BULETINUL INSTITUTULUI POLITEHNIC DIN IAŞI
Publicat de
Universitatea Tehnică „Gheorghe Asachi" din Iaşi
Tomul LVI (LX), Fasc. 3, 2010
Secţia
CONSTRUCŢII. ĂRHITECTURĂ

THE EARTHQUAKES AND THE TSUNAMI OF 1755 and 2004 – HISTORIC ACCIDENTS?

BY

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Abstract. This paper is about the interpretation of the 1755 Lisbon earthquake as a historic accident. The paper is divided in two main parts: the commemoration of the 250th anniversary of the 1755 Lisbon earthquake in 2005 and the reaction to other times, as today. Especially a comparison is highlighted, the reaction to the 2004 Sumatra earthquake and Indian Ocean tsunami in 2005 and today, as, contrary to what happened immediately after, the 2004 event did not cause a discourse. Also compared to other historical events mentioned, the Lisbon earthquake remains the only historic accident, and one of the birth dates of modernity. Some key aspects are discussed, as the issue of ruins, or of rebuilding, in context of the 18th century and today. Overall, the accent lays on the view from the Humanities, not of earthquake engineering, and reviews such views at the events and publications about the earthquake.

Key words: Lisbon,1755; Sumatra,2004; anniversary; historic accident.

1. Introduction

On the 1st of November 2005 there were 250 years since the earthquake and tsunami which affected Lisbon and whole Europe (the earthquake and its effects being felt in whole Europe, North Africa, and the Eastern Coast of America). In 1755 the earthquake and its effect, including those of tsunami, attracted the attention of the monarchs, government and public: scientists, philosophers and artists [1]. 30 000…60 000 people died (F u c h s in [2]). In the 18th century Europe was in the time of early illuminism, when there were questions about the existence of God, almighty and good, in a peaceful time

after many wars. Newton (1642-1727) and Leibniz (1646-1716) lead to the advancement of science. The last even thought to have demonstrated in the "Theodicée" (essays regarding the goodness of God, the liberty of the man and the origin of the bad, 1710 [3]) that this is "the best from all possible worlds", an optimist philosophy shared by other contemporary people. Leibniz gave expression in this philosophy to some of the thoughts of illuminism which were the value of ration, the progress, the optimism regarding the world [1]. Fuchs (in [2]) cites D y n e s [4] regarding the beauty of the city of Lisbon and its importance for commerce, reason for which many of the eye witness were foreigners, but also foreign companies registered considerable losses. Lisbon was the fourth city in Europe after London, Paris and Naples [1]. Portugal was in a time of full development, as many authors affirm, after the geographic discoveries in the past centuries. The earthquake took place on All Saints Day, at an hour when the churches were full of people. The moment was also crucial for the impact the earthquake had, the 1st of November was also the judgment day for the Inquisition, and 30 out of 40 churches collapsed (Fuchs, [2]). Even if we don't adhere to the theory of some people of the time which, distancing themselves from the strict theological interpretation according to which the earthquake was a punishment for the sins, accepted the natural and explainable origin of the earthquakes and attribute to the "Providence" the moment and the place, it is undoubtable that the moment and the place of the earthquake contributed to the impact it had in science, culture and politics, and this coincidence gives to it the character of a historic accident. S h k l a r [5], cited by Fuchs in [2]) considers the earthquake from 1755 in Lisbon one of the many birthday of the Modern Times through the intellectual response, the discussion of the (theological) theories in whole Europe, so that some suffering ways will not be seen as "acts of God but caused by the action or inaction of those at power".

The tsunami of 26th of December 2004 in the Indian Ocean which was triggered by the Sumatra earthquake gave an unexpected actuality to the event and to the fact that 250 later Europe remains endangered and vulnerable to this type of disasters. The man reached a relationship with nature which gives him the illusion of security but in front of natural catastrophes of this type we remain as vulnerable as 250 ago or as in the zones of Asia affected in 2004, despite the technological development in Europe, if no measures such as early warning are taken, as scientists argumented and it will be seen in the following. In the Pacific Ocean there is such a warning system, so a huge part of the effects of the tsunami in the Indian Ocean could have been prevented with the application of the existing scientific knowledge, it is an effect of social injustice and, in the echo of the earthquake in Lisbon which was considered coming from God, this one was considered, an attitude which is negated by Fuchs, the effect of the non-respect to the laws of the nature, an effect of the supratechnologization of our society (Fuchs in [2]). From this point of view the supporters of this idea consider it a historic accident. Also this earthquake took

