

# THE ITALIAN CIVIL PROTECTION SYSTEM

## Present situation and prospects of reform

Umberto Allegretti \*  
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### 1. An important public function.

*Protezione civile* (here, civil protection)<sup>1</sup> is an expression that has fairly recently entered Italian law and the common use of our language to mean the defence from a public risk (*rischio* in Italian<sup>2</sup>). Risk is a concept that may be used also for many aspects of the human condition, the classic philosophical-sociological treatise being *Risiko Gesellschaft* by Ulrich Beck (1986), which will be an important source of the philosophical approach of this study. Here it will be employed for the analysis of a specific public function that is named civil protection and that today, according to a German expression, is considered “one of the supreme tasks of a modern state”. This relevance, which is not only (as may appear at first view) of administrative interest but of directly constitutional nature, corresponds to a great progress in the scientific study of disasters (*disastrologia*) at international level, and Italy is well placed in this progress. Nevertheless, one can still note the neglect of civil protection in the works of historians and (this is the object of our study) of constitutional and administrative literature.

Yet, civil protection is not only, as it certainly is, the object of an operation guaranteed by a complex system of administrative organization, but a fundamentally constitutional issue. This constitutional character depends, first of all, on the defence of human life and integrity against attacks on the elementary personal rights assured by the Constitutional Charters. But the same constitutional nature concerns also the collective issue of protection of the right and the duty of the whole community to safeguard the landscape and the artistic and cultural heritage of the nation, which in Italy is explicitly and not casually mentioned by article 9 among the “fundamental principles” opening the Constitution, and in the Lisbon Charter by the guarantee of the environment in article 37.

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1 This notion corresponds in English to “civil protection”, in German to “Zivilschutz, Katastrophenhilfe”, in French to “sécurité civile”, in Spanish to “protección civil”, in Portuguese to “protecção civil.

2 “Risque”, “Risiko”, “riesgo”, “risco” in the other languages here considered.

First of all, civil protection confronts the risks of natural disasters<sup>3</sup>, such as seismic phenomena, landslides, floods, other hydro-geological problems, hurricanes, avalanches, sea erosion, severe droughts, fires, volcanic eruptions, and so on)<sup>4</sup>, but also disasters produced by human causes such as technological accidents (of chemical, physical or other origin)<sup>5</sup>. As a concept, civil protection excludes in principle damages by war, by problems of public order or security and sanitary problems, corresponding to tasks of different nature<sup>6</sup>.

The notion of civil protection, separating itself from the other public functions and public organizations with which it was previously joined, was introduced for the first time, at least from a legal point of view, in a statute of 1970<sup>7</sup>, and only subsequently penetrated the common conscience and entered the common language and was separated from other public tasks.

These problems have always existed in the world, but their prominence in political, social and administrative issues is now much more evident than in the past. As is well-known, a turning point was the culture of the 18<sup>th</sup> century Enlightenment, for which the terrible Lisbon earthquake of 1755 was a moment of lively emotion for all Europe and gave occasion for the reflection of great intellectuals (Voltaire, Rousseau, Kant). While natural catastrophes were once considered God's punishment for human sins or a fruit of destiny, after Lisbon European opinion began to consider earthquakes as the fruit of anthropical causes to be faced by human and political work and adequate techniques. This gave rise to a scientific reflection, and consequently to technical research, even if, for a great part of the 19<sup>th</sup> century, the religious conception of catastrophes as divine punishment or an inevitable destiny continued to be widespread.

Of course disasters generally gave rise to state intervention but it was joined to other public tasks, like public security (*pubblica sicurezza*) or public works (*lavori pubblici*). Anyhow, the fight against risks must be considered as an ordinary and not (as is frequently done), an extraordinary, task, since disasters are not extraordinary events.

### 1.1. The notion of risk

The concept of **Risk** (R), as fixed by a well-known formula, is the symbolic product of three terms,

$$R = H \cdot V \cdot E$$

where H, V and E have the following meanings:

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3 "Calamità naturali", "disastri" or "catastrofi" in Italian; these words are not perfect synonymous (Petrini 1983),

4 A fairly complete list appears in the legislation cited at section 4.

5 The two kinds of risk have a degree of overlapping, some natural risks being totally or partially an effect of human causes, at least a lack of accuracy.

6 But in Germany, for instance, epidemic plagues, the dangers posed by international terrorism, even wars and armed conflicts and other major emergencies are considered tasks of civil protection in order to tackle them with civilian measures.

7 December 1970 8, n. 996.

- **Hazard (H)**, in Italian *pericolosità*, probability of occurrence of the event within a certain area and a certain time interval, which may be distinguished in zone and local hazard (hazard of particular sites);
- **Vulnerability (V)**, *vulnerabilità*, degree of propensity for damage of a structure or an infrastructure following the event;
- **Exposition (E)**, *esposizione*, the number of persons or things or the amount of goods (productive activities, historic and cultural heritage etc.) which can be damaged by the event.

### 1.2. *The aims of civil protection: the fight against risks: stability, utility and beauty*

What are the principal values that civil protection has to watch over and consequently what are its major aims and duties? The defence of human life and integrity, of course, but also, as indicated by statute no. S25 of 24 February 1992, still in force as the fundamental rule of the matter (though amended many times, principally in 2012 and 2013<sup>8</sup>) material goods, private or public, the settlements and the environment of the country. That is to say, as the famous ancient Roman architect Vitruvius proclaimed, the “security, the utility and the beauty” that are threatened by the different risks.

