



## The Will of God, the Hand of Man

Address by the Federal President Moritz Leuenberger on the occasion of the opening of the first European Conference on Earthquake Engineering and Seismology, Geneva, 4 September 2006

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Ladies and Gentlemen,

Since the dawn of time, men and women have sought to find meaning in catastrophes.

When they arrive at a scene of devastation, politicians – particularly the presidents – express their sympathy and offer their country's aid to the victims. Later they will investigate the options available for reducing the effects of future catastrophes.

Politics cannot give meaning to a catastrophe, but it can – and should – take account of the consequences.

And you, the practical people, engineers and scientists, you measure and identify the risks, you analyse past seismic events, monitor movements of the earth, and you pronounce the rules by which buildings should be built to best resist earthquakes. In other words, it is you who supply the politicians, industry and everybody else, the tools with which to minimise the catastrophe.

Science also cannot give meaning to a catastrophe, but it can attempt to reduce its impact.

There are those, when experiencing impotence in the face of a violent event, who will seek to believe that it is the Will of God when the Earth shakes, or when there is a flood that inundates a populated area. A divine retribution. A call of destiny, in the face of which the human being is impotent, victim and yet innocent.

And there are still other people, convinced that it is the humans who are entirely responsible for natural catastrophes, since his activities destroy nature, warm the planet, melt glaciers and dislocate mountains.

Since the dawn of time, man has nevertheless searched for meaning and a philosophy. After the Tsunami catastrophe at the end of December 2004, the French philosopher, Paul Virilio, declared that the 9/11 attacks, as do the extreme natural catastrophes such as the Tsunami,



reveal “the spirit of our age”. After the age of revolutions, humanity has supposedly entered the era of revelation. No longer is it the visionaries of the Enlightenment, Lenin or Mao who dictate change to the world, it is the catastrophe which provides the main impetus to politics. Today, a catastrophe is a global catastrophe, with graphic pictures transmitted around the world, propagating emotions and fear to all people everywhere.

However, when we look closely at the catastrophes we experience today, Paul Virilio’s theory does not always hold. Some catastrophes pass relatively unnoticed by the international community, and others pass quickly to the background of our concerns.

The Tsunami which destroyed the towns and villages along the Thai coast at the end of 2004, certainly made the world at large more aware of the vital importance of an early warning system for the public. This catastrophe has led to the promotion of the creation of a marine seismic detection system for the Indian Ocean. It also reminds us that the mangroves would have provided a natural protection against Tsunamis, if they hadn’t been destroyed to make way for the intensive cultivation of prawns.

In this case, one can definitely say that, yes, a catastrophe has effectively given an impetus to politics.

On the other hand, the Tsunami that hit Java this summer had very little impact on the world. The catastrophe failed to gain much coverage in the mass media, so did not result in much political pressure.

Put another way, politicians should not be waiting for a catastrophe in order to legitimise action. But it is without doubt true that public pressure increases after a catastrophe, and this in turn favours the possibility of obtaining the necessary financing. Politics must therefore take into account the general emotion of “the spirit of our times”, as Virilio says. But it must above all obey reason and rely on scientific analysis in the quest of solutions for limiting damage.

And what does reason tell us?

- We cannot prevent an earthquake from occurring, but we can minimise its effects, and reduce its impact on people and its material cost. An earthquake does not necessarily have to result in a catastrophe for the population and the economy. You, the experts, know what a building needs to prevent it from collapsing in the event of an earthquake. You know the right engineering techniques and the measures to take to reduce potential damage as much as possible.
- Seismic risk is not classed evenly from region to region. This is because scientists can localise the dangers, study them and measure them. This monitoring allows us to define the degree of danger each zone is exposed to, which in turn can form the basis for building regulations.



## **Paths dictated by reason**

To comply to the logic and principle of precaution, states have many paths to follow in order to protect themselves against earthquakes:

- Creation of a building code for seismic safety, adapted to the geographical and geological conditions of the respective region.
- Making the code mandatory and anchoring it in legislation.
- Creation of control institutions to verify that the building regulations are being respected.
- Finally, as is the case for other risks, the establishment of an insurance system (public or private). A part of the premiums collected could be contributed to the seismic safety effort.

At this conference, here at Geneva, we will hear mostly arguments of reason – this is a return to the Enlightenment. This is nothing new for scientists, who are by definition rational. And it is very necessary.

Only since 1989, for example, has Switzerland had modern building standards that incorporate seismic safety considerations. Yet, more than 90% of buildings were constructed prior to this standard.

I therefore want Switzerland, and other European countries, to prepare an inventory of the safety of their buildings and critical infrastructure, such as hospitals, power distribution networks, fire brigade stations, and nuclear power plants.

In short, I hope that my country does not agree with the philosopher Virilio, and wait to simply react to the event of a catastrophe.

For this reason I am proposing a revision to our Constitution. This revision will enable the Confederation to take centralised action in the field of seismic safety. The step has not yet been made, due to lack of political will and worries about the financial consequences. And because the risk is still perceived as being too low.

## **Switzerland and Europe at risk**

However, the risk of earthquake in Switzerland exists – classed as moderate. And even if earthquakes have not caused great damage in the past few decades, we are nevertheless located in a zone of collision between the continental plates of Europe and Africa.

And it is precisely Switzerland that played host to the worst earthquake that central Europe has known in the last millennium. This was in 1356 and a large part of Basel was destroyed. If the same event were to happen today, it is estimated that the damage would amount to between 50 and 100 billion francs.



Switzerland, like Europe, has also become more vulnerable to the instability of the Earth's surface. Our building densities and our infrastructures are in constant expansion, in conjunction with our ever-increasing demands on mobility and communications.

You the specialists are in agreement: even if the last serious earthquakes occurred many generations ago, they remain the greatest risk of natural origin in many European regions, seeing as they can cause the greatest loss of life and physical damage.

### **The role of politics and of science**

The political representatives of the world will continue to visit the scenes of earthquakes, and make efforts to help the victims.

But they are also required to foresee, to make their government, their parliament, aware of the need to invest to ensure that catastrophes that are unavoidable do not have avoidable consequences for human beings and the society's good function.

Nature, when it shakes the Earth, without a doubt pushes us to action. But politicians shouldn't agree with Paul Virilio. They need to recourse to reason, to provide the political impetus before events force them to act. Their role is to make aware, prevent, foresee.

And you, the experts, can help them listen, with insistence, science and reason.

Even united, our scientific and political efforts still do not give meaning to catastrophes. No. But our work has a meaning if it leads to the safeguarding of human lives.

We will do what we can, all that is within our power, to reduce the risks and minimise the consequences of the Earth's instability, to attenuate that which some call the Will of God.

We will play our part, the hand of Man.