place on a religious holiday, the second day of Christmas, as the catastrophic earthquake from Bam, Iran, in the previous year 2003 did. In the 18th century, like in the 21st, there was a belief in a calculable world. The 21st century is marked by the knowledge economy, the theological questions, although they still exist (s. [6]), play a much more minor role in the life of the society as they did in the 18th century. The global effect of the tsunami in the Indian Ocean is partly also because of the characteristics of this century through tourism, through which also countries which are not in the action radius of a tsunami are affected. Fuchs [2] sees also the smaller economic losses caused by the tsunami considering the affected region; in other region it could have lead to an economic crisis.

2. The Retrospective of the Events and the Publications on the Occasion of Reaching 250 Years from the Earthquake and Tsunami in Lisbon in 1755

2005 was marked by a series of conferences commemorating the event, uniting, as in 1755, scientists from different disciplines, from seismology to literature and philosophy.

Such the International Association for Bridge and Structural Engineering organized the annual symposium in Lisbon, September 14…17, 2005, with the topic "Structures and Extreme Events", having 510 participants from 41 countries, with one of the plenary speakers the president of the Portuguese Society for Seismic Engineering, Carlos Sousa Oliveira (http://www.iabse.ethz.ch/publications/iabsereports/vol.90/index.php [7]).

Exactly at the date of the anniversary of the tragic event, November 1…4, 2005, an international conference was organized by local organizations and authorities, with participation of scientists, engineers, historians, philosophers, urban planners, architects, economists, politicians, to which we participated. The opening ceremony was presided by His Excellency the President that time of the Portuguese Republic, Dr. Jorge Sampaio (http://www.mundiconvenius.pt/2005/lisbon1755/). A volume with 680 pages was published with the contributions at the conference. The larger part of the contributions was regarding earthquake engineering, but it was opened by a series of perspectives of the earthquake from other disciplines that the one studying its causes: literature, history, sociology. We will stop larger on the literature perspective. So Agustín Udías and Alfonso López Arroyo from Madrid presented how the earthquake had been seen by the contemporary Spanish authors (pp. 19-28). The major part of the publications was from Sevilla, where large destructions were felt, as well as in the coastal cities Cadiz and Huelva, which also felt the tsunami (maremoto de Cadiz). Many of these writings were anonymous, some in verses, or religious considerations regarding the event. Udías and Arroyo deliver lists of the writings about the event of the known or anonymous writers. Udías and Arroyo identify two questions at which an answer was looked for in these writings: if it was a natural event, opinion

presented especially by those fond of the modern ideas of illuminism (as Barco, Roche, Cevallos and Feijoo), or supranatural (so attributed to God) respectively which were the causes of the event, felt simultaneously in so many places, questions which in the view of Udías and Arroyo brings them closer to the understanding of today of earthquakes. As regards the first question Udías and Arroyo call what was named by K e n d r i c k [8] "the theology of earthquakes in the 18th century", the idea according to which the earthquake was a punishment from God for sinful people. In Portugal, against this opinion, represented by the Jesuit Malagrida, was the Marques of Pombal himself, who reconstructed the city and who so regretted that such opinions can lead to passivity. Fuchs [2] cites from Kendrick [8] that Malagrida lost the dispute and this meant the end of the Inquisition in Portugal. Also from the analysis of Kendrick [8] Udías and Arroyo take over an overview of what happened in France and Germany. In France the event came on an optimism fond that the world is something good, and was combated by V o l t a i r e in *Poème sur le désastre de Lisbonne* (1755) [9] and in the novel *Candide* [10]. In this novel the hero and the Leibnizian tutor hardly survive the earthquake in Lisbon and reflect on the earthquake in Lima in the previous years. Rousseau defended the optimist opinion, but finally Voltaire's attacks introduced the illuminism in Europe. Also in Germany K a n t published in 1756 [11] three pieces of writing defending the optimism of Leibniz, including also a chapter "Von dem Nutzen der Erdbeben" (About the utility of earthquakes), cited by Fuchs [2]. As regards Spain, Udías and Arroyo remark that in 1680, 75 years before, an earthquake destroyed Malaga and was accepted without objections as punishment for the sins of people. There existed also the mixed opinion according to which an earthquake is natural in itself, origin and consequences, but the Providence makes it to take place in a certain place at a certain time. After analysing the different positions Udías and Arroyo conclude that all participants accept the idea of divine action in the world, be it in the creation of its physical laws, or through direct action, and that there is no reference to the philosophic debate in Europe of the optimist or pessimist vision, or at Voltaire, Leibniz, Kant. Those who represented the opinion that it was a natural phenomenon wrote about possible origins, combating the theory of Aristotel in *Meteorologica* according to which earthquakes are caused by spirits in earth's caves. As regards the tsunami, Barco even correctly identified its cause. The other contributions were grouped around six topics: the socio-economic impact on the communities exposed to earthquakes and tsunami, the urban planning face in face with natural hazards, information and early warning, propagation and local effects in seismic damage, how to build earthquake resistant through geological environmental constraints, new approaches regarding the seismogenesis of the 1755 earthquake, global answer to large earthquakes. Numerous presentations were devoted to a repetition of the scenario from 1755 today or to the earthquake and tsunami in the Indian Ocean in 2004. Apart of the changes in scientific, philosophical and religious thinking which were generated by the