Generally, only safety (*stability*) is felt by the common sense of people and by the action of the institutions, but – as many historical examples show — the safety of economic life and the different kinds of production (*utility*) without which men cannot survive, and also, in a not secondary position, the picturesque aspect of towns and villages and of the landscape (*beauty*). This third element, which can appear as the weakest member of the trinity, is quite essential to the comfort of human life on earth (Hillman 2005 – p.118: “arts are not a surplus”). In the recent developments, its value has increased, as the primacy of economy in the modern world as a product of the industrial revolution and of a general tendency of modern times, has proved a loss of humanity in the human condition.

### 1.3. *The catastrophe as a factual and social event*

The complexity and the relevance of disasters arise from the fact that they have two aspects: they are not just a natural or technical occurrence, but also a *social* event; so, the complexity of the civil protection functions that confront them derives directly from the simultaneous presence of these two faces<sup>9</sup>.

The growing importance of civil protection, evidenced by its increased usage in the law and in current language, is due, from a subjective point of view, to an increased human sensitivity to disasters. From an objective view the occurrence of disasters is really rising. For instance, earthquake damage grows as a result of the increasing vulnerability of urban systems, linked to urban density and to the growth of the population. So, the effects of a hydrological nature are accrued, not only by global climate change but by the erroneous position of buildings; landslides are increased by the lack of maintenance of the land, due, among other causes, to the abandonment of agriculture; technological progress produces new possibilities for damage, and so on.

## 2. *The peculiar Italian territorial fragility; the seismic issue and the hydro-geological issue*

<sup>8</sup> See decree no. 59 of 15 May 2012, converted in the Act of Parliament no. 100 of 12 July 2012 and decree no.93 of 14 August 2013, converted into the Act of Parliament no. 119 of 15 October 2014.

<sup>9</sup> R. Solbiati and A. Marcellini (1993) examine convincingly the earthquakes in the light of these two aspects.

The notion of civil protection separating itself from the other public functions and public organizations of which it was previously part, was introduced for the first time, at least from a legal point of view, in a statute of 1970<sup>10</sup>, and only later did it penetrate the common conscience and the common language and was separated from other public tasks.

Natural disasters are very strong and frequent in Italy because of the peculiar *fragility* of its land in regard to the three elements of risk: hazard, vulnerability and exposition.

According to the most common evaluations<sup>11</sup>, at least 44% of Italian territory is exposed to high ground motions (to which we can add volcanic eruptions), being placed, according to modern seismology, in the margin of convergence between the African and Euro-Asiatic tectonic plates; the most susceptible parts are located in the chain of Apennines, which extends along the whole length of the peninsula as far as Sicily. If, for the intensity of its earthquakes, Italy is not comparable to the hazard of Japan, United States or Chile, seismic events occur very frequently and some of them may register over 7 degrees on the Richter scale. They involve 21 million people and in the 150 years of the unitary state (formed in 1861), there have been 36 strong earthquakes (one every 4 or 5 years), involving more than 2800 municipalities and claiming 150.000 casualties. On the financial level, it seems that in the last thirty years damages have exceeded 100 billion euro.

In turn, areas of high hydro-geological risk<sup>12</sup> — meaning all the phenomena in which the principal agent is water — are characteristic due to the peculiar nature and form of the Italian peninsula and landslides in particular have affected at least 10% of the country, extending to all the regions and having involved about 5 million people, causing 6000 casualties.

So seismic and hydro-geological phenomena are the greatest and constant threat to our country. (see ANCE/CRESME, 2012; Bignami, 2010.) An almost complete list of natural calamities, according to the Italian legal definition, is contained in a 1948 legislative decree<sup>13</sup>. Other disasters are produced by technological accidents, as a result of the progress that the country has experienced from the end of 19th century.

In modern times, during the epoch of absolute monarchies there were two terrible, seismic catastrophes: the Val di Noto and Catania earthquake in south-eastern Sicily in 1693; (more than 57.000 casualties. Dufour, 1985) and the South Calabria quake of 1783, (between 30.000 and 50.000 casualties estimated in Calabria and Sicilia) ravaged large areas, and **one** can admire the fact that, surprisingly, the *ancien régime* (Spanish and then Bourbon), acted efficiently on the eve of those tremendous events (as did the Portuguese government of the Marquis de Pombal in the 1755 Lisbon earthquake), and we can also praise the promulgation of some anti-seismic rules in the Papal State and during the Kingdom of the Two Sicilies. After Italian unification in 1861, one particularly notable were the earthquakes that destroyed Messina and Reggio Calabria (1908; at least 80.000 casualties) and Marsica region and the town of Avezzano in Central Italy (1915; 33.000 casualties). More recently, strong earthquakes were those of Belice in western Sicily (1968), Friuli (1976), Irpinia (1980), Umbria-Marche (1997), L'Aquila (2009), Emilia-Romagna (2012), and bordering

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10 No. 996 of 8 December 1970.

11 The numbers which we indicate in this paragraph are approximate and can be different from those referred to by other authors.

12 For a definition of the concept of “hydro-geological risk”, see S. Peppoloni 2014, p.75.

13 Decree no. 1010 of 12 April 1948.

parts of four regions of central Italy (2016-2017). Among the innumerable floods, one can record at least those of Polesine (1951) and of Florence (1966).

The vulnerability of the country and the built-up areas is great, due above all to the antiquity of the towns and villages, to the relative poverty of their construction (for example, very many ancient constructions are built in irregular stone, linked with mortars poor in lime), to the topography of the soil and other factors. These frequently include substandard building methods, poor maintenance, the fact that a number of buildings and infrastructures do not observe the seismic regulations or even are unauthorized, and the complexity (or on the contrary the poverty) of infrastructures. Furthermore the exposition is very high, a consequence of the population density and of the buildings and the important industrial, agricultural and food production (Emilia in 2012, for parmesan, Amatrice and Norcia Valley for precious lentil cultivation, in central Italy quakes of 2016-2017).

