1349, on 9 September, there was a great and terrible earthquake, with the result that no stone was left upon another, and it killed men and women in great numbers".

Anno Domini MCCCXLIX nono septemb. fuit magnus et terribilis terraemotus, ita ut non remanserit lapis super lapidem, et percussit viros et mulieres sine numero.

Venafro (province of Isernia)

There is evidence of widespread destruction in the inhabited area, with almost 700 victims. The ancient cathedral collapsed in the earthquake and was rebuilt by Abbot Antonio Savina in 1423.

The sources for the earthquake are a contemporary document from the *Archivio Capitolare* at Isernia and a notarial deed of 1423.

The contemporary document is reproduced in its entirety in the work of the scholar Ciarlanti (1644, p.398):

"On 9 September in the said year [1349], the day following the feast of the Nativity of the glorious Virgin Mary, there was so great and hugely powerful an earthquake half way through the third hour that no-one has recorded a similar since the time of the Creation. [...] In particular, it completely destroyed the town of Venafro, and everywhere else around, and almost seven hundred people were killed in it [...]".

Die vero 9. mensis septembris anni predicti sequenti post festum gloriosae nativitatis S.Mariae in hora mediae tertiae terremotus tam magnus, et tam ingentissimae potentiae, quod nemo recordatur similem terremotum a tempore creationis. [...] Insuper destruxit Civitatem Venafri totaliter, et per totum, in qua mortui fuerunt fere homines septingenti [...].

The notarial deed of 1423 is recorded in an 18th century text, namely the *Storia della città di Venafro* by L.Valla (Biblioteca Nazionale, Naples, *Manuscripts*, X.C.77, fol.80):

"For this purpose [we declare] that the principal church of Venafro and the said chapel were reduced to ruins and completely destroyed in the earthquake, and that Abbot Antonio Savina, their father [i.e. of those who claimed *jus patronati*], rebuilt the foundations of the chapel and the whole dome [...]".

Pro eo quod dicta major ecclesia Venafrana et dicta Cappella tempore Magni terremotus passa fuit ruinam, et ruinata fuit usque ad fundamentum, et quondam Abbas Antonius Savina eorum pater fundamenta ipsius cappellae, et totam cupulam reaedificavit [...].

Isernia

The earthquake of 9 September was preceded by a strong earthquake during the night of 22 January 1349, but no damage is recorded on that occasion. From that night onwards, there was an almost uninterrupted series of weak shocks nearly every month until 8 September. Our source is a contemporary memory from the *Archivio Capitolare* at Isernia (in Viti 1972, p.384):

"In the year 1349, in the month of January, during the night of the feast of St.Vincent [22 January], there was a very great earthquake after dinner, and from that night onwards there was an almost uninterrupted series of weak shocks nearly every month until the feast of the Nativity of the glorious Virgin Mary [8 September]".

Anno Domini 1349. de Mense Ianuarij in nocte S.Vincentij post cenam fuit unus terremotus multum magnum, et ab illa fere continue fuerunt quasi omni mense terremotus parvi usque ad Festum Nativitatis gloriosae Virginis Mariae.

As a result of the earthquakes of 9 September, most buildings, including the cathedral, were destroyed or seriously damaged, as the document referred to above tells us at a later stage:

“On 9 September in the said year, on the day after the feast of the Nativity of the glorious Virgin Mary there was so great and hugely powerful an earthquake half way through the third hour that no-one has recorded a similar since the time of the Creation. It destroyed and brought down the principal church of Isernia, the house of Signor Andrea, that of Signor Alferio, and generally speaking all the buildings in the town of Isernia from the smallest to the largest, so that there was no building left which was not completely destroyed or badly damaged”.

Die vero 9. mensis septembris anni praedicti sequenti post festum à gloriosae nativitatis S.Mariae in hora mediae tertie terremotus tam magnus, et tam ingentissimae potentiae, quod nemo recordatur similem terremotum à tempore creationis. Diruit, et subvertit Ecclesiam Iserniensem, domus Domini Andreae, Domini Alferij, et generaliter omnia aedificia Civitatis Iserniae a minori usque ad maius; itaque nullum omnino remansit, vel quod non esset totaliter destructum, vel pro maiori parte dirutum.

San Domenico (province of Frosinone)

The monastery was completely destroyed. In 1350 Clement VI granted an indulgence to those offering alms for its reconstruction. Our source is a letter dated 1 April 1350 from pope Clement VI granting an indulgence of 100 days to those who contributed to the repair work (Archivio Segreto Vaticano, *Registra Vaticana*, vol.198, fol.157v.):

“To all the faithful in Christ [...] since we have been informed by the abbot and the Cistercian monastery of Casamari, in the diocese of Veroli, that its subject priory of S.Domenico Eremita in the diocese of Sora, in which the remains of the said saint rest, has been completely destroyed in the earthquake which struck that area this year [...], we grant 100 days' indulgence to all those who repent and contribute to its repair [...] Given at Avignon on the Calends of April [1 April 1350], in the eighth year [of the pontificate of Clement VI]”.

Universis Christi fidelibus [...] sane pro parte dilectorum filiorum [...] abbatis et conventus monasterii Cesemari cysteriensis ordinis, Verulane dyocesis, nobis extitit intimatum quod prioratus conventualis Sancti Dominii heremite eidem monasterio immediate subiectus dicti ordinis, Sorane dyocesis, in quo ipsius sancti corpus venerabile requiescit, adeo propter terremotum, qui de presenti anno fuit in illis partibus, est destructus funditus et eversus [...] Nos itaque [...] omnibus vere penitentibus et confessis, qui ad hoc manus porrexerit adiutore, centum dies de iniunctis eis penitentiis relaxamus [...] Datum Avinioni kalendas aprilis anno octavo.

San Vincenzo al Volturno (province of Isernia)

The abbey and church were seriously damaged, and two monks were killed.