Lisbon earthquake from 1755 B e t â m i o de A l m e i d a (pp. 57-64) remarks the fact that it was the moment of birth of the concept of risk management, with its elements: identification and explanation of the event, response to the crisis, mitigation and prevention and vulnerability concept. Betâmio de Almeida cites K e r v e r n [12] who remarks that the crucial moment introduced by the remark of Rousseau regarding the decision of people to build in seismically vulnerable zones, position differing of that of Voltaire, and promoting the preventive action instead of the existence as potential victim. We will come back to the ideas introduced by Betâmio de Almeida. Karl Fuchs (pp. 32-41) sees in Lisbon in 1755 also the birth of modern seismology and completes the position of Rousseau with that of Kant, who observed the buildings adapted to earthquakes in Peru, where there was an earthquake in Lima few years before. One of the methods used until today is the collection of information through questionnaires regarding the effects of the earthquake for determination of the intensity on Mercalli scale.

Also in Germany the reaching 250 years since the earthquake and tsunami in Lisbon was an occasion for scientific manifestations of the discussion of the echo it had and of its implications today.

Heidelberger Akademie der Wissenschaften (The Academy of Sciences in Heidelberg) invited on more occasions in the course of 2005 to discussions, at various universities from the land of Baden-Württemberg. For example on the 16th of February 2005 Friedemann Wenzel talked in Karlsruhe about the necessity of an early warning system in case of tsunami for Europe "Warum braucht Europa ein Tsunami-Frühwarnsystem?" and not to believe at the illusion of safety in Europe (http://www.presse.uni-karlsruhe.de/2502.php). In the lecture, to which we assisted, it is enounced that it is thought to have identified the disappearance of Atlantida in the volcanic eruption on Santorini and it is made reference also to the catastrophe of the eruption of the Vesuvius which buried Pompei.

On the October 22, 2005, there was a one day meeting (Tagung) on the topic "Das Erdbeben von Lissabon 1755 – Schockwellen für das geistige Europa und Anspron für die moderne Erdbebenforschung" (The Earthquake in Lisbon in 1755 – Schock Waves for the Spiritual Europe and Initiator for the Modern Research of the Earthquakes). As regards the spiritual shock, the earthquake from 1755, which destroyed a city and produced the death of such a large part of the population was a problem which was of concern for theologists, philosophers, writers, having so a physical impact and a spiritual impact, meaning, as the organizers affirmed, a tectonic earthquake and a spiritual earthquake (http://www.uni-heidelberg.de/presse/news05/2510akad.html).

But not only Heidelberger Akademie der Wissenschaften dedicated events to 250 years since the earthquake and tsunami in Lisbon and to the tragic coincidence between this anniversary and the earthquake in front of the Sumatra coast and the tsunami generated by this at the end of 2004. Also Academia Europaea organized before the 17th annual conference from 2005 in Potsdam,

