

ATHENS AND ROME: LIFE AND CULTURE IN CLASSICAL ANTIQUITY

Lecture 19 – Disasters in the Ancient World

CLCS4007

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Defining Disasters

- Terminology and focus of our sources have a strong emphasis on the political and military.

- clades:*

- Exile
- Military defeat
- Slaughter
- Devastation of war and physical ruin

- calamitas:*

- Crop failure
- blight
- disease
- Military disaster

- casus:*

- Military or political disaster
- Violent death

- pestis:*

- Physical destruction
- Plague
- Pestilence
- Overthrow of a peoples or institutions

- How does one judge a disaster? - Number of deaths? - Ability of a community to recover? - Frequency or rarity of an event?

Table 1 Natural disaster type ranked by number of deaths, 1947–1980

Disaster type	Number of deaths
Hurricane	499,000
Earthquake	450,000
Flood (not associated with hurricane)	194,000
Thunderstorm/Tornado	29,000
Snowstorm	10,000
Volcanic eruption	9,000
Heatwave	7,000
Avalanche	5,000
Landslides	5,000
Tsunami	5,000

Source: Shah, B. V., 'Is the environment becoming more hazardous? A global survey 1947–1980', *Disasters*, 7 (1983), 202–9.

Table 2 Hazard type by percentage of deaths, 1900–1999

Hazard type	Percentage of deaths
Famine/Drought	86.9
Flood	9.2
Earthquake/Tsunami	2.2
Storm	1.5
Volcanic eruption	0.1
Landslide	<0.1
Other	Negligible

Source: Centre for Research on the Epidemiology of Disasters (CRED), 'EM-DAT: The International Disaster Database', www.emdat.be.

Man-made vs. Natural

- ▣ Not necessarily mutually exclusive - though some more clearly in the one category:
 - Eg. Earthquakes and volcanic eruptions.
- ▣ Less clear cut:
 - Fires – quality of building techniques, artisanal activities, flammable materials, but also lightening strikes etc.
 - Floods, perennial melting of snow, rains, but also insufficient drainage systems.
 - Famine, weather and climatic factors, but also failure of distribution process, market manipulation etc.

Anxiety and Exploitation

“...in the case of one foolish fellow, who, in a search with several associates for an opportunity to plunder the city, continually made speeches from the wild fig-tree on the Campus Martius, to the effect that fire would fall down from heaven and the end of the world would come should he fall from the tree and be turned into a stork, and finally at the appointed time did fall down and free a stork from his robe, the Emperor, when the wretch was hailed before him and confessed all, pardoned him.” – *SHA Marcus Aurelius 13.6.*

Social Stability and Religious Response

“...some lifting their hands to the gods; but the greater part convinced that there were now no gods at all, and that the final endless night of which we have heard had come upon the world.” – **Pliny the Younger** *Letters* 6.20.

“So far, the precautions taken were suggested by human prudence: now means were sought for appeasing god, and application was made to the Sibylline books; at the injunction of which public prayers were offered to Vulcan, Ceres, and Proserpine, while Juno was propitiated by the matrons, first in the Capitol, then at the nearest point of the sea-shore, where water was drawn for sprinkling the temple and image of the goddess. Ritual banquets and all-night vigils were celebrated by women in the married state. But neither human help, nor imperial munificence, nor all the modes of placating Heaven, could stifle scandal or dispel the belief that the fire had taken place by order. Therefore, to end the rumour, Nero substituted as culprits, and punished with the utmost refinements of cruelty, a class of men, loathed for their vices, whom the crowd styled Christians.” – **Tacitus** *Annals* 15.44.