Our source is a contemporary memory from the Archivio Capitolare at Isernia, which is edited in Viti (1972, p.384):

“On 9 September in the said year [1349], the day following the feast of the Nativity of the glorious Virgin Mary, there was so great and hugely powerful an earthquake half way through the third hour that no-one has recorded a similar since the time of the Creation. [...] It nonetheless destroyed the whole province of Comino [...], the church of S.Vincenzo al Volturno, the monastery, and all the fortified villages belonging to the above-mentioned church, where venerable monks who were blood brothers of the abbot of the said monastery were killed”.

Die vero 9. mensis septembris anni praedicti sequenti post festum à gloriosae nativitatís S.Mariae in hora mediae tertie terremotus tam magnus, et tam ingentissimae potentiae, quod nemo recordatur similem terremotum à tempore creationis. [...] Destruxit nihilominus totam Provinciam cominus [...] Ecclesiam S.Vincentij de Volturmo, Monasterium, et omnia Castra Ecclesiae supradictae, in quibus mortui fuerunt venerabiles Monachi frates carnales Abbatis Monasterii praelibati.

Alvito (province of Frosinone)

The castle walls were in poor condition from old age, and the earthquake knocked them down. The castle was rebuilt in 1350 by the Cantelmo family, with an appreciable enlargement of the village.

Our source is a contemporary inscription on the castle gate at Alvito:

“During an earthquake and general danger in various parts of the kingdom, these walls [of Alvito castle], being old, completely collapsed in ruins. However, the nobleman Rostaino Cantelmo restored and improved them in the illustrious name of his ancient ancestors, and he built a new castle and new walls [...]. The king and queen gave this castle to him for his great merits, it being vacant at that time, through the death of Adenolfo. If you seek to know when, you will apply the date 1350, when the Jubilee opened its gates to all Christians. If you wish to know who carried out the work, his name is Landolfo”.

Dum tremor in terris fuit, et generale periculum per varias Regni partes, haec moenia prorsus sunt aequata solo, dederunt annosa ruinam. Rostainus tamen in melius vir nobilis ille Cantelmus egregio priscorum nomine patrum restituit, castrumque novum, nova moenia fecit [...]. Huic pro tot meritis Rex et Regina dederunt hoc castrum, quod tunc Adenulfi morte vacavit. Tempora si quaeris, millenos atque tricenos quinquaginta dabis, coeli dum libera cunctis ostia Christicoelis annus Iubilaeus habebat. Si petis artificem, Landulfus sit tibi nomen.

Cardito (province of Frosinone) and **Cerasuolo** (province of Isernia)

Both their fortresses were destroyed.

Our source is a contemporary document from the Archivio Capitolare at Isernia, which is reproduced in its entirety in Viti (1972, p.384):

“On 9 September in the said year [1349], the day following the feast of the Nativity of the glorious Virgin Mary, there was so great and hugely powerful an earthquake half way through the third hour that no-one has recorded a similar since the time of the Creation. [...] It nevertheless destroyed the whole Comino province, the fortresses of Cardito and Cerasuolo[...].”

Die vero 9. mensis septembris anni praedicti sequenti post festum à gloriosae nativitatís S.Mariae in hora mediae tertie terremotus tam magnus, et tam ingentissimae potentiae, quod nemo recordatur similem terremotum à tempore creationis. [...] Destruxit nihilominus totam Provinciam cominus, Fortilitia Cardeti, Cerasoli [...].

Cassino [formerly San Germano] (province of Frosinone)

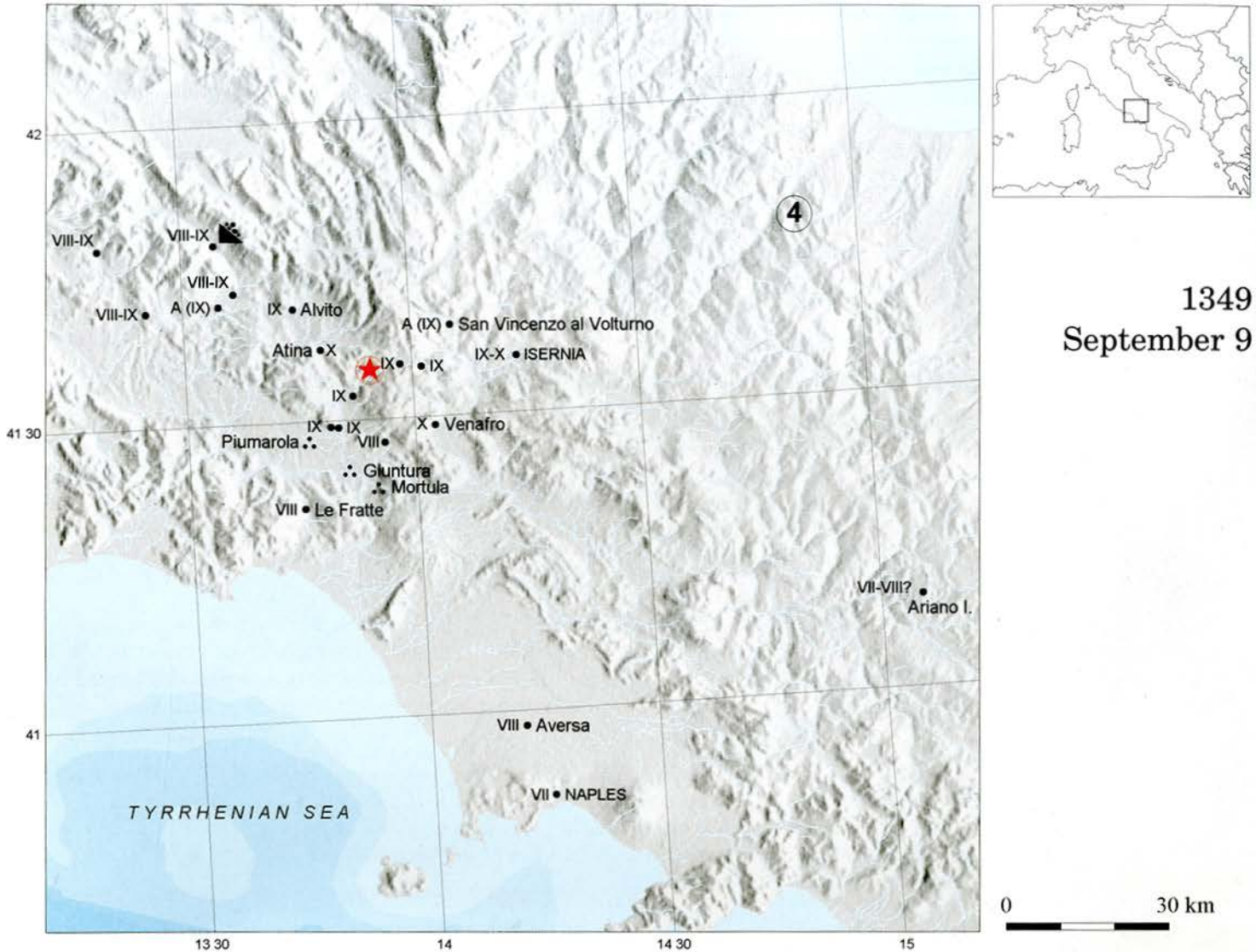
Half the town collapsed. Particularly affected were the areas in the plain or towards the marshes. There were nearly a thousand victims.