One can remark that beauty is a specific, important component of exposition to be considered in Italy. It is well known that a great part of the artistic heritage of humanity is gathered on Italian soil. The major part of that heritage derives from ancient times (archeological, medieval, modern, more than contemporary) so it is particularly fragile, as it is shown by the fate of the artistic properties — churches, towers, castles, etc. — in Emilia region that partially or totally collapsed in the not particularly severe 2012 seism. Moreover, the charm of Italian country is tied in large measure to the position and particular topography of many towns, such as the Apennine villages hit by the 2016-2017 earthquakes, even if the single pieces are not exactly monuments they still have great charm as does the general landscape of many regions. That is why, particularly as a consequence of the growing engagement of the intellectual classes and humanistic associations, in recent times the perception of the threat of natural calamities to this aspect of our common property has received more attention in legislation.

### *2.1. An Italian model?*

These special characteristics of Italy in the land and demographic issues suggests that Italy cannot limit herself to imitate the best models adopted in other countries, such as USA, Japan and Chile, to combat and often to overcome the problems of calamities. It is remarkable, and well proven from the 1970s, that Italian theory and practice are fairly advanced; international exchanges in this field as in others are of maximum importance, and Italians also make original contributions to the global discussion. But, as some experts underline (De Marco, 2017), we need, and partially we have, an Italian model, adapted to those characteristics which are not coincident with those applicable to other countries. Especially in the field of beauty, the unrivalled features of Italian artistic assets, of our history and of our original landscape require an approach to counteracting the consequences of calamities, compatible with the aim of preserving those features and transmitting them to future generations, as an asset for the whole world.

Some consequences of this statement on the different aspects will be dealt with further, but it is important to be precise here, affirming that something must be changed or integrated into the current Italian model for dealing with calamities in order to satisfy to the Vitruvian trinity, “security, utility, beauty,” mentioned above. The peculiar character of this model should be constitutionally founded on the abovementioned article 9 of the Italian Constitution and might also be considered a consequence of article 4 of the Lisbon Treaty, guaranteeing respect for the “national identity” of the members of the European Union.

### *3. The functions of civil protection: prediction and forecasting, preparedness, management of emergency, mitigation of risk and recovery. Recovery versus reconstruction.*

The Act of 1992 and its modifications prescribe the functions of civil protection and the organization of civil protection in Italy. It is obvious that civil protection must firstly be considered as a *function*, rather than an *organization*: organizations always serve functions<sup>14</sup>.

At first view civil protection functions may appear simple: the protection of human lives from a disaster, the safety of buildings and facilities and the restoration of the conditions of urban systems and land use. In principle, public opinion believes that the central and maybe unique elements of this function are rescue during the emergency and initial recovery, formulated in the more ancient statutes by the words “help” and “assistance”. But the much greater complexity of this activity is shown in practice, and by the recent development of disaster science, much more than by law. The law is in many aspects very concise and full of gaps; still, its interpretation and application cannot do without detailed instructions.

As a matter of fact, civil protection is a totality of functions occurring in different stages, now named “*previsione, prevenzione, soccorso, superamento dell'emergenza, mitigazione del rischio, recupero*” corresponding in English to “prediction and forecasting, preparedness, emergency response”, “risk mitigation” and “recovery”. Another function, “*ricostruzione*” (“Reconstruction”) which follows the damage and recovery, pertains to a different kind of administrative action, even if there is some overlapping with certain stages of civil protection and especially with recovery. These main components of the response to risks are the object of a fairly precise definition by the science. The first and the second are pre-disaster activities, the third and the fourth (as well as reconstruction) are immediate and post-event actions.

In seismic science prevision is articulated in two different activities: prediction (by different signals) and forecasting (through probabilistic methods). Both refer to space and time, if possible, with a different degree of approximation, for instance for meteorological events and their consequences, for certain types of landslides and – though the contrary is often declared— for earthquakes (even not in terms absolutely precise as to time and place), adopting probabilistic and deterministic methods, among which the geological prospection and the seismic history of the different zones, has great importance.

Prevention activities (“preparedness”) are the pivot of the civil protection functions, because they spare human life and pain, avoid or reduce damage of built-up areas and alterations of the landscape, and reduce also the costs of planning and reconstruction following a disaster. Of course, they also incur expenses but in general reduce them, at least anticipating their allocation. Unfortunately, even in their recent formulation, the statutes are not really attentive to specifying the different means of prevention, maybe because of their diversity according to the different types of risks. Therefore, the definition in the fundamental statute is imprecise, originally limiting itself to an indication of their purpose — “avoiding or reducing the possibility of damage”— and to a prescription of “non-structural” actions, concerning alert, emergency planning, training, circulation of information and the application of technical rules, which are certainly necessary but not sufficient. But in so doing the statute omits many important structural activities.