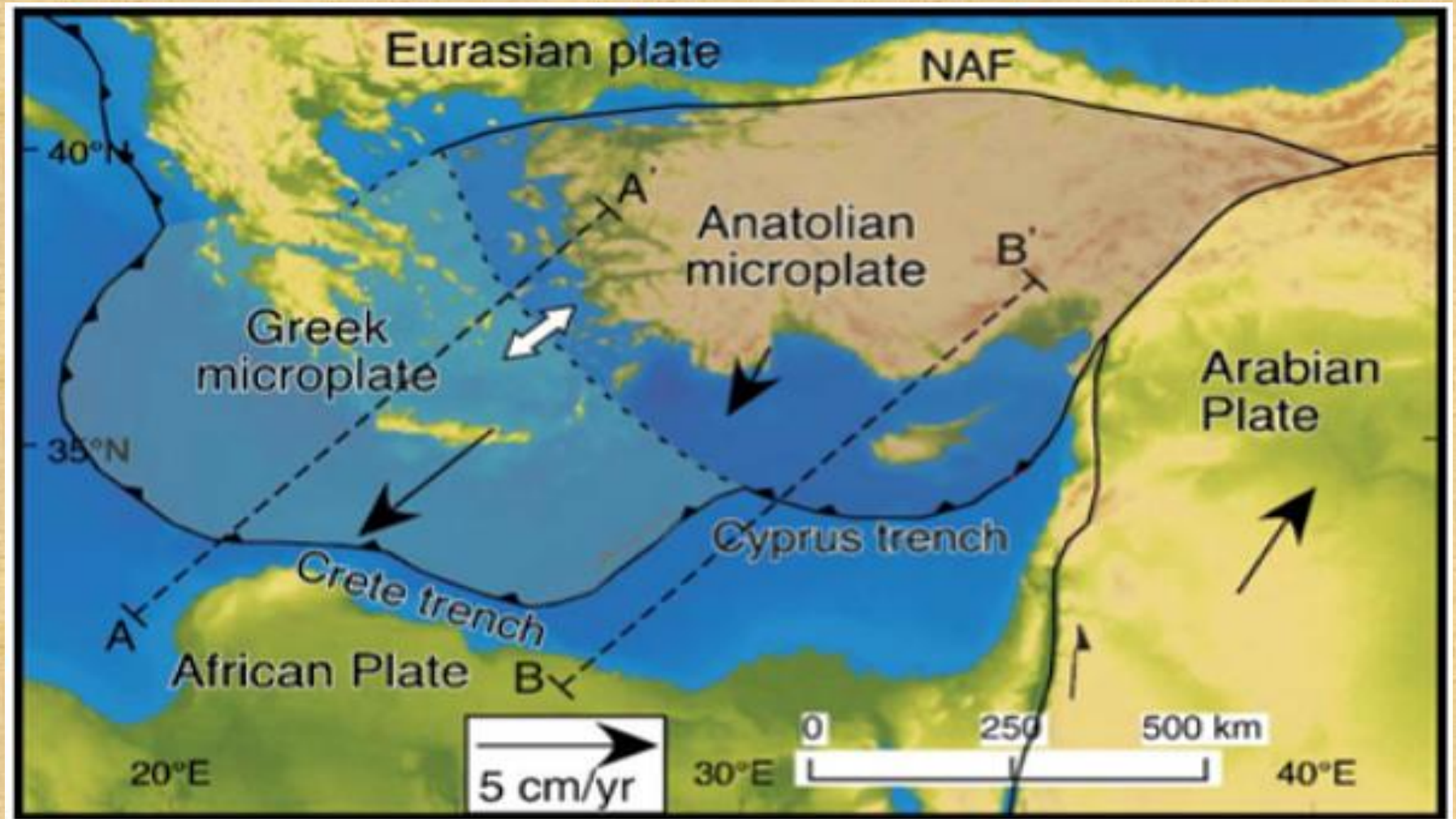
Earthquakes

Notions on the Origins of Earthquakes

- ▣ Poseidon / Neptune as the “Earth-Shaker” (*Ennosigaios*).
- ▣ Scientific views:
 - Thales of Miletus – earth like a ship on the ocean, rocked by waves (*Sen. Nat. 3.14.1*).
 - Anaximander and Anaximenes – triggered by air in the fissures of the earth;
 - Anaxagoras – streams of air which have penetrated the earth (*Sen. Nat. 3.14.1*; *Amm. Marc. 17.7.12*).
 - Democritus – water current in underground caverns (*Aristot. Meteor. 365b*).
 - Aristotle – porous earth, penetrated by air, with increased pressure as a result of water seeping in (*Meteor. 365a-369a*).