Contemporary sources consist of two chronicles, a note in the margin of a codex, and a document from the archivio capitolare at Isernia.

The contemporary *Cronaca* by Matteo Villani (I, pp.86-7) records:

“On the earthquakes which occurred in Italy.

In this year [1349], on 10 September, extraordinary and amazing earthquakes began in Italy, and in many parts of the world they lasted for a number of days [...] At San Germano and Montecassino it caused incredible damage to large buildings, to the



1349
September 9

fig. 93

ancient monastery of S.Benedetto on the mountain, and it knocked down a good part of the hill itself, which appears to be of solid rock”.

Di tremuoti furono in Italia.

In questo anno, a dì X di settembre, si cominciarono in Italia tremuoti disusati e maravigliosi, i quali i[n] molte parti del mondo durarono più di, [...] A San Germano e a Montecasino fece incredibili ruine di grandi dificii, e dello antico monistero di san Benedetto sopra il monte e del poggio medesimo, che pare tutto sasso, abbatté buona parte.

A contemporary memory from the Archivio Capitolare at Isernia, which is reproduced in its entirety in Viti (1972, p.384) records:

“On 9 September in the said year [1349], the day following the feast of the Nativity of the glorious Virgin Mary, there was so great and hugely powerful an earthquake half way through the third hour that no-one has recorded a similar since the time of the Creation. [...] It also destroyed and reduced to ruins the monastery at Cassino and the whole town of S.Germano, where almost a thousand people were killed, and it destroyed other villages belonging to the said monastery”.

Die vero 9. mensis septembris anni praedicti sequenti post festum à gloriosae nativitatis S.Mariae in hora mediae tertie terremotus tam magnus, et tam ingentissimae potentiae, quod nemo recordatur similem terremotum à tempore creationis. [...] Destruxit praterea, et subvertit Monasterium Cassinense cum tota Terra S.Germani, in qua mortui fuerunt homines fere mille, destruxit alias Terras Monasterii supradicti.

In an appendix to the year 1349 in Muratori's edition of the chronicle of the *Anonymus Monachus Casinensis* (p.75), we read:

"On 9 September in the year of Our Lord 1349, in the third indiction, there was a great earthquake throughout the kingdom of Sicily, such as there had never been since the world began, except at the death of Christ [...] It happened when mass was being celebrated. [...].

So half the town of San Germano collapsed, especially the part in the plain or in the marshy area, and countless men and women were killed there".

Anno domini 1349 tertia indictione die nono septembris, fuit magnus terramotus in toto Regno Siciliae, qualis non fuit ab initio mundi, nisi in morte Christi [...] Id fuit hora missae. [...].

Civitas ergo sancti Germani media corruit, praecipue illa pars, quae erat in plano, seu paludibus, et in ea innumera multitudo hominum ac mulierum mortua est.

A contemporary note in the margin of a Cassino codex containing the *Regula S.Benedicti*, published in Caravita (1870, vol.2, pp.123-4), records:

"In the year of Our Lord 1349, in the third indiction, on 9 September, there was a great earthquake throughout the kingdom of Sicily, such as had not occurred since the world began, except at the death of Christ [...]. Half the town of San Germano collapsed as well, especially the part in the plain or in the marshes, and a very large number of men, women, children and monks were killed".

Anno domini M.CCC.XLVIII. III. Indictionis. die nono Septembris fuit magnus terremotus in toto Regno sicilie qualis non fuit ab initio mundi nisi in morte christi [...]. Civitas quoque Sancti Germani media corruit precipue illa pars que erat in plano seu paludibus et innumera multitudo hominum et mulierum et parvulorum et religiosorum mortua est.

Montecassino - Abbey (province of Frosinone)

The earthquake reduced the church to ruins and severely damaged the monastery and adjoining buildings. A number of the clergy and congregation who had gathered for a church service were killed. Recent studies have identified damage to the upper parts of the basilica, including the collapse of the naves, whereas the outer walls remained standing.

The popes made provisions to facilitate reconstruction. In 1353, Innocent VI granted an indulgence of 5 years and 200 days in exchange for contributions to reconstruction; and in 1354 he asked the king of Sicily to grant the diocese tax exemption. The earthquake damage, together with the effects of war, so impoverished the diocesan territory that in 1361 it was unable to pay its tithes. In 1363, Urban V granted another indulgence in exchange for contributions to the monastery. In a petition of 1365, the church, cloister and refectory are described as still in need of repair, and in the same year Urban V wrote a letter to the bishop of Bojano, ordering the income from episcopal property to be used to pay for restoration work. In 1370, Urban V ordered the abbot of the monastery to devote one sixtieth of all the monastery's income to complete repair work on the church and monastery. And as late as 1371, the bishop of Palestrina was urging the archbishop of Nicosia to take steps to collect the income which had been allocated the previous year.