According to seismic sciences and in some measure to their practice, seismic prevention consists in very numerous and complex structural actions: classification of the land according to the level of the probability of earthquakes (in Italian *classificazione sismica* or

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14 Very frequently the expression civil protection identifies this “subjective” (organizational) element, but in fact we should consider the “objective” side (the function) as the first category of our discourse (though obviously the subjective element is also important).

zonazione), articulated technical standards (*norme tecniche*), microzonation (*microzonazione*, that is to say hazard assessment of the various sites in particular limited zones: Facciorusso ed., 2012; Crespellani 2012b, 2014) ), engineering design of the works, retrofitting and/or reinforcement (respectively *adeguamento* and *miglioramento sismico* in Italian; the two terms correspond to different degrees of improvement of preexisting buildings and infrastructures to mitigate risk), individual behaviour of auto-protection. One could say that there is an undervaluation of these means in the parliamentary acts: certainly, that is the case of microzonation, which is not normal practice in the most dangerous and vulnerable zones; and it is doubtful whether in practice, urban planning in various parts of the country really confronts the issue of seismic risk. A list of the principal criteria to which new constructions must conform for resisting earthquakes is contained in the statute no. 64 of 2 February 1974, which also prescribes the criteria for seismic classification and of technical rules adopted by the special procedure dealt with in section 4.1 below, while the elements of both of these means of preparedness are specified in those acts of administration.

Of course, all these instruments raise many problems for their correct implementation. Still referring to seismic risk, the classification of the whole Italian territory and the formulation of regulations for construction have been completed and several times updated (most recently in the first decade of this century) but raise many difficulties and, as will be seen in section 10, are about to be modified. Seismic microzonation, a complex technique requiring elements of profound geological and geotechnical knowledge and a meticulous appreciation of the risks inherent in the soils of every part of a single municipal territory, has been fairly applied only in few towns (Crespellani 2014). Nor is there a general recognition of the scientific approach which states that prevention needs the construction of a scenario of the risk of each zone involved, as an act that facilitates the authorities and other persons involved in the situation of risk, taking steps directed to the mitigation of the risk. Prevention may exceptionally require delocalization of some towns or parts thereof. Retrofitting and reinforcement of pre-existing constructions are subjects which require the special training of construction firms and workers, in order to raise relevant issues in the practices of the whole building sector. So, they could bring about a change in the horizon of the development of the country and contribute to the solution to the present economic crisis by potential to alleviate unemployment. As Roberto De Marco (2010) remarked, among the lessons of the 2009 L'Aquila earthquake, there are elements that prove the real limits of an action of prevention "entrusted to the combination classification/seismic technical rules", that are the most recognized and practised components. All the technical means listed as its components have to be used, but they are not sufficient if "knowledge and participation" are not practised (Crespellani 2013 a).

A somehow more explicit legal treatment of preventive measures is contained in the Legislative Decree no. 152 of 3 April 2006 on soil and subsoil defence, on the fight against desertification and water pollution, now regulated among other issues like refuse, water resources management and general procedures for environmental protection. In this case, many administrative actions are listed: surveys and collection of data, programming and planning of intervention, regulation of rivers, mitigation of floods, consolidation of slopes and unstable areas, hydro-geological bonds etc., expressing, with some details, diverse means of intervention.

In regard to avalanches, there is the example of the Abruzzo region, which promulgated a regional statute in 1992 on the forecast and prevention of avalanches, defining forms of the phenomenon and interesting means for forecast and prevention, but did not adjust the map of potential avalanches, showing its ineffectiveness in the recent (January 2017) dramatic

case of the hotel on the slopes of Gran Sasso, where 24 casualties resulted from the combined effect of an after-shock of the earthquake and an exceptional amount of snow.

And there are many examples of behaviour of private persons who, with the complicity of institutions, have completely ignored the minimum requirements of prevention by erecting buildings on the banks or beds of rivers or on the margin of a landslide.

Emergency response includes, inter alia, the most varied operations: situation assessment, search and rescue, medical aid, fire suppression, emergency shelter, debris removal, demolition decisions, temporary housing, critical facilities restoration. Protagonists of these stages are the fire brigades, whose equipment and organization is very efficient and whose dedication to their work is famous, often heroic, in the search for persons in peril and frequently buried under debris, sometimes for many days in conditions of painful hope of rescue.

Recovery activities are defined by the fundamental statute as “the initiatives wanted and not deferrable, to remove the obstacles to the resumption of the normal conditions of life”.

### *3.1. Improper employment of civil protection in the 1990s and in the first decade of this century (Berlusconi-Bertolaso period).*

As already mentioned, reconstruction, in all its phases, applies to functions of a different nature from those of civil protection. But in this case and under other aspects many abuses and excesses of the operations of civil protection were committed in a fairly long period, especially under the government of Silvio Berlusconi as Prime Minister and the management of Guido Bertolaso as head of the Department of Civil Protection.

Just at the end of the 1990s – by an extraordinarily wide interpretation of the expression “other events” contained in the statute of 1992 — the intervention of civil protection was extended, through employment of the organization dedicated to civil protection and the personal engagement of the head of the Department of Civil Protection, to many so-called “great events” of the most variable nature. This practice was explicitly authorized by a statute of 2001, one of the first big steps of legislative activity by the executive led by Silvio Berlusconi. These events were public meetings and social events, frequently of religious character, important sport events, maintenance of the order in traffic emergencies, operations in the field of refuse policy, problems of archeological areas, and international events taking place in Italy. Frequently these events were not on a large scale, and anyhow should have involved other administrative functions and agencies instead.

Moreover, in other cases, such as the modest 2002 San Giuliano di Puglia seism and the strong earthquake of L’Aquila in 2009, which *per se* were undoubtedly events regularly employing the civil protection, there was the irregular expansion of civil protection into the policy of reconstruction. L’Aquila quake was the climax of this anomalous system of expansion of civil protection, because just in the period of the emergency, and at the behest of Berlusconi, the G8 meeting was relocated from its previously planned venue in Sardinia to L’Aquila. So, there was the extraordinary coincidence in the hands of civil protection of the management of a great event and of an earthquake.