“If we are to credit the report, a most admirable and immortal spirit, as it were of a divine nature, should be ascribed to **Anaximander** the Milesian, who, they say, warned the Lacedaemonians to beware of their city and their houses. For he predicted that an earthquake was at hand, when both the whole of their city was destroyed and a large portion of Mount Taygetus, which projected in the form of a ship, was broken off, and added farther ruin to the previous destruction. Another prediction is ascribed to **Pherecydes**, the master of Pythagoras, and this was divine; by a draught of water from a well, he foresaw and predicted that there would be an earthquake in that place. And if these things be true, how nearly do these individuals approach to the Deity, even during their lifetime! But I leave every one to judge of these matters as he pleases. I certainly conceive the winds to be the cause of earthquakes; **for the earth never trembles except when the sea is quite calm... nor does it ever happen until after great winds, the gust being pent up, as it were, in the fissures and concealed hollows.** For the trembling of the earth resembles thunder in the clouds; nor does the yawning of the earth differ from the bursting of the lightning; **the enclosed air struggling and striving to escape.**” – Pliny *NH* 2.81.191-92.

Tectonic Plates



Tsunamis caused by Earthquakes

“They intended to invade Attica, but were deterred from proceeding by numerous earthquakes, and no invasion took place in this year [426 BC]. About the time when these earthquakes prevailed, **the sea at Orobiae in Euboea**, retiring from what was then the line of coast and rising in a great wave, overflowed a part of the city; and although it subsided in some places, yet in others the inundation was permanent, and that which was formerly land is now sea. All the people who could not escape to the high ground perished... I conceive that, where the force of the earthquake was greatest, the sea was driven back, and the suddenness of the recoil made the inundation more violent...” – **Thucydides 3.89.**

Buildings Leaping into the Air?

“While the emperor was staying in Antioch a terrible earthquake occurred; many cities suffered injury, but **Antioch was the most unfortunate** of all. Since **Trajan was passing the winter there** and many soldiers and many civilians had flocked to there from all sides in association with law-suits, embassies, business or sightseeing, **there was no nation of people that went unscathed**; and thus in Antioch the whole world under Roman sway suffered disaster. **There had been many thunderstorms and portentous winds**, but no one would ever have expected so many evils to result from them. First there came, on a sudden, a great bellowing roar, and this was followed by a tremendous quaking. **The whole earth was in upheaval, and buildings leaped into the air; some were carried aloft only to collapse and be broken in pieces**, while others were tossed this way and that as if by the surge of the sea, and overturned, and the wreckage spread out over a great extent even of the open country.” - **Dio Cassius 68.24.1-3.**

Psychological Shock

“We have just had news, my esteemed Lucilius, that Pompeii, the celebrated city in Campania, has been overwhelmed in an earthquake... On the 5th of February, in the consulship of Regulus and Virginius [AD 62]... In addition, they say, a flock of six hundred sheep was destroyed, and statues were split open; **some people were driven out of their minds, and wandered about in helpless madness...** For what can any one believe quite safe if the world itself is shaken, and its most solid parts totter to their fall? **Where, indeed, can our fears have limit if the one thing immovably fixed, which upholds all other things in dependence on it, begins to rock, and the earth lose its chief characteristic, stability?** What refuge can our weak bodies find? Where to shall anxious ones flee when fear springs from the ground and is drawn up from earth's foundations? If roofs at any time begin to crack and portents of collapse are given, there is general panic: all hurry rashly out doors, they abandon their household treasures, and trust for safety to the public street.” *Seneca Natural Questions 6.1-2, 4.*

Providing Relief

“In the same year [AD 17], twelve important cities of Asia collapsed in an earthquake, the time being night, so that the havoc was the less foreseen and the more devastating. Even the usual recourse in these catastrophes, a rush to open ground, was unavailing, as the fugitives were swallowed up in yawning chasms. Accounts are given of huge mountains sinking, of former plains seen heaved aloft, of fires flashing out amid the ruin. As the disaster fell heaviest on the Sardians, it brought them the largest measure of sympathy, **Caesar [Tiberius] promising ten million sesterces, and remitting for five years their payments to the national and imperial exchequers.**” – Tacitus *Annals* 2.47.