Montecassino is one of the best documented places affected by the earthquake, for we have a number of contemporary narrative sources in the form of chronicles and notes in the margin of codices, as well as letters from popes Innocent VI and Urban V, and petitions and orders issued by bishops over a period as long as that from 1353 to 1371. In a letter dated 21 April 1353, pope Innocent VI granted an indulgence of 5 years and 200 days to those who contributed to the restoration of the Montecassino church (Archivio Segreto Vaticano, *Registra Vaticana*, vol.222, fol.341r.):

“To all the faithful in Christ [...] since we have learned that the church of Montecassino has been largely reduced to ruins by earthquakes which have severely struck that area, and its movable possessions have been stolen by invaders, enemies and local tyrants, we grant 5 years’ and 200 days’ indulgence to those who, with true repentance, contribute to the restoration of the said church [...].

Given at Avignon on the eleventh day before the Calends of May [21 April 1353], in the first year [of the pontificate of Innocent VI]”.

Universis Christi fidelibus [...] cum itaque sicut accepimus ecclesia Casinensis propter terremotus, qui dudum in partibus illis loca non modica subverterunt, pro maiori parte subversa funditus et distructa omnibusque bonis suis mobilibus per invasores, emulos et tyrannos dictarum partium spoliata extiterit [...] omnibus vere penitentibus et confessis qui reparationem dicte ecclesie manus porrexerint adiutrices quinque annos et quinque quadragenas de iniunctis eis penitentiis misericorditer relaxamus [...].

Datum Avinionis XI kalendas maii anno primo.

In a letter dated 5 May 1354 and written at Villeneuve (Avignon), Innocent VI asked king Louis of Sicily to grant tax exemption to the church at Montecassino (Archivio Segreto Vaticano, *Registra Vaticana*, vol.236, fol.90):

“[...] because it is clear that the church has been reduced to ruins by the disturbance and shaking of the earthquake and hence has the greater need of your help and that of the other princes [...].”

[...] quanto ecclesia ipse terremotibus fatigata et conquassata ruinis tuo et aliorum principum auxilio noscitur amplius indigere [...].

In a letter dated 28 May 1363 and written at Avignon, pope Urban V granted an indulgence to those who contributed to the completion of restoration work at the church of Montecassino (in Leccisotti 1952, doc. no.3, pp.54-5):

“Since, therefore [...] her church at Cassino [...] has been completely demolished and destroyed by old age and earthquakes, and since the very expensive repairs are already in progress but cannot be completed without the help of the faithful, it is our wish that these repairs, under the patronage of God, should be successfully completed”.

Cum itaque [...] sua ecclesia Casinensis [...] propter ipsius vetustaten et terremotus totaliter dirupta et destructa existat eiusque reparatio iam inchoata opere non modico sumptuoso sine fidelium auxilio perfici et consummari non possit, nos cupientes quod reparatio ipsa, auctore Domino, feliciter consumetur.

A petition to pope Urban V, dated 5 June 1365 and written at Benevento by Pietro Ameil, archbishop of Naples, contains information about some buildings which were still unusable (in Leccisotti 1952, doc. no.7, pp.59-60):

“Some monks of Cassino have come here to see me [...] to describe the wretched state of their church [...] the church, refectory, cloister and other places, without which monastery life can scarcely flourish or be observed, have been in such a wretched state since the time of the earthquake”.

Quidam monachi Cassinenses venerunt hic ad me [...] exponentes miserabilem statum Ecclesie sue [...] ecclesia, refectorium, claustrum et alia, sine quibus male viget et

observatur vita claustralis, sunt in tam miserabili statu a tempore terre motus.

In a letter dated 23 September 1365 and written at Avignon, pope Urban V informed the bishop of Bojano that he had decided to devote the entire income and revenue of the diocese to the reconstruction of the church at Montecassino (in Leccisotti 1952, doc. no.8, p.67).

In a tithes account for the years 1358-1360 relating to the diocese of Montecassino, it is stated that the sums due could not be obtained because of the earthquake and numerous other accompanying disasters (in Inguarez *et al.* 1942, pp.54-5).

In a letter dated 10 May 1370 and written at Montefiascone to the abbot of Montecassino, pope Urban V ordered that, for two years, one sixtieth of the income of the Benedictine institutions should be spent on the reconstruction of the church and monastery (in Gattula 1733, pp.520-2):

“[...] twenty years have already gone by since the church itself and the whole monastery collapsed in ruins in an earthquake [...] Therefore we [...] thinking it unworthy that so famous a monastery [...] should remain in a state of destruction and desolation [...] are arranging for some assistance towards repairing the church and monastery and restoring them to their original state, and at the same time restoring the number of observant monks to one hundred [...]”.

[...] ipsa quoque ecclesia, et totum idem monasterium, jam viginti annis decursis ex terremotus concussionem casu miserabili corruerunt [...] Nos igitur [...] merito reputantes indignum, quod tam celebre monasterium [...] sic dirutum, et desolatum [...] remaneat [...] prefatam ecclesiam, et monasterium super suis fundamentis, [...] aliqui auxilio providimus in statum pristinum reparanda, et reintegrandum ibidem numerum centum Monachorum observatorum [...].

An order dated 1 October 1371 and issued at Avignon by the bishop of Palestrina, requested the archbishop of Nicosia to undertake to collect funds as previously established by pope Urban V for the restoration of the church at Montecassino (in Gattula, 1733, vol.2, p.522):

“It follows from this that, since our holy father and lord Gregory XI observed that for lack of these funds the above-mentioned repairs are subject to considerable delay, and that this leads us to fear even greater problems for the future of the monastery and the remaining buildings if a remedy is not rapidly found [...]”.

