

# NEWS

## The “L’Aquila 7” Appeal Their Sentence

In the early morning hours of 6 April 2009, the earth beneath central Italy shuddered when a fault ruptured near the ancient city of L’Aquila. The magnitude 6.3 earthquake occurred along one of the many normal faults that crisscross the region, relics of the folding and thrusting that created Italy’s Apennine mountains and that now accommodate their gradual extension.

The tremor caused violent shaking throughout the region of Abruzzo and sent noticeable tremors as far away as Rome. But the worst damage occurred in L’Aquila and the surrounding villages. More than 300 residents perished and 1500 others sustained injuries as tens of thousands of buildings crumbled.

While local communities struggled to rebuild and recover from this tragic event over the following years, it was the legal aftermath that drew intense international attention. In 2010, seven scientists and officials—known since as the “L’Aquila 7”—were accused of manslaughter in conjunction with 29 of the earthquake deaths. In October 2012, after a lengthy trial held in the ruined city, a judge sentenced them each to 6 years in prison and banned them from public service for life.

As expected, the defendants have appealed their conviction. A panel of three judges heard arguments for and against the

original ruling over the last several weeks. A new verdict could be announced as early as 31 October.

### *The Charges*

The initial accusations against the defendants caused an immediate uproar in the scientific community. Early media accounts claimed that the case put science itself on trial by faulting the scientists for failing to predict an earthquake, something seismologists say is impossible to do.

However, greater scrutiny of the allegations and the facts surrounding them reveal a far more complicated story. According to the prosecution, the defendants were not accused of failing to predict an earthquake but of conducting a “superficial, generic, and ineffective” assessment of the seismic risk in L’Aquila during a meeting held 1 week before the earthquake.

The head of Italy’s Civil Protection Department called the meeting and invited representatives of the country’s Major Risks Commission to discuss the significance of an ongoing swarm of small earthquakes that had rattled houses and nerves in L’Aquila for several months. The department also wanted to evaluate warnings that a strong earthquake would strike, given by Giacchino Giuliani, a technician at a nearby physics lab

who claimed to be able to predict seismic events using an unverified method of monitoring radon gas emissions.

The prosecution alleged that the members of the Major Risks Commission failed to fulfill their duty to “supply the citizens of Abruzzo all the information available to the scientific community on the seismic activity of the last weeks” prior to the earthquake.

The defendants were accused of falsely reassuring the public, causing residents to abandon traditional precautionary measures like sleeping outside after a small precursor quake struck the city a few hours before the main shock of 6 April. The judge in the original trial found the defendants guilty of negligence and contributing to dozens of deaths.

The prosecutor in the appeals case, Attorney General Romolo Como, echoed these same allegations in the opening hearing of the appeals trial on 10 October. He asked for the same sentences for the defendants but without a ban on future public service. Como declined to be interviewed for this story because the trial is still in progress.

### *What Were the Official Duties of the Scientists?*

During the appeal hearings, lawyers for the defense have pursued several main lines of argument as they plead for the defendants’ acquittal. The first is that the roles and duties of their clients were unclear.

The defense lawyers maintain that the risk meeting held in L’Aquila before the earthquake did not qualify as an official meeting of the Major Risks Commission. Franco Petrelli, the lawyer representing then-vice-president of the commission Franco Barberi, says that 10 members are required for a quorum, but only four of those present in L’Aquila had been appointed to service.

In the first trial, the prosecution argued that the other participants became default members of the commission when they attended the meeting. The judge accepted this argument and treated the meeting as official, says Massimiliano Stucchi, a geologist, blogger, and colleague of the accused who has [followed](#) the hearings closely.

The defense lawyers also argue that their clients have been accused of failing to fulfill duties that did not belong to them. Petrelli says that members of the commission were charged with evaluating the risk of a potential earthquake, not with prescribing what residents should do about it. That duty, along with the task of communicating with the public, fell to the Civil Protection Department, he says.

### *Did Scientists Make Incorrect Statements?*

Petrelli also argues that the defendants cannot be faulted for their risk evaluation



Brian Roy Rosen

Rubble in the village of Onna, Italy, 7 months after the April 2009 L’Aquila Earthquake.

because the conclusions reached during the 31 March meeting were scientifically correct.

"Nobody in the first [trial] has been able to prove that the scientific evaluation of the committee...did not correspond to the scientific knowledge at that time—and this time, also—about earthquakes," he told *Eos* through an interpreter.

According to public minutes, the commission's meeting lasted a little more than 1 hour and the members concluded that it was "unlikely" that an earthquake similar to the last major event in 1703 would occur, even if the possibility "cannot be excluded absolutely." They also said that "there is no reason" the ongoing seismic activity in L'Aquila should be considered "a precursor to a major event."