On both problems there has been criticism by experts, independent of the civil protection agencies, and by media and public opinion, for the abnormal waste of the energies of the civil protection organization in cases where other agencies could provide, and for irregularities generated under many aspects. The strongest criticism followed the bad results obtained in L’Aquila reconstruction of the precious historic centre reconstruction still precedes very slowly after seven years and where a part of the population has been



decentralized in new settlements far from the city centre (so called C.A.S.E., Complessi Antisismici Sostenibili ed Ecocompatibili), so altering the social life of a historic town and the beauty of the landscape of the region.

When the criticisms became severe and generalized, a symbolic attempt was made, too late, to restrict and regularize civil protection functions by a presidential directive of 27 July 2010. The definitive suppression of the “other events” was made by a reform of 2012, after the fall of both Bertolaso, who retired in November 2010, and of Berlusconi, who was replaced as Prime Minister in November 2011.

As a consequence, and after the change of government and of the leadership of the civil protection agency, and some criminal suspicions about some of Bertolaso’s activities, since 2011 the behaviour of the whole organization of the sector has been brought back to a more regular condition.

#### 4. Different models of legal regulation since the 19<sup>th</sup> century. Types of statutes

As a consequence of the complexity of the problems concerning civil protection functions, the evolution of the rules of public activity and of its legal treatment is intense and much accelerated in recent times. Generally speaking, both substantial regulations and organization are the response, not always rapid, to single disasters and especially to cases of failure or dissatisfaction with the way they have been handled (Di Raimondo, 1988).

In the initial period (1861-1926) of Italian state intervention in this field – after a surprising period of lack of interest for the subject in its first decades —there followed the model of a *special statute* for each disastrous event, according to the previous *ancien régime* state, even in the case of the serious events of Casamicciola (1883) and Calabria (1905) and also of the 1908 catastrophe of Messina and Reggio Calabria and that of 1915 at Avezzano and the Marsica, as well as other later quakes of the 1920s and ‘30s.

But in the same period a second model was tried, by the promulgation of *general statutes for the different kinds of events*: e.g., a statute of 1919 on seismic calamities in general and, in the thirties, the regulations for guard service of streams and for seismic regulation.

Thirdly, in 1926 there was the first example of a *general* though elementary (in the limits of emergency management) statutory regulation of what we now call *protezione civile*.<sup>15</sup>

During the Republican era after the Second World War (that is the direct object of our study), this third model has been used with the general statute of 1970, and the fundamental Act of 1992, which concern almost exclusively but not completely the uniformity of the elements of the organization of civil protection in Italy. The Parliament and the Executive are now conscious of the defects of this valuable statute and its modifications, and the recent approval of the new statute which will be mentioned in the paragraph 10 of this essay and the prospect of the future legislative decree provided for in that Act can certainly be the occasion of a substantial progress. Obviously, other statutes continue to refer to single categories of disasters considering the different nature of each category, such as those on seismic events (1962, 1974) or the statute on the defence of the soil and other hydrological phenomena.

Moreover, the practice of legislating anew after each event of the same category, with just partial differences from the previous similar events, remains intact; as for instance in the case of important events like the 1951 Polesine flood, the 1963 landslide of the Vajont

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15 Royal Decree no. 2289 of 9 December 1926.

dyke (1740 casualties), the Florence flood of 1966 and the many later earthquakes, until the earthquake of central Italy (2016-2017). This can now be said to be *normal* practice.

This practice proceeds into stages: Just after the event, the executive promulgates a special order which has the value of a statute of immediate application (*decreto-legge*), but which – according to article 77 of the constitution needs to be converted to an Act of Parliament (called *legge di conversione*) endowed with an indefinite application. Generally, under the parliamentary or even the executive's initiative, the *legge di conversione* may modify and/or integrate a number of provisions of the *decreto-legge*. Very often, especially in cases of earthquakes as an effect of after-shocks (that are very frequent), a second and perhaps a third *decreto-legge* and a second or third *legge di conversione* will be needed.

Very often, exceptions (for example in the height of the buildings) are introduced by many legal regulations after the original ones. Frequently there is pressure from the municipalities and the population to extend the zone really hit to surrounding municipalities. In the case of the Belice earthquake in western Sicily (1968) these increased from 7 to 136, the city of Palermo included.

The whole practice is the source of many defects. Comparing the statutes concerning different cases (especially between events of the same nature and damage: for instance between different earthquakes), one can notice a substantial likeness of their provisions. Their incidental differences produce inevitable delays and eventually unjustifiable inequities between citizens substantially exposed to the same problems, due to the scarce attention of the government and sometimes to the greater or lesser capacity of each relevant zone in the single event to lobby the government.

That is why some experts (De Marco, 2014) have proposed the preparation of a statute dictating an uniform model for the rights of the citizens and of the communities and for the activities of the public organizations in the many phases of their intervention. This new law system should not forbid the introduction *post eventum* of some partial differences required by special circumstances, but would be very useful in most cases (in fact, the disasters phenomenon shows a strong fluidity, between the different cases, even within the same category).

4.1. *The “technical rules”*. Of course, in matters in which the technical components of the legal regulation are generally high, the Act of Parliament or the regional statutes are not sufficient for a complete regulation that provides for the safety of constructions. Technical standards (*norme tecniche*) are necessary, often in great detail and taking account of the scientific and technical progress and the lessons of the experience. They obviously have a legal value (Sandulli, 1974) and their enforcement is entrusted, in the single cases of application, to the control of the decentralized authority of the peripheral bureaus of the Ministry of Public Works or to the Regions.