Germany, an one day workshop on the September 21, 2005 about "The Great Lisbon Earthquake of 1755 that shook (and shocked) the world" (http://www.acadeuro.org/index.php?id=114), at which we took part. The workshop presented visions about the earthquake from seismology, literature, philosophy, public opinion, Italian culture and the contemplation of ruins, theoretization of nature. The organisors made available for the participants also the summaries of the lecture, from which are taken the following informations, four years after the workshop. One of the moderators, Karl Fuchs from Karlsruhe, compared the effects the two earthquakes had on the centuries when they took place, in a lecture published then, as part of the book edited by M e n-d e s - V i c t o r *et al*. [13]. Fuchs remarks that the two events at two and half centuries distance are surprisingly similar since they shook the world. In both centuries there was a belief in the peace and security of the world, and this was negated, they had global effects. Helena Buescu analysed the literary response to the 1755 earthquake, especially the "eye witness" character, reflected in the impossibility of language to express what had been seen, and the "extraordinary" character, resulting in pathetic, melodramatic and sublime. Helena Buescu, professor for comparative literature at Lisbon University, researched the creation of modernity in literature in the 18th…20th century. The lecture of Svend Erik Larsen, professor for comparative literature in Åarhus, Denmark, was about how the earthquake in Lisbon left deeper traces than the change of urban way of life, namely in philosophy, ideology, science and literature. The geologic effects led the reflection regarding the thought and behavior in a world where such events can take place. In literature there are the ideological aspects, in philosophy and science research principles. Larsen lectured about Kant and the Danish poet Hans Brorson. Ana Cristina Araújo is professor of modern history and culture at the University of Coimbra, who published on the topic of the Lisbon earthquake or the representation of death between 1700 and 1830, and even about the Marques de Pombal, the one who reconstructed Lisbon after the 1755 earthquake. In her contribution she lectured about sensational journalism in Europe after the 1755 earthquake, for example Samuel Johnson in Great Britain. The press brought the event close and led to the unity of people from different nations. Sergia Adamo, docent for compared literature, completes the vision of humanities about the earthquake talking about the echo in Italian literature until the 19th century. Adamo identifies three directions: the already mentioned character of "eye witness", of the living something about understanding, and the try to report oneself, then later the interest for the topic of ruins in the work of Giuseppe Baretti and finally the reflections about nature of the poet Giacomo Leopardi, identified by Adamo as being close to the *Poème sur le désastre de Lisbonne* of Voltaire. The vision of humanities was completed by that of the exact sciences with the lectures of three geologists and geophysicers, António Ribeiro, Marc-Andre Gutscher and Friedemann Wenzel, regarding the efforts, still not successful, of identifying the tectonic fault which caused the earthquake. In the frame of the annual

conference of Academia Europaea took place a public lecture of Jean-Paul Poirier, geophysics professor in Paris, about "The Lisbon Earthquake – Impact on European Science and Culture", who lectured at the begin about eye witness, then about the interpretations of Kant, Michell Šor Frederic II and the religious repercussions such as earthquake sermons in England, Strafpredigten in Germany, religious poems in Portuguese, French, German. Finally Poirier lectured about the effect of the earthquake on the optimism of its contemporaries, Leibniz, Pope, Kant, Wolff, the prize of the Prusian Academy in 1755. On the occasion of the workshop the book by K o z á k *et al*. [1] was launched, with illustrations of the 1755 earthquake in Lisbon, including posters. The book contains an introduction regarding the philosophical discussion of the time between Voltaire and Rousseau, an explanation in two chapters of the understanding of earthquakes before and after the earthquake in Lisbon, starting with that in Santorini from the Minoan civilization which could had caused the seven years of Biblical famine, the description of the earthquake and of the fire, and then seismology discussions and those of the illustrations, realistic or imaginary, which serve the establishing of the magnitude of the event.

3. The Echo of the 1755 Lisbon Earthquake Today

A significant part of the contributions to the conference in 2005 led to a book, published this year, regarding the 1755 Lisbon earthquake and its implications for the contemporaneity [13]. Therefore the actuality of the subject as research subject for this essay. Also about the Sumatra earthquake and the tsunami in the Indian Ocean in 2004 reports from "eye witness" were collected (S p e n c e *et al*. in [13]), tsunami early warning systems were proposed for the Mediteranean (Cadiz gulf, R i b e i r o *et al*. in [13]), and conclusions were drawn from the more recent European project LESSLOSS, between September 1, 2004-August 31, 2007 (Z o n n o *et al*. in [13]).