Hinc est, quod Sanctissimus pater, et dominus noster dominus Gregorius divina providencia Papa XI attendes, quod ex defectu dictae sexagesimae dicta reparatio non modicum retardatur, ex quo ruina monasterii, et edificiorum quae inibi remaserunt, proth dolor! majior secutura timetur, nisi celeriter occurratur [...].

Unlike the other Cassino sources, Matteo Villani's *Cronaca* (I, pp.86-7), dates the earthquake to 10 September:

“On the earthquakes which occurred in Italy.

In this year [1349], on 10 September, extraordinary and amazing earthquakes began in Italy, and in many parts of the world they lasted for a number of days [...] at Montecassino it caused incredible damage to large buildings, and it knocked down a considerable part of the ancient monastery of S.Benedetto on the mountain, and of the hill itself, which is apparently made of solid rock”.

Di tremuoti furono in Italia.

In questo anno, a dì X di settembre, si cominciarono in Italia tremuoti disusati e maravigliosi, i quali i[n] molte parti del mondo durarono più dì [...]

[...] a Montecassino fece incredibili ruine di grandi dificii, e dello antico monistero di san Benedetto sopra il monte e del poggio medesimo, che pare tutto sasso, abbatté buona parte.

An appendix to the year 1349 in Muratori's edition of the chronicle compiled by the *Anonymus Monachus Casinensis* of the abbey, records:

"On 9 September in the year of Our Lord 1349, in the third indiction, there was a great earthquake throughout the kingdom of Sicily, such as there had never been since the world began, except at the death of Christ; and it was so severe in the bishopric of Cassino that the whole monastery was reduced to ruins, and no house remained standing there, and all the monastery's fortified villages were destroyed, except for those of San Vittore and Le Fratte. It happened when mass was being celebrated. Hence many men and women and priests at the altars died in the churches, in addition to those who died in their homes, villages and towns".

Anno domini 1349 tertia indictione die nono septembris, fuit magnus terramotus in toto Regno Siciliae, qualis non fuit ab initio mundi, nisi in morte Christi, et specialiter in episcopato cassinensi, in tantum quod totum monasterium funditus corruit, et remansit in eo nulla domus erecta, et omnia castra monasterii fuerunt diruta praeter castrum Sancti Victoris, et fractarum. Id fuit hora missae. Itaque multi homines, et mulieres, et sacerdotes, et religiosi super altaria, et in ecclesiis mortui sunt, praeter eos, qui in propriis domibus castris, et civitatibus obierunt.

Two contemporary notes written in the margin of a Cassino codex containing the *Regula S.Benedicti* (published in Caravita 1870, vol.2, pp.121, 123-4), contain exactly similar texts. The following is one of them (p.121):

"In the year of Our Lord 1349, in the third indiction, on 9 September, there was a tremendous earthquake in the kingdom of Sicily, especially in the bishopric of Cassino, which entirely destroyed the Cassino monastery and all the fortified villages in that bishopric, except for San Vittore and Le Fratte, and it happened shortly after sunrise and lasted in that bishopric for several days in succession; and people slept in the fields because they were afraid".

Anno domini MCCCXLVIII. III. Indictionis die nono Septembris fuit maximus Terremotus in Regno Sicilie specialiter in episcopatu Casinensi. quod omnino destruxit Monasterium Casinese, et omnia Castra ipsius episcopatus preter Castrum Sancti Victoris et Fractarum et fuit aliquantulum post ortum Solis, et duravit in dicto episcopatu per plures diessequentes. et gens dormiebat in campis propter timorem.

A contemporary memory from the Archivio Capitolare at Isernia which is reproduced in its entirety in Viti (1982, p.384), records:

"On 9 September in the said year [1349], the day following the feast of the Nativity of the glorious Virgin Mary, there was so great and hugely powerful an earthquake half way through the third hour that no-one has recorded a similar since the time of the Creation. [...] It also destroyed and reduced to ruins the Cassino monastery [...] it destroyed other villages belonging to the said monastery".

Die vero 9. mensis septembris anni praedicti sequenti post festum à gloriosae nativitatibus S.Mariae in hora mediae tertie terremotus tam magnus, et tam ingentissimae potentiae, quod nemo recordatur similem terremotum à tempore creationis. [...] Destruxit praeterea, et subvertit Monasterium Casinense [...] destruxit alias Terras Monasterii supradicti.

Balsorano Vecchio (province of L'Aquila)

According to Matteo Villani, the castle "collapsed into the valley". This probably means, in the language of the time, that there was some surface slipping of the land on which the fortified settlement stood. A large proportion of the inhabitants were killed. Villani writes (I, pp.86-7):

"On the earthquakes which occurred in Italy. In this year [1349], on 10 September, extraordinary and amazing earthquakes began in Italy, and in many parts of the world

they lasted for a number of days [...] the castle of Balsorano on the hill collapsed into the valley, killing almost all the inhabitants”.

Di tremuoti furono in Italia. In questo anno, a dì X di settembre, si cominciarono in Italia tremuoti disusati e maravigliosi, i quali in molte parti del mondo durarono più di, [...] il castello di Valzorano del poggio rovinò nella valle, con morte quasi di tutti i suoi abitanti.

Sant'Agnello (province of Frosinone)

The convent church was badly damaged, and the chapel of S.Giacomo collapsed. In 1350, the bishop of Alatri granted an indulgence of 40 days in exchange for alms for restoration work. The source is a letter dated 3 April 1350 from the bishop of Alatri (published in Floridi 1967, pp.161-2):

“Since it is our desire that the church of Sant'Agnello in the territory of Guarcino in our diocese of Alatri, including the chapel of S.Giacomo which was destroyed in the earthquake, should be frequented by the faithful, it requires to be restored and rebuilt to a suitably high standard [...]. We grant and give authority for forty days of indulgence to be offered to all those who truly repent and confess their sins and go to the said church and chapel to offer sincere prayers and orations to God and St.James and assist the friars and hermits of the church by giving them alms. [...] given in the bishop's residence [at Alatri] in the year 1350. In the third indiction. In the eighth year of the pontificate of Clement VI. On 3 April”.