The paradigmatic example concerns earthquakes. In the Kingdom of Italy technical rules, though rather indefinite, were included in specific statutes (Messina Strait, Avezzano, these replaced in 1924). The positive result was the introduction of a first seismic classification of the territory and a corps of anti-seismic rules, but limited to hit zones: an initial sign of a policy of prevention (post-event). The 1927 and other successive statutes, created two different classes of seismic zones, always with reference to localities hit by earthquakes and providing new regulations, while prescribing the simple “good art of construction” in the rest of the country. This process of promulgating rules within the statutes, still distinguished seismic zones from the rest of the country continued until 1962, that is, until the first decades of Republic (Gavarini, 1980).

A radical change, due to the great progress of seismic engineering (Gavarini, 1980), dates from 1974. The statute of 2 February of that year, though containing some general technical criteria, prescribed that the technical rules for seismic zones were specified in a large body of rules issued in “decrees of the Minister of Public Works, with the agreement of the Minister of Interior, with the advice of the Council of Public Works, which will avail itself also of the collaboration of the National Research Council”. This procedure was destined to be stable and contemporarily the same Minister of Public Works was charged with the task of updating the classification of the seismic zones with a similar procedure and after hearing the advice of the regions.

These rules represent a true progress, but, while raising the need for a notable updating of the professional class, they raise the problem of the improvement or adjustment of old building constructions that are in the majority in Italy (Gavarini, 1980). As a consequence of the collective studies which will be mentioned in section 7, the problem of an adequacy to the progress of seismic science, in Italy and abroad, remained on the agenda and led to a new code of technical rules, which was introduced by a new decree in 1996.

But in 2003 — seizing the opportunity of the emotion provoked by the death of a number of children in the modest earthquake of San Giuliano di Puglia (31 October 2002), Prime Minister Berlusconi and the head of the Department of Civil Protection, Guido Bertolaso, after a very brief preparation of one and a half months, suddenly promulgated a new classification of the whole national territory and a new code of technical standards, very ample but announced as provisional, through an order of the Prime Minister (no.3274 of 20 March 2003). This act opened a phase of grave confusion: The normal legal procedure was taken apart in favour of a new institute (European Center of Formation and Research in Seismic Engineering – Eucentre), located in the University of Pavia, largely financed by state funds and strictly connected to the Department of Civil Protection, which seemed to be the protagonist of the operation. As a matter of law, according to the decentralization imposed in 1997-98, technical rules as well as the general seismic classification of the territory cannot be promulgated for the whole country by an Executive order and furthermore, without any consultation with the bodies required by the statute of 1974. As the redactors, echoing the numerous criticisms of some experts in the subject and the first difficulties in the practical application, were obliged to admit many errors in the new redaction, a long series of corrections followed through successive orders. This opened a dramatic period of uncertainty and of true anarchy for the public bodies and the professionals, making it possible for the operators to apply the old provisions, as the principal but not isolated critic of the new system in many articles and statement showed (Crespellani, 2003, 2005, 2009; De Marco, 2009)). Finally, after some years the Ministry of Public Works elaborated a different text, still full of incoherent and contradictory portions and pervaded by the same spirit of the order no. 3274 which had the support of the regions, and which opened the possibility of applying also that Berlusconi order.

The end of the story is the promulgation on 14 January 2008, of a decree of the Minister of Infrastructures (the new title of the Minister of Public Works) setting out new technical standards for buildings, whose parts, after some general principles, deal with “Civil and Industrial Works”, “Bridges”, “Geotechnical Design”, “Design for Seismic actions”, “Wind Actions”, “Snow Actions”, “Temperature Actions” “Materials”, and, last but not least “Existing Constructions”. As classification and technical standards are strictly related, an attachment to this decree contains the general criteria for the classification (*classificazione*, also called in current language *zonizzazione* or *zonazione*), that is to say for the division of the entire Italian territory into four categories according to different degrees of seismicity, the fourth being aseismic. The proposal has first to be subjected to the advice of the Conference representatives of the regions, the provinces and the municipalities. The

regularization of the procedure seems correct, the contents are updated, but some problems still remain: the rules extend for more than 500 pages and are accompanied by a ministerial instruction (2 February 2009) of 250 pages, so it is very difficult for professionals, private persons and administrative bureaus to apply them surely.

#### 4.2. *The power of extraordinary order (ordinanza).*

The characteristics of each event and the urgency of public intervention generally need particular rules. In order to adopt the necessary measures, a special executive order (*ordinanza*) is issued, authorizing deviations from the normal legal rules. This presupposes the declaration by the Council of Ministers, of a state of emergency, now limited to a maximum duration of 180 days, renewable for a further 180 days. The fundamental statute, even in the more recent adjournments of 2012 and 2013, emphasizes “every” rule, except the “general principles of law”. This prescription has some ambiguity; considering the fundamental rights of the citizen sanctioned by the Constitution, it is normally admitted that the ordinance may restrict the freedom of movement, forbidding access to what is commonly called the “*zona rossa*”, that is to say the delimited zone struck by the catastrophe (very often the historic centre of a town). But any restriction on the freedom of meeting and, above all, on the freedom of speech (as in some cases has practically occurred) must be denied.

The application of such orders is frequent; so law literature emphasizes this topic (among others Cardone, 2011) and as a matter of fact there have been abuses. But more generally they are repetitive. Now, the fundamental statute enumerates the objects and the purposes of these orders, including recovery but excluding reconstruction, and provides that ten days before the end of the state of emergency the succeeding administrative agency regularly competent for the regulation of operations that are still necessary must be established. (This provision does not seem sufficient to forbid uncertainty and abuses).