In 2008 L a u e r and U n g e r [14] edited in Germany a book about the vision of Humanities concerning the catastrophe, not of geological or engineering science. It contains "eye witness", exchanges of letters, in the German literature of the 20th century (regarding the tremor to Leibniz's theodicée), but also in *Dichtung und Wahrheit* (Poetry and thruth) of Goethe and publications of the time, in *Anti-Candide* of Justus Möser, in the poem of Voltaire in relationship with the theodicée, in the response of Johann Georg Haman to the theodicée and Voltaire, in the tragedy concept of Voltaire after 1755 (*Les Pélopides*, 1770, *Les Guèbres*, 1768, *Les lois des Minos*, 1772), in the theology of the punishment of Zürich in the illuminist time (including the comparison with the flood), in the illustrations of Voltaire's novel *Candide* [10], in the discurse of artistic representation of ruins in the 18th century (which is also the century of Piranesi's engravings of antique Rome, but Constanze Baum names those of Lisbon "the ruins of moment", generated in a moment and then cleaned up, only Convento del Carmo remained, [14 pp. 134-161] but also the

impact in the mass media of the time (German, French, English) of the Lisbon earthquake, impact which is today the more interesting since most disasters today are mass media events. Maybe for this reason the impact of the earthquake in Sumatra and of the tsunami in the Indian Ocean is already pale, at five years after the event, being put in shadow by mass media regarding the earthquake in Kashmir (2005), the one in Sichuan, China, (2008) or the recent earthquake in Abruzzo, Italy, (2009), as well as by other catastrophes, for example the hurricane Kathrina in 2005. According to Fuchs [2] the lesson from the hurricane Kathrina is that responsibility and competence belong in two different worlds, and between the scientists and those applying scientific knowledge communication should be divided in order to bring closer the two worlds. Plans which would have led to protection were not applied. Jürgen W i l k e (in [14, pp. 75-95]) compares the mass media echo of the earthquake in Lisbon with that of two natural catastrophes from long time ago and closer time: the eruption of Krakatau in the Sumatra zone in 1883 and the tsunami from the Indian Ocean in 2004. Other events did not have the same echo, for example the earthquake in Calabria in 1783 ([14, p. 90]), but also Kozák *et al*. [1] observes that at the same time as the earthquakes in Lisbon and Calabria modern seismology was initiated with questionnaires to establish the macroseismic effects. The echo of the catastrophe in Krakatau was much faster, it was the first event after the building of a telegraphic network ([14, p. 91]). Since the eruption of Krakatau, in which lost life the most people from all recorded volcanic eruptions, was followed also by a tsunami, it brought in memory again the 1755 tsunami in Lisbon. The echo of the 1755 earthquake in Lisbon took centuries, concludes Wilke, but the eruption of Krakatau was not so mediatized. And Wilke takes note, as us, that although the tsunami in the Indian Ocean was a mass media event like no other catastrophe, and it was the biggest recorded catastrophe as regards the loss of life from numerous countries, did not lead to a discourse. This was not to be foreseen in 2005, at the 250th anniversary of the Lisbon earthquake and one year after the tsunami in the Indian Ocean, reason for which we found necessary to include also this literature. And the press, in the analysed case the German press, brought again in memory on the occasion of the tsunami in the Indian Ocean the one from Lisbon. The literary echo and that of artistic image, despite the fact that journalistic images in the 21st century have much more means than photography and film, were lacking. For example, regarding the discourse of ruins, L a n g e n b a c h [15] used what he names new means of the documentary photography, the digital altering, in order to evoke the spirit of the Roman ruins 250 years after, these remaining the same. Even the scientific echo of the tsunami in the Indian Ocean was put in shadow by the anniversary of the Lisbon earthquake. But a tsunami early warning system was realized for Indonesia (the country most affected by earthquakes), in a German–Indonesian co-operation led by the GeoForschungsZentrum Potsdam, inaugurated on the November 11, 2008, and there are discussions for one in the Mediterranean Sea,

affected by tsunami after the Lisbon earthquake and after the 1908 Messina earthquake (http://www.welt.de/wissenschaft/article2696109/Deutsche-Technik-warnt-praezise-vor-Tsunamis.html).