Cupientes itaque ut ecclesia Sancti Agnelli sita in territorio castri Guarcini nostre alatrine diocesis et cappella que ibidem ad laudem ad laudem et honorem beatissimi Iacobi apostoli occasione terremotus dirruta, debet, deo propitio, construi et edificari congruis honoribus ab eisdem Christi fidelibus frequententur. [...] committimus et licentiam ac auctoritatem concedimus ut omnibus et singulis vere penitentibus et confessis qui ad dictas ecclesiam et cappellam accesserint preces et orationes devote deo et ipsi apostolo effusuri ac fratribus et heremitis eiusdem ecclesie seu cappelle elemosinas erogabunt, [...] Datum et actum in domibus episcopalibus sub anno domini millesimo trecentesimo quinquagesimo. Indictione tertia. Pontificatus domini Clementis pape sexti. Anno eius octavo. Mensis aprilis, die tertia.

Sora (province of Frosinone)

There was serious damage to buildings, but no further details are supplied.

Our source is the contemporary *Cronaca* by Matteo Villani (I, pp.86-7):

“On the earthquakes which occurred in Italy. In this year [1349], on 10 September, extraordinary and amazing earthquakes began in Italy, and in many parts of the world they lasted for a number of days [...] In the town of Sora, it caused very serious damage to buildings.

Di tremuoti furono in Italia. In questo anno, a dì X di settembre, si cominciarono in Italia tremuoti disusati e maravigliosi, i quali in [n] molte parti del mondo durarono più di, [...] Nella città di Sora fece delli edificii grandissime ruine.

Veroli (province of Frosinone)

The cathedral and its bell-tower were almost completely destroyed, as were the church of S.Maria Iacobi (now S.Maria Salome), and the hospital. The church of S.Pietro was probably damaged as well. A private document of 1364 refers to a sum raised from the sale of a *casalino* and allocated for repairs to the church; but there is no specific reference to the earthquake. There are numerous documents providing evidence of reconstruction work: there are references to the sale of buildings to provide funds for rebuilding the cathedral in documents of 1352, 1356 and 1365; and indulgences were granted in 1354 to all those who contributed to the restoration of the hospital for the poor and

the church of S.Maria Iacobi. The sources consist of: four deeds of sale drawn up between 1352 and 1365 by the cathedral canons and the *rettore* of the church of S.Pietro; four letters written between 1354 and 1376 by popes Innocent VI, Urban V and Gregory XI; and a document of 1360 from the bishop of Sabina to the bishop of Veroli.

A deed of sale dated 8 October 1352 and drawn up at Veroli, provides evidence of the sale of a *casalino* by the canons of Veroli cathedral. The proceeds were to be used for repairing the cathedral (Biblioteca Apostolica Vaticana, *Sant'Erasmus di Veroli*, cart.21, *pergamena* 7):

"[...] the canons of Veroli cathedral [...] sold [...] a *casalino* [...] for twelve *librae denariorum* [...] they wished to use the proceeds to repair the said cathedral, which was reduced to ruins in the earthquake [...]. Written at Veroli in the cathedral dormitory building where services are temporarily being held [...]"

[...] canonici maioris ecclesie verulane [...] vendiderunt [...] quondam casalenum [...] [pro pretio] duodecim librarum denariorum [...] [dicti] canonici dictam pecuniam expendere vollint pro utilitate et reparatione dicte ecclesie, que per terremotus ruina erat collapsa. [...] Actum Veruli in palatio dormitorii dicte Verulane ecclesie ubi nunc divina celebrantur officia [...].

In a letter dated 26 August 1354 and written at Villeneuve (Avignon), pope Innocent VI exhorted the faithful to give alms for the reconstruction of the chapel of S.Maria Iacobi (Archivio Segreto Vaticano, *Registra Vaticana*, vol.226, fol.245v):

"[...] where, because of their devotion to the said saint, a throng of local people gathered during the very strong earthquake which caused so much damage in those parts, and the church was completely destroyed [...]"

[...] ad quam tam ob hoc, quam ob devotione que habetur ad eam magna populi confluit multitudo tempore terremotus, qui in partibus illis magna dampna intulit, totaliter diruta extiterit [...].

In another letter, also dated 26 August 1354, Innocent VI exhorted the faithful to contribute to the reconstruction of the hospital for the poor (Archivio Segreto Vaticano, *Registra Vaticana*, vol.226, fol.246r):

"[...] since we have learned that the hospital for the poor at Veroli [...] was destroyed in the very severe earthquake which caused great damage in those parts [...]"

[...] cum itaque sicut accepimus hospitale pauperum de misericordia in civitate Verulane [...] propter terremotum qui etiam in illis partibus magna dampna intulit sit dirutum [...].

By means of a deed of sale dated 8 June 1356, the canons of Veroli cathedral sold a vineyard to pay for rebuilding the cathedral bell-tower (Archivio Capitolare, Veroli, *pergamena* 307):

"[...] which collapsed in ruins because of the force of the earthquake [...]"

[...] quod propter terremotus ruinam funditus erat dirutum [...].

In a document issued at Ancona and dated 24 September 1360, the bishop of Sabina informed the bishop of Veroli that the decision to hold the number of cathedral canons at 12 had been ratified (Archivio Segreto Vaticano, *Sant'Erasmus di Veroli*, cart.33, *pergamena* 3):

"[...] since the said church [Veroli cathedral] has been completely destroyed by the force of the earthquake, and its parish has been so depopulated that its income is barely sufficient to maintain twelve canons [...]"

[...] quia dicta ecclesia per terremotus ruinam fundamentis est collapsa eiusque depopulata parrochia itaquod ipsius fructus, redditus et proventus vix ad duodecim canonicorum sustentationem sufficiunt [...].

By means of a deed of sale dated 13 December 1364, the *rettore* of the church of S. Pietro sold a *casalino* in order to repair the church. However, the document does not explicitly mention the earthquake (Archivio Capitolare, Veroli, *pergamena* 380).