Earthquakes as Omens?

“...he made his début at Naples, where he did not cease singing until he had finished the number which he had begun, even though the theatre was shaken by a sudden earthquake shock.” **Suetonius** *Nero* 20.2.

“There an incident took place, sinister in the eyes of many, providential and a mark of divine favour in those of the sovereign [Nero]; for, after the audience had left, the theatre, now empty, collapsed without injury to anyone. Therefore, celebrating in a set of verses his gratitude to Heaven...” – **Tacitus** *Annals* 15.34.

Volcanic Eruptions

Notions of the Origins of Volcanoes

- ❑ Monsters (Cyclopes, Hundred-Handed giants) and Titans locked up in Tartarus (**Hes. *Theog.* 139ff**).
- ❑ Hephaestos / Vulcan fires coming to the surface, with Cyclopes as smiths (**Callim. *Hymn.* 3.46-7**).
- ❑ Scientific explanations for volcanic eruptions often similar to those used to explain earthquakes – “pneumatic theory” – (**Aristot. *Meteor.* 365b**).

Mount Etna

“In the early spring [425 BC] the burning lava, not for the first time, issued from Mount Etna, which is the highest mountain in Sicily, and devastated a portion of the territory of the Catanaeans who dwell on the skirts of Etna. The last eruption is said to have taken place fifty years before; and altogether three eruptions are recorded since the Greeks first settled in Sicily.” – **Thucydides 3.116.**

“[In 396 BC] Himilcon, advancing with his land forces, made so rapid a march that he arrived at the same time as Magon put in there by sea. But since there had recently been a fiery eruption from Mt. Etna as far as the sea, it was no longer possible for the land forces to advance in the company of the ships as they sailed beside them; for **the regions along the sea were laid waste by the lava, as it is called, so that the land army had to take it was way around the peak of Etna.**” – **Diodorus Siculus *Bibliotheca Historica* 14.59.3.**

Eruption of Vesuvius – AD 79

“In Campania remarkable and frightful occurrences took place; for a great fire suddenly flared up at the very end of the summer... fearful droughts and sudden and violent earthquakes occurred, so that the whole plain round about seethed and the summits leaped into the air... and first huge stones were hurled aloft, rising as high as the very summits, then came a great quantity of fire and endless smoke, so that the whole atmosphere was obscured and the sun was entirely hidden, as if eclipsed... it buried two entire cities, Herculaneum and Pompeii...” – **Dio Cassius 66.21-23.**



“My uncle [Pliny the Elder] was stationed at Misenum, in active command of the fleet. On 24 August, in the early afternoon, my mother drew his attention to a cloud of unusual size and appearance... He changed his plans, and what he had begun in a spirit of inquiry he completed as a hero. He gave orders for the warships to be launched and went on board himself with the intention of bringing help to many more people besides Rectina, for this lovely stretch of coast was thickly populated...He stood leaning on two slaves and then suddenly collapsed, I imagine because the dense fumes choked his breathing by blocking his windpipe which was constitutionally weak and narrow and often inflamed. When daylight returned on the 26th – two days after the last day he had seen – his body was found intact and uninjured, still fully clothed and looking more like sleep than death.” – **Pliny the Younger** *Letters* 6.16 (Pliny to Cornelius Tacitus).



“Eruption of Vesuvius –
Pierre-Jacques Volaire, 1774.