The 1908 Messina earthquake, in which there were more victims than in Lisbon in 1755, did not shock the world in the same way, the historical frame was another, the world was before the First World War. According to Fuchs [2] the tsunami catastrophe in the Indian Ocean should have lead to the conscience and solidarity of catastrophes such as Aids, famine, drought. It what was proposed also in the sermons from 2004/2005 [6]. For Europe the implementation of such a system is still discussed through the implication of EU and UNO (see http://www.3sat.de/dynamic/sitegen/bin/sitegen.php?tab=2&source=/nano/astuecke/104317/index.html). In the third part the publication of L a u e r and U n g e r [14] orients itself towards the story telling of natural catastrophes, from the oldest times (Seneca, Plinius, Opitz) up to Voltaire, on the earthquake discourse in the America of the 18th century (after the earthquakes of 1638, 1727, 1755, in the same month as Lisbon, near Boston, Cape Ann, of an intensity only surmounted by that of New Madrid, 1811 and 1812), apocalyptic visions in literature, from "Rede des Toten Christus" (Speaking of the dead Christ) by Jean Paul till "Nachtwachen von Bonaventura" by August Klingemann, in the novel "Das Erdbeben" (The earthquake) (1932) by Reinhold Schneider, in which the Marques de Pombal becomes a historical figure. In the fourth part it is about the semantics of the catastrophe in politics: the Lisbon earthquake and the seven years War in the protestant sermons and in the Portuguese political propaganda, the experience of war and the metaphoric of the catastrophe at "Cißides und Paches" by Ewald Christian von Kleist (a Prussian soldier who died himself heroically in war in 1759), the vision of Immanuel Kant translated militarily, juridically (Divine Judgment) and morally, the political apocalypse and the natural catastrophe, the mass of people and the natural catastrophe. The fifth part is dedicated to the risc and the catastrophe in sciences and economy, for example "Philosophy of Earthquakes" (1750-1765) by William Stukeley in the context of the catastrophe discourse. The editors observe that although the natural catastrophes lead also today to tremors of the civilization systems, economically and politically, in the 18th century the dispute between the religious point of view and that scientific, philosophical and social was more evident than today.

The repetition of the scenarios of a historical earthquake in the demography conditions, the sophisticated infrastructure and the accumulation of goods of today, which lead to a higher vulnerability, is a topic which is of interest for scientists in their studies and especially for insurances and reinsurances. Not only at the anniversary of the 1755 Lisbon earthquake were such studies done, but also at the anniversary of the 1906 San Francisco earthquake, or the 1908 Messina earthquake, other existing for the 1356 Basel earthquake.

The Lisbon earthquake wasn't alone in the 18th century, other earthquakes being felt: 1737 Calcuta, 1746 Lima, Peru, 1750 England, 1783 Calabria. The earthquake and the tsunami in Lisbon 1755 are known under the name of "Lisbon earthquake", while the Sumatra earthquake and the tsunami in the Indian Ocean have varied names, some making reference to Aceh, but most of them to the tsunami. Actually exactly the tsunami, as it will be seen from the stories regarding the perception in image and mass media, was the unusual event, extremely rare, for which there was no name yet, which, apart of the date and the place where it took place created the reaction: it could be associated with the flood and the punishment of sins. For the generation of a tsunami an earthquake of a particularly large magnitude is needed and as such it is felt at long distance, which gave the global effect in that time.

The Lisbon earthquake was different also through: a) earthquake followed by fire and tsunami; b) the changes introduced in the European culture; c) the emergency and reconstruction actions (Betâmio de Almeida, in [2]).

The ruins of Lisbon, "the ruins of the moment", don't exist any more, we cannot represent 250 years later with modern means. On their place there are baroque boulevards, as they were constructed much later in Paris by Haussmann. After the Lisbon earthquake the Marques de Pombal reconstructed the city with constructions respecting the so-called "local seismic culture", more precisely he emitted the precursory of a seismic code of building, reinforcing the stone constructions with timber elements. Through the "local seismic culture" we understand a construction type adapted to the recurrence of earthquakes in a certain place. The same type of code was then introduced later by the Bourbon government in Calabria after the earthquake in 1783, so the lessons from earthquake and even the reaction to the earthquake were felt in the shortest time. In Lima, affected by the earthquake one year before Lisbon and the earthquake resistant buildings of which were mentioned above, was built this was following frequent earthquakes, especially that of 1687, named locally "quincha" [16], and was applied massively in the reconstruction after 1746 [17], when the largest part of Lima was destroyed, and a variation called "bahareque" is appreciated even today in Latin America. Although such constructions with timber skeleton, with favourable behavior in earthquakes, are frequent in seismic zones and in the vernacular architecture (ex. "dhaji dewari" in Kashmir or "himish" in Turkey), they exist in zones which are moderate seismically (England: "half timbered") or non-seimic, as Germany ("Fachwerk"), France and Quebec ("colombage (pierroté)"), Poland or the Scandinavian countries, which led us to the idea that the spread of timber as construction material was stopped by being afraid of fire, more frequent than earthquakes, which were considered inevitable and the punishment of God [18]. Actually, the idea of the sustainable construction out of stone is sustained even by the Romanian or international folklore ("Three little pigs", in B r o o k e [19]). Coming back to the topic of ruins, these can be what creates the entrance gate for a rediscovered space, lost in a historic accident. The vegetation covers the ruins after the 1998