In a letter written at Avignon and dated 20 March 1365, pope Urban V exhorted the faithful to give alms for the completion of reconstruction work on the cathedral (Archivio Segreto Vaticano, *Registra Avenionensia*, vol.159, fol.237r.):

“Since we understand that Veroli cathedral was almost entirely destroyed with all its buildings by the force of the earthquake which struck those parts some time ago”.

Cum itaque sicut accepimus ecclesia Verulana cum omnibus edificiis suis ex vehementia terremotus, qui olim in illis partibus extitit, quasi ex toto corruerit.

By means of a deed of sale dated 15 October 1365, the canons of Veroli cathedral sold a house in order to repair the church (Archivio Capitolare, Veroli, *pergamena* 351).

In a letter to his vicar in Sabina, written at Avignon and dated 19 February 1376, pope Gregory XI referred to the bishop of Veroli's petition concerning the lack of funds for continuing repair work on the cathedral and episcopal buildings (Archivio Segreto Vaticano, *Registra Vaticana*, vol.287):

[...] destroyed in the widespread earthquake which occurred in those parts, and still requiring reconstruction [...].

[...] *que iam dudum propter generalem terremotum qui in partibus illis fuit corruerunt et usque ad hec tempora destructa manserunt [...].*

Ausonia (formerly Le Fratte) and **San Vittore del Lazio** (province of Frosinone)

Of all the fortified villages in the bishopric of Cassino, these were the only two not to be destroyed. The sources are a chronicle and two contemporary notes in the margin of a codex. The chronicle source is an appendix to the year 1349 in Muratori's edition of the *Anonymus Monachus Casinensis* (p.75):

“On 9 September in the year of Our Lord 1349, in the third indiction, there was a great earthquake throughout the kingdom of Sicily, such as there had never been since the world began, except at the death of Christ, and it was so severe in the bishopric of Cassino that the whole monastery was reduced to ruins, and no house remained standing there, and all the monastery's fortified villages were destroyed, except for those of San Vittore and Le Fratte. It happened when mass was being celebrated. Hence many men and women and priests at the altars died in the churches, in addition to those who died in their homes, villages and towns”.

Anno domini 1349 tertia indictione die nono septembris, fuit magnus terramotus in toto Regno Siciliae, qualis non fuit ab initio mundi, nisi in morte Christi, et specialiter in episcopato cassinensi, in tantum quod totum monasterium funditus corruit, et remansit in eo nulla domus erecta, et omnia castra monasterii fuerunt diruta praeter castrum Sancti Victoris, et fractarum. Id fuit hora missae. Itaque multi homines, et mulieres, et sacerdotes, et religiosi super altaria, et in ecclesiis mortui sunt, praeter eos, qui in propriis domibus castris, et civitatibus obierunt.

Two contemporary notes written in the margin of a Cassino codex containing the *Regula S. Benedicti* (published in Caravita 1870, vol.2, pp.121, 123-4), contain exactly similar texts. The following is one of them (p.121):

“In the year of Our Lord 1349, in the third indiction, on 9 September, there was a tremendous earthquake in the kingdom of Sicily, especially in the bishopric of Cassino, which entirely destroyed the Cassino monastery and all the fortified villages in that bishopric, except for San Vittore and Le Fratte, and it happened shortly after sunrise and lasted in that bishopric for several days in succession; and people slept in the fields because they were afraid”.

Anno domini MCCCXLVIII. III. Indictionis die nono Septembris fuit maximus Terremotus in Regno Sicilie specialiter in episcopatu Casinensi. quod omnino destruxit Monasterium Casinese, et omnia Castra ipsius episcopatus preter Castrum Sancti Victoris et Fractarum et fuit aliquantum post ortum Solis, et duravit in dicto episcopatu per plures diessequentes. et gens dormiebat in campis propter timorem.

Aversa (province of Caserta)

The cathedral collapsed shortly after the departure of some German and Hungarian knights who had met there. There were no victims. In 1353, pope Innocent VI granted an indulgence to all those who contributed funds for rebuilding the church.

The sources are a letter from Innocent VI and a contemporary chronicle. In a letter dated 21 April 1353, pope Innocent VI exhorted the faithful to give alms for rebuilding the cathedral (Archivio Segreto Vaticano, *Registra Vaticana*, vol.222, fol.350v.):

“To all the faithful in Christ [...] since, as we have learned from a petition from our brother Giovanni, bishop of Aversa, that because of the earthquake shock which struck the kingdom of Sicily and especially the town of Aversa, the cathedral collapsed and was almost entirely reduced to ruins and has in addition been despoiled of its movables by invaders and enemies of the said kingdom [...], we pray and exhort you [...] to contribute by means of alms and charitable legacies to the reconstruction of the said church [...]. Given at Avignon on the eleventh day before the Calends of May [21 April 1353], in the first year [of the pontificate of Innocent VI]”.

Universis Christi fidelibus [...] cum itaque sicut et petitionis serie venerabilis fratris nostri Iohannis episcopi Adversanensis nobis nuper exhibita percepimus quod ecclesia Adversanensis propter terremotus concussionem que dudum in Regno Sicilie et specialiter in civitate Adversanensi extitit, fuerit pro maiori parte subversa funditus et diruta et demum per eiusdem Regni invasores et emulos bonis omnibus mobilibus spoliata [...] universitatem vestram monemus et hortamur in Domino quatenus ad reparationem dicte ecclesie [...] elemosinas et pia caritatis subsidia erogetis ut per subventionem vestram huiusmodi ecclesia dicta valeat reparari [...]. Datum Avinionis XI kalendas maii anno primo.

The contemporary *Cronaca* by Matteo Villani (I, pp.86-7) records:

“On the earthquakes which occurred in Italy. In this year [1349], on 10 September, extraordinary and amazing earthquakes began in Italy, and in many parts of the world they lasted for a number of days [...] In the town of Aversa, some German and Hungarian sergeants with many squires and knights held a meeting in the cathedral. As soon as the meeting was over they left the church, and scarcely were they outside when the church collapsed, but by the grace of God no-one was injured”.