The Impact of Rumours

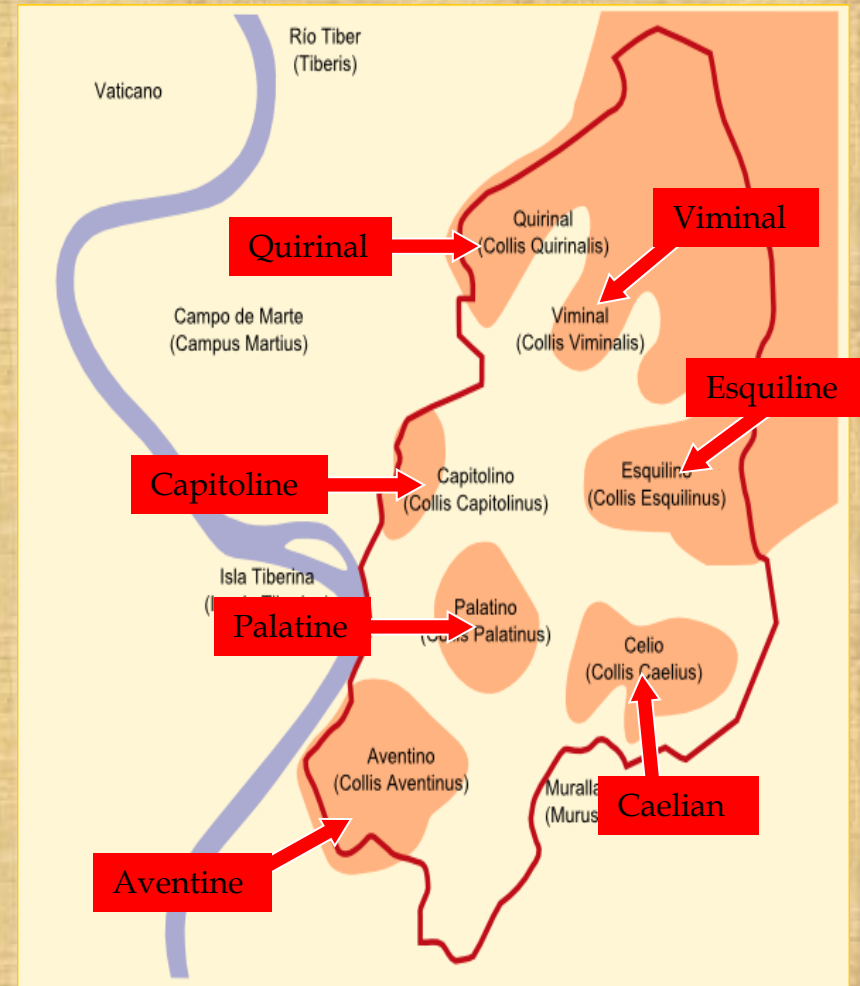
- ❑ Disorderly spread of information in disaster contexts fairly common in ancient world.
- ❑ Rumours necessarily malicious or the only means of communication available for the mass of the population?

“Among these there were some who augmented the real terrors by others imaginary or wilfully invented. I remember some who declared that one part of Misenum had fallen, that another was on fire; it was false, but they found people to believe them.” – **Pliny the Younger** *Letters* 6.20.

Floods

Hills and Valleys of Rome

- Erosion of Esquiline plateau has created a series of hills divided by steep-sided valleys which opens onto a flood plain.
- The Campus Martius was particularly liable to flooding with melting of Apennine snows.
- River also deposited silts continually raising the ground level.



Cloaca Maxima

- ▣ The Cloaca Maxima, in the Roman Forum, is constructed during the sixth century to ease flooding problems.

“The land where the forums of Rome now spread was once a swamp, and ditches were damp with water that flooded back from the river.” – **Ovid *Fasti* 6.401-02.**

“Under Tarquinius Superbus [534-510 BC], the work of the plebeians was directed to two other projects, the construction of the seating of the Circus, and the building of the Cloaca Maxima as a receptacle for all the cities waste. – **Livy 1.56.2.**

“[In AD 15] the Tiber flooded much of the city, requiring people to go around in boats. Many people thought this was an omen, as well as violent earthquakes that shook part of the city wall. The emperor Tiberius, however, took it as a sign that there was too much surface water, and appointed by lot five senators to a permanent board whose task was to ensure the Tiber flowed as steadily as possible all year round, rather than flooding in the winter and drying up in the summer.” – **Dio Cassius 57.14.7-8.**

Canals

“[In AD 46] the Emperor Claudius... while building a port for Rome, freed the city from the danger of floods by constructing canals that led from the Tiber into the sea.” – *ILS 207 = CIL 14.85*.