Experts generally agree with the first statement, that earthquakes cannot be predicted and that the probability of a large earthquake occurring in L'Aquila in the near future was very low. However, there is some debate about the ongoing seismic swarm and how the risk of a large event might have changed in the short term.

"I think it's pretty clear there was a higher probability of having a [larger] earthquake during that seismic sequence than before that seismic sequence," Thomas Jordan, director of the Southern California Earthquake Center and a professor at the University of Southern California, told *Eos*. He [oversaw](#) a detailed report on the state of operational earthquake forecasting commissioned by the Italian government after the events of L'Aquila. He says that typical models show an up to 100-fold increase in the likelihood that a more severe earthquake will occur during active seismicity.

#### *Did the Scientists Make Reassuring Statements to the Public?*

The defense has also argued during the appeal that none of the scientists or officials who attended the meeting made reassuring statements to the public afterward, as alleged by the prosecution.

"Nobody said that a major earthquake could not happen," wrote Alessandra Stefano, the lawyer representing seismologist and commission member Claudio Eva, in an email to *Eos*. The scientists repeatedly stressed the high risk and long seismic history of L'Aquila, she says.

However, one of the defendants—the deputy director of the Civil Protection Department, Bernardo De Bernardinis—gave an interview before the meeting in which he said that scientists told him the swarm of small earthquakes actually decreased the risk of a major event by discharging energy,

## The "L'Aquila 7"

*Franco Barberi*, vice-president of the Italy's Major Risks Commission at the time of the meeting and professor of volcanology at Roma Tre University

*Enzo Boschi*, commission member, president of Italy's National Institute of Geophysics and Volcanology (INGV), and professor of geophysics and volcanology at the University of Bologna

*Gian Michele Calvi*, commission member, director of the European Centre for Training and Research in Earthquake Engineering, and professor of seismic engineering at the University of Pavia

*Claudio Eva*, commission member and professor of geophysics at the University of Genoa

*Giulio Selvaggi*, director of Italy's National Earthquake Center and seismologist at INGV

*Bernardo De Bernardinis*, deputy director of the Italy's Civil Protection Department, trained in hydrologic engineering

*Mauro Dolce*, director of seismic risk for the Civil Protection Department and professor of construction design at the University of Naples Federico II

an idea that experts say has no scientific basis.

De Bernardinis's interview formed an important part of the prosecution's case because it aired on local television and was interpreted by some as conveying the results of the meeting. The minutes do not show that scientists corroborated this statement, but the prosecution said the defendants did not do enough to counteract its message.

A wiretap of a phone call released during the initial trial suggested that the misinformation stemmed from preconceived notions held by Guido Bertolaso, director of the Civil Protection Department, who later came under investigation. In a conversation with Daniela Stati, a regional official, Bertolaso said, "I will send them there mostly as a media move," [Nature reports](#). "They are the best experts in Italy, and they will say that it is better to have a hundred shocks at 4 Richter than silence, because a hundred shocks release energy, so that there will never be the big one."

The prosecution accused the defendants of supporting this agenda by downplaying the risk of a major event. But Petrelli says that the other members of the commission did not correct De Bernardinis's mistake because they were not aware of the interview until the trial began. In press conferences held after the meeting, Petrelli said that there are no records of reassuring statements from any members of the commission. In the appeal hearings, the defense has blamed any reassuring messages on a media "short circuit."

#### *Can the Defendants' Actions Be Directly Linked to the L'Aquila Deaths?*

Aside from the previous arguments, the defense lawyers say the charges of manslaughter require the prosecution to prove a

causal connection between the defendants' actions and the decisions that led to the deaths of 29 people. The prosecution relied heavily on the accounts of relatives who said that the victims changed their behavior because of the commission's findings; the scientific basis for such a clear link was discussed at length in the original trial.

Much of the support for that link came from the testimony of an anthropologist at the University of L'Aquila, Antonello Ciccozzi, who said that the commission's words carried great weight with residents and influenced their behavior. However, others argued it is not that simple. Andrea Cerase, a social scientist who is writing a book on risk communication and has studied the case of the L'Aquila 7, says that, like earthquakes, human behavior is unpredictable.

In addition, Cerase says, it's important to consider the chaotic environment in L'Aquila in the months leading up to the earthquake. The residents experienced stress from the ongoing seismicity, and from the mixed messages they received from the media. Some reports highlighted the worst-case scenario while others downplayed the risks, and Giuliani's predictions fanned the flames of fear and confusion, Petrelli says. In the appeal, the defense argues that all of this context should be considered when evaluating victims' choices during the earthquake.

#### *Sentencing*

The appeal played out in a series of hearings on 10, 17, 18, and 24 October. Families of the victims and the prosecution will have a chance to rebut during the next hearing on 31 October. The verdict could be announced on the same day.

—JULIA ROSEN, Writer