Di tremuoti furono in Italia. In questo anno, a dì X di settembre, si cominciarono in Italia tremuoti disusati e maravigliosi, i quali i[n] molte parti del mondo durarono più dì, [...] Nella città d'Aversa, essendo i caporali tedeschi e delli Ungheri con molti conestaboli e cavalieri, a consiglio nella chiesa maggiore, non determinato il loro consiglio uscirono della chiesa, e come fuori ne furono la chiesa cadde, e per volontà di Dio a niuno fece male.

Naples

The city suffered serious damage, but no details are given. The façade and bell-tower of the cathedral collapsed, as well as the façade of S.Giovanni Maggiore. Few people were hurt. Our source is the contemporary *Cronaca* by Matteo Villani (I, pp.86-7):

“On the earthquakes which occurred in Italy. In this year [1349], on 10 September, extraordinary and amazing earthquakes began in Italy, and in many parts of the world they lasted for a number of days [...]. In the city of Naples, they caused the bell-tower and façade of the episcopal church to collapse, as well as the façade of S.Giovanni

Maggiore, and they caused great destruction in many other parts of the city, but with little harm to people”.

Di tremuoti furono in Italia. In questo anno, a dì X di settembre, si cominciarono in Italia tremuoti disusati e maravigliosi, i quali in molte parti del mondo durarono più di, [...] Nella città di Napoli fece cadere il campanile, e la faccia della chiesa del vescovado e di Santo Giovanni Maggiore, e in assai altre parti della città fece grandi rovine, con poco danno delli uomini.

Ariano Irpino (province of Avellino)

There is a late inscription (1736) in the cathedral which records that the building was badly damaged (*vastata*) in a long series of earthquakes between 8[4]8 and 1732, including that of 1349. There is a photograph of the inscription in Pantosti and Valensise (1989, p.547).

Sant’Elia Fiumerapido, Giuntura, Mortula, Piumarola, San Pietro della Foresta, San Paolo della Foresta and Teramo (province of Frosinone and Caserta)

As shown above, the sources record that all the villages (*castra*) belonging to the Abbey of Montecassino suffered serious damage in the 1349 earthquake. According to the local historian Lanni (1873), these villages included the ones mentioned above, the first of which was subsequently rebuilt, whereas the others were permanently abandoned and never rebuilt.

We are inclined to accept the suggestion about Sant’Elia Fiumerapido, since it is supported by documentary evidence. Of the other localities, only a few (Giuntura, Mortula, Piumarola) have been identified, but we are not completely convinced by the suggestion that they were abandoned after the earthquake. We have therefore not given them a macroseismic intensity grade, but nevertheless think it of value to situate them within the picture of effects and indicate their position on a map.



1349 01 22 18:00 UT

localities	lat.	long.	I
Isernia	41 36	14 14	V-VI

1349 09 09 ★ = 42 31 11 56 I₀ = VIII-IX Me = 5.8 Sites: 9 EE: 1

localities	lat.	long.	I	localities	lat.	long.	I
Tuscania	42 25	11 52	VIII-IX	Terni	42 34	12 39	VI-VII?
Viterbo	42 25	12 07	VIII-IX	Bologna	44 30	11 20	F
Onano	42 42	11 49	VIII	Modena	44 39	10 56	III
Orvieto	42 43	12 07	VII-VIII EE	Pisa	43 43	10 24	NF
Perugia	43 06	12 23	VI-VII?				

1349 09 09 ★ = 42 16 13 08 I₀ = IX Me = 6.0 Sites: 17

localities	lat.	long.	I	localities	lat.	long.	I
Colle Sambuco	42 16	13 10	IX	Vallebona	42 16	13 05	IX
Gamagna	42 16	13 08	IX	Bazzano	42 20	13 27	A (IX)
Girgenti	42 14	13 05	IX	Santa Maria della V.	42 04	13 21	A (IX)
Mareri	42 16	13 05	IX	L’Aquila	42 21	13 24	IX
Petrella Salto	42 18	13 04	IX	Subiaco	41 55	13 06	VIII-IX
Poggio Poponesco	42 16	13 07	IX	Rome	41 54	12 29	VII-VIII
Radicaro	42 15	13 09	IX	Tarano	42 21	12 36	VII
Santa Maria	42 16	13 10	IX	Ascoli Piceno	42 51	13 35	VI-VII?
Staffoli	42 19	13 03	IX				

1349 09 09 ★ = 42 01 13 58 I₀ = IX Me = 6.0 Sites: 4 EE:1

localities	lat.	long.	I	localities	lat.	long.	I
Pacile	42 00	13 58	IX	Sulmona	42 03	13 56	VIII-IX
Rocca Gilberti	42 01	14 01	IX EE	Pacentro	42 03	14 00	VII-VIII

1349 09 09 ★ = 41 35 13 54 I₀ = X Me = 6.3 Sites: 20 EE: 1

localities	lat.	long.	I	localities	lat.	long.	I
Atina	41 37	13 48	X	San Domenico	41 42	13 35	A (IX)
Venafro	41 29	14 03	X	Balsorano Vecchio	41 48	13 34	VIII-IX EE
Isernia	41 36	14 14	IX-X	Sant'Agnello	41 48	13 19	VIII-IX
Alvito	41 41	13 45	IX	Sora	41 43	13 37	VIII-IX
Cardito	41 35	13 58	IX	Veroli	41 41	13 25	VIII-IX
Cassino	41 29	13 50	IX	Ausonia	41 21	13 45	VIII
Cerasuolo	41 35	14 01	IX	Aversa	40 58	14 12	VIII
Sant'Elia Fiumerapido	41 32	13 52	IX	San Vittore del Lazio	41 28	13 56	VIII
Montecassino	41 29	13 49	IX	Ariano Irpino	41 09	15 05	VII-VIII?
San Vincenzo al Volt.	41 39	14 05	A (IX)	Naples	40 51	14 16	VII