“Here in Rome we have unceasing rains and frequent flooding. The Tiber has left its channels and spills high above the low-lying banks. Even with the far-seeing Emperor Trajan’s new canal draining it into the sea, the river buries the valleys, flows across fields, and has made a lake of the river plain...” – **Pliny the Younger** *Letters* 8.17 (To Caecilius Macrinus).

Fires in Rome

Fire in the Records

- ▣ Literary sources may note major outbreaks of fire or burning of significant buildings – e.g. funeral pyre of Clodius and the Curia.
- ▣ Many outbreaks probably unrecorded.
- ▣ Inscriptions referring to reconstructions.
- ▣ Layers of destruction or ash in the archaeological record – cf. sack of Rome c.390 BC.



“The Senate and People of Rome restored this temple after it was destroyed by fire.”
- *ILS 3326 = CIL VI 6,937.*

Reports of Major Fires

MID-LATE REPUBLIC

- **241 BC** - destruction of temple of Vesta.
- **213 and 210 BC** - large parts of the forum set on fire.
- **192 BC** - parts of the Forum Boarum destroyed.
- **178 BC** - temple of Venus destroyed.
- **148 BC** - fire in the Regia.
- **83 BC** - temple of Jupiter Capitolinus burnt to ground.
- **52 BC** - destruction of senate house.
- **49 BC** - temple of Quirinus damaged.

JULIO-CLAUDIAN PERIOD

- **12 BC** - various buildings including hut of Romulus.
- **AD 6** - major fire (Augustan reforms).
- **AD 14** - Basilica Aemilia is destroyed.
- **AD 27** - fire destroys many buildings on the Caelian Hill.
- **AD 54** - the Aemiliana district (southern Campus Martius) is subject to a nearly two long day fire.
- **AD 64** - Great Fire of Rome.

Causes of Fire – Accidental

- ▣ Rome large compacted city, with many flammable building materials used – wood, wattle-and-daub etc.
- ▣ Open flames - cooking, lighting and heating necessary for households.

“For where has one ever seen a place so dismal and so lonely that one would not deem it worse to live in unending dread of fires and falling houses, and the thousand perils of this terrible city...” – **Juvenal**
Satires 3.2.

Causes of Fire – Nature

[49 BC]...thunderbolts damaged a sceptre of Jupiter and a shield and a helmet of Mars that were votive offerings on the Capitol, and likewise the tables which contained the laws.” – **Dio Cassius 41.14.3.**

- ▣ Colosseum struck by lightning in AD 217 – upper parts and wooden elements set on fire, gutted the arena.

Causes of Fire – Arson and Riots

“You had bought a house, Tongilianus, for two hundred thousand sesterces: an accident too common in the city destroyed it. A million was subscribed. I ask you, are you not open to the suspicion, Tongilianus, of having yourself set fire to your house?” – **Martial *Epigrams* 3.52.**

“Fire also consumed a considerable portion of the Circus itself, along with the temple of Ceres, another shrine dedicated to Spes, and a large number of other structures. The freedmen were thought to have caused this; for all of them who were in Italy and possessed property worth two hundred thousand sesterces or more had been ordered to contribute an eighth of it. This resulted in numerous riots, murders, and the burning of many buildings on their part, and they were not brought to order until they were subdued by armed force.” – **Dio Cassius 50.10.3-5 (31 BC).**

Preventive Measures

- ▣ Boundary walls around some houses and stone enclosures around some temples.
- ▣ Building regulations – restrictions on height of buildings.

“Anyone who, knowingly and maliciously, burns a building, or a heap of grain left near a building, after having been placed in chains and scourged, shall be put to death by fire. If, however, he caused the damage by accident, and without malice, he shall make it good; or, if he has not the means to do so, he shall receive a lighter punishment.” – **Twelve Tablets 7.6.**

“A space of two feet and a half must be left between neighbouring buildings.” – (8.1).

Fire Fighting in the Republic

- ▣ *Tresviri nocturni* – responsible for watching over the safety of the city at night, including being present at outbreaks of fire.
- ▣ The *tresviri capitales* had responsibility for the night time security of Rome.