The power of such an ordinance is, in principle, attributed to the Prime Minister and eventually to the head of the of Department of Civil Protection, with the agreement of the region, except if a different provision is contained in the declaration of the state of emergency, and the same authority assures its implementation. As a matter of fact, that power may be largely delegated to a *commissario* (of whom more in section 5.3); whose orders are subordinate to the orders of the Department.

#### 5. *The organization of civil protection and its levels. The central level: the intergovernmental setting and the problem of coordination*

Let us go to the problems of civil protection organization. As we just said, the organization providing the functions of civil protection and its evolution is the reflex of the functions themselves.

One can remark that its character of fluidity is partly a product of political disputes and of scarce precision of organization, both common in our country. But since one can observe that other countries experience similar problems (for Germany see Denninger, 2005, p. 238 ff., 240 ff.), it should be admitted that these problems arise above all from the very nature of civil protection in a measure even more acute than in other constitutional and administrative issues. Most probably, the complexity of modern societies, the speed of the technical progress with its advantages and disadvantages, the growing awareness of environmental issues are the basic sources of the difficulties of the organization of civil protection.

In UK the general policy on civil protection and the Civil Contingencies Secretariat, established in 2001, sits within the Cabinet Office at the heart of central government. In the federal state of Germany, the central functions of civil protection pertain to the competence of each of the states (*Länder*), but the support and coordination of the states is also a task of the federal government, provided through the *Bundesamt für Bevölkerungsschutz und Katastrophenhilfe (BBK)*. In France the supreme responsibility lies with the Minister of the Interior and the *Direction générale de la Sécurité civile et de la gestion des crises*; similarly in Spain there is the supreme responsibility of the Minister of Interior, through the *Dirección General de Protección Civil y Emergencia*; the Portuguese agency works inside a *Sistema integrado de operação de protecção e Socorro*.

So, the Italian organizational frame is actually complicated and shifting; its organization has changed in successive periods, remaining somehow fluid and subject to a remarkable overlapping of different agencies.

In the phase of special statutes for every event, the protagonists of the matter were, at central level, the Ministry of the Interior with the collaboration of the Ministry of Public Works, at provincial level, the prefect (*prefetto*, representative of the government in each province) and at the municipal level, the mayor (*sindaco*). The collaboration of the military was often decisive.

From the statutes of 1919, for earthquakes, and 1926 for all calamities, the principal competence was given at the level of central government to the Minister of Public Works or in his place, to the undersecretary of the same ministry, who might act at the decentralized level through the technical bureaus in each province (*uffici del Genio Civile*). The subordination to the direction of that Minister to another authority, whether central or local, is clearly stated by the law, even if, until his arrival at the scene of the disaster, the first help must be given by the military bodies and civil agencies, under the command of the prefect within his jurisdiction. An operative protagonist was the Ministry of Interior, above all because the arm for rescue and other emergency responses was the fire brigade, which previously was a municipal institution (*pompieri*, later called *vigili del fuoco*) but gradually (by statutes from 1935 to 1941) was transformed into the *Corpo Nazionale Vigili del Fuoco*, strictly unified in a quasi military body and falling under the Ministry of the Interior. The same situation remained operational at the beginning of the republican epoch, when a decree of 1948 and an Act of Parliament of 1961, confirmed the priority of the Ministry of the Public Works and the assignment of the fire brigades to the Ministry of the Interior.

But many innovations followed, as a consequence of new events requiring more modern practices. The famous Florence flood of 1966 highlighted the lack of prevision and prevention and for six days the only adequate resource for the emergency response arrived from volunteers and from troops present in the town. The management of the disastrous 1968 Belice quake was a true failure, making clear the lack of coordination (and the reconstruction itself was very objectionable and even today unfinished).

A new phase began with the important Act of Parliament no. 996 of 8 December 1970 which, besides being the first employ of the concept of civil protection, contains the definition of what is a natural calamity, identifying it as a natural event that needs by its nature and dimension to be met by extraordinary technical measures. This Act assigned to the Ministry of the Interior, with the collaboration of other central and local administrations, the task of “organizing” the civil protection and of the “direction and coordination” of all the activities of the other agencies, at the time of the emergency event.

Afterwards, the Seveso 1976 industrial accident (a diffusion of dioxin emitted by a factory, which spread over a vast area of Lombardy), the two Friuli quakes in the same year (976 casualties) and the successful response thereto, and above all the Irpinia unsuccessful response to the 1980 seism which produced the largest number of casualties in a single natural disaster in Republican Italy (2.570), highlighted the problem of coordination as the principal organizational issue. Simultaneously, the need for a stricter governmental responsibility in the conduct of operations in disaster events became evident. Thus, after a long period of discussion, the Act of Parliament no. 225 of 24 February 1992, taking multiple administrative and political experiences into consideration, established the true modern system of civil protection. It distinguished calamities (natural and of human origin) in three classes; events which can be managed by the ordinary administrative means; those events whose nature and dimension require the coordinated action of different but ordinary agencies, and the major events whose nature and dimension need the deployment of extraordinary means and powers.

The Act created a new system for the management of calamities, called “the National Service of Civil Protection”, whose decisional components — central administrative agencies, regions, provinces, municipalities and other public and private entities — fire brigades, military forces, police forces, forest service, national technical services, national scientific research groups, Red Cross, National Health Service and volunteers organizations and (with a special 2012 addition) the National Corps of Alpine Rescue — are accurately listed in the statute. So, for the first time, *the problem of coordination* between the different political and administrative agencies and private subjects inevitably acting after a disaster, was considered as the centre of the organizational issues and suggested the creation of this systematic structure, that, with the modifications and integrations of the fundamental statute, formed the basis of the organization of civil protection as a whole.