Azores earthquake (Fig. 1), vegetation covers the castle in "Thorn rose", vegetation can cover also the way to a lost paradise, searched for in the form of initiations gardens (Fig. 2), water covers the ruins in the film Stalker by T a r-k o v s k i [20], as symbol of a new beginning (another vision of water than that of a tsunami, since water is bivalent), symbolic sand covers the installation designed at Hochschule für Gestaltung (State School of Design), Karlsruhe (Fig. 3) and the earth covers archeological ruins. But the ruins of natural disasters, with few exceptions as in Pompei, remain. In this context we mention two cases in which the reconstruction did not succeed as that of the Marques of Pombal,

Fig. 1– Ruins of a church damaged by the 1998 earthquake on Faial Island, Azores, Portugal, 10 years after (Photo: M. Boştenaru, 2008).

Fig. 2 – The paradise garden as initiation garden, model, project University of

Karlsruhe, supervision Dieter Kienast, 1997/98 (concept and photo M. Boştenaru).

Fig. 3 – Installation of the door to the rediscovered space, seminar "Spaces of Encounter", supervised by Daniel Libeskind, Hochschule für Gestaltung, Karlsruhe, 2001 (concept and photo M. Boştenaru).

maybe not being sustained by the same cultural discourse as in case of the 1755 Lisbon earthquake: the reconstruction Gibellina, a Sicilian locality, in the 1960s (film by Jörg B u r g e r [21]) and the reconstruction of San Giuliano de Puglia after the 2002 Molise earthquake [22], both in Italy. In both localities the citizens could not attach themselves to the new locality, the covering with concrete respectively the demolishment of the old buildings leading to sociologic problems. As Lewis M u m f o r d [23] was affirming: the stones of Greece would not tell us as much if the written heritage would have not remained.

4. Conclusions

Bernd H a m a c h e r (in [14, p. 162]) speaks on the contrary of the narrative catastrophe management strategies, and starts the contribution with a quote according to which in the 18th century the world „Lisbon" had somehow the same echo as "Auschwitz" today. Both trembled the faith in the fundaments of the vision about the world. So seen, the earthquake and the tsunami from Lisbon was indeed a historic accident.

A c k n o w l e d g e m e n t s. The support of the Marie Curie Reintegration Grant, contract number MERG-CT-2007-200636, run time 2007-2010, from the European Commission is gratefully acknowledged.

Received, March 5, 2010

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CUTREMURELE ŞI TSUNAMI DIN 1755 ŞI 2004 – ACCIDENTE ISTORICE?

(Rezumat)

Se comentează interpretările cutremurului din 1755 din Lisabona ca accident istoric. Lucrarea este subîmpărțită în două părți principale: comemorarea celei de-a 250a aniversări a cutremurului de la 1755 din Lisabona în 2005 şi reacția într-un alt moment, şi anume astăzi. Este accentuată mai ales o comparație, reacția la cutremurul din 2004 din Sumatra şi tsunami din Oceanul Indian în 2005 şi astăzi, căci, contrar la ceea ce s-a întâmplat imediat după, evenimentul din 2004 nu a provocat un discurs. Şi comparat cu alte evenimente istorice menționate, cutremurul din Lisabona rămâne singurul accident istoric, şi una din datele de naştere ale modernității. Unele aspecte cheie sunt discutate, cum ar fi problema ruinelor, sau a reconstrucției, în contextul secolului XVIII şi astăzi. În mare, accentul cade pe punctul de vedere al ştiințelor umaniste, nu al ingineriei seismice, şi recenzează viziuni ale evenimentelor şi publicațiilor privind cutremurul.