“He [Marcus Egnatius Rufus] had been an aedile [22 BC], and in addition to having performed his duties well in many other ways, had with his own slaves and other persons whom he hired helped to save the houses that took fire during his year of office, and in return for all this he had received from the people the amount of the expenditures incurred in the discharge of his office and had been elected praetor contrary to law.” – **Dio Cassius 53.24.4-5.**

Cohortes Vigilum – AD 6

“Now Augustus Caesar concerned himself about such impairments of the city, organising for protection against fires a militia composed of freedmen, whose duty it was to render assistance...” – **Strabo** *Geography* 5.3.7.

“Augustus divided the city into districts and wards, placing the districts under the control of magistrates annually chosen by lot and the wards under supervision locally elected. He organised stations of night-watchmen [*vigiles*] to watch for fires...” – **Suetonius** *Augustus* 30.

“When many parts of the city were at this time destroyed by fire, he organized a company of freedmen, in seven divisions, to render assistance on such occasions, and appointed a knight in command over them, expecting to disband them in a short time. He did not do so, however; for he found by experience that the aid they gave was most valuable and necessary, and so retained them. These night-watchmen exist to the present day, as a special corps, one might say, recruited no longer from the freedmen only, but from the other classes as well. They have barracks in the city and draw pay from the public treasury.” – **Dio Cassius** 55.26.4-5.

Equipment

- ▣ *Spartoli* – “little bucket fellows”.
- ▣ *Centones* – patchwork quilts, possibly for catching people jumping from buildings? – soaked to smother flames? - Vinegar – chemical fire extinguisher?
- ▣ *Scalae* – ladders; *perticae* – poles for propping up walls in danger of falling or used to beat out flames?
- ▣ Hooks, picks and axes for breaking/bringing down doors and walls or clearing debris.
- ▣ *Sipho* – force pump? – literary sources do not make it clear if *vigiles* possessed this.
- ▣ *Ballistae* – siege engines used to knock down walls?

Great Fire of AD 64

- ▣ Began on 19th of July in the part of the Circus boarder on the Palatine and Caelian hills, feeding of flammable merchandise. After six day the initial conflagration dies down, but flares up again in the Aemilian estates (north of the Capitoline hill) – *Tac. Ann.* 15.38-40.

“Rome, in fact, is divided into fourteen regions, of which four remained intact, while three were laid level with the ground: in the other seven nothing survived but a few dilapidated and half-burned relics of houses.” – *Tacitus Annals* 15.40.

Restoring Rome

“Those parts of Rome left over from Nero’s new place were not rebuilt in the random and disorderly fashion that characterized reconstruction after the Gauls burnt the city [390 BC], but rather in rows of measured streets, wide thoroughfares, and open spaces. Building heights were regulated and porticoes protected the fronts of apartment buildings... Nero stipulated that a certain portion of them [new buildings] must be built without wooden beams, using either Sabine or Alban stone [tufa], since this type of stone stands up to fire... each building (which could no longer share a wall with another building) had to have fire-fighting equipment on the premises. Such regulations adopted for utility lead to a more beautiful city as well.” – **Tacitus** *Annals* 15.43.

“He devised a new form for the buildings of the city and in front of the houses and apartments he erected porches, from the flat roofs of which fires could be fought; and these he put up at his own cost.” – **Suetonius** *Nero* 16.1.

Fire of AD 80

“...a second conflagration, above ground, in the following year spread over very large sections of Rome while Titus was absent in Campania attending to the catastrophe that had befallen that region. It consumed the temple of Serapis, the temple of Isis, the Saepta, the temple of Neptune, the Baths of Agrippa, the Pantheon, the Diribitorium, the theatre of Balbus, the stage building of Pompey's theatre, the Octavian buildings together with their books, and the temple of Jupiter Capitolinus with their surrounding temples. Hence the disaster seemed to be not of human but of divine origin; for anyone can estimate, from the list of buildings that I have given, how many others must have been destroyed.” – **Dio Cassius 66.24.1-3.**

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