The problem exists everywhere, and is a very complex one from a practical viewpoint. It is particularly keen in federal states like U.S.A. (*Emergency response*, 1993) but also in decentralized, non-federal state like Italy. In both cases adding to the matter of a good coordination between the multiple central authorities, is the need for an efficient relationship between the different levels of command, between the central government and the regions, provinces and municipalities.

An important element of the Act of 1992 was the creation of the position of a Minister for the Coordination of Civil Protection, charged with the task of promoting and coordinating the activities of all the subjects acting in response to an event. (The well-known incumbent was the MP, Giuseppe Zamberletti, who had already been appointed by decree at the time of the Friuli and Irpinia catastrophes) This Minister did not have at his disposal a ministry but was a delegate of the Prime Minister, so realizing a first step toward the concentration of a function considered politically sensitive at the summit of the Executive. Another major element was the creation of the Department of Civil Protection created in 1982 inside the office of the Premier as the technical instrument of the Minister for the coordination of civil protection in order to fulfill his mandate.

According to the general statute no. 300 of 30 July 1999, on the organization of the executive branch of the government, the Department was to be transformed into a more autonomous Agency of Civil Protection, grouping several existent services that until then pertained to other ministries (primarily the important and very efficient structure of the Seismic Service), under the control of the Minister of Interior. But practically the transformation was not implemented, as one of the first acts of the new premier Silvio Berlusconi — decree no. 343 of 7 September 2001, converted by Parliament into Statute no. 401 of 9 November 2001 — stressed with maximum emphasis, the personal powers of

the Prime Minister in the matter of civil protection (still with the possibility of delegating his authority to the Minister of the Interior), and it suppressed the Agency, restoring the previous Department, whose chief was for a long time the powerful official Guido Bertolaso. The alteration was very important because by the same 2001 Act the notion of “great events” was recognized, and truly at this point begins a period of the enormous enlargement of the functions of civil protection and of the strict link between Berlusconi and Bertolaso. A further Act of 2005 authorized the Italian civil protection to act abroad, as occurred in the 2010 Haiti earthquake.

As a matter of fact, the process of concentrating functions of civil protection in the Prime Minister and his staff did not finish with the apparently definitive approach of the statute of 1992. The same Act of 2005 confirmed expressly the Prime Minister as the head (*titolare*) of the function of civil protection and suppressed the option of delegating that role to the Minister of the Interior. Politics, one might say, prevailed over administration!

Following the personal tendency of Prime Minister Berlusconi, another order of 2005, promptly converted by Parliament into a statute, formally dictated that the holder of these functions, in order to “guarantee the uniform determination of civil protection policies”, is the Prime Minister, while confirming the possibility of delegating to a minister without portfolio. The delegate, until 2010, was Guido Bertolaso (in fact only an under-secretary!).

The modifications introduced in the 2012 and 2013 statutes do not change the most important elements of the original fundamental statute, as they confirm that the top of the system is the Prime Minister, who can delegate his authority to a minister with portfolio or to the sub-secretary of the Council of Ministers, strictly dependent on the Prime Minister himself. But one has to underline the roles of the other Ministries in the system, and above, all the tasks, in view of their importance in the Italian model, of the Minister of Cultural Heritage and his ministry (*Ministro per i Beni e le Attività Culturali*), and its decentralized bureaux.

### 5.1. The regional and local level

But good organization at the level of central government is not the unique protagonist in civil protection. Catastrophes occur in a specific territory, large or small, so they naturally engage local institutions.

The fundamental 1992 statute declares that “The mayor is municipal authority of civil protection”. Being the authority closest to the event, he is charged to lead the emergency services and the coordination of the rescue and assistance operations, supported by a previously created structure for civil protection, and to alert the superior authorities. His tasks are permanent and fairly described by the law and of course the entire municipal organization and its resources have multiple tasks before (e.g. approval of emergency plan), during and after (reconstruction) the event.

Legal regulations also assign obligations to the provinces, now in the course of a complete, but not yet clear, reorganization, centered on the predisposition of the provincial plan of prediction and prevention, together with a provincial committee for civil protection. As to the regions, in the list of their constitutional obligations in civil protection for a long time they did not appear; only some pieces of legislation and administration were included in the powers transferred to them by the great decentralization Acts of 1972 and 1976. In any case, as the general experience attests, (see Di Raimondo, 1988), the actual contribution of the different regions is uneven. As examples of praiseworthy intervention, those of Friuli-Venezia Giulia in 1976 and of Umbria and Marche in 1997 may be cited. The Act of 1992 provided the obligatory institution of regional civil protection committees, encouraged the participation of

regions in the general functions of civil protection and devolved to the region, the task of predisposition and the execution of regional programmes of prevision and prevention. Finally, civil protection has been included in the list of concurrent attributions of the regions as a part of the enlargement of regional competencies decided by the constitutional reform no.3 of 18 October 2001, thus providing a firm constitutional basis to the role of the regions in this matter.

Another important local figure is the prefect (*prefetto*). Its duty is still the predisposition and the implementation of the plan for the emergency, founded also on the provincial plan of prediction and prevention. Heir of a long tradition, the prefect is charged with the immediate activation of the emergency plan in the whole of the province and directs initial rescue operations, coordinating his action with the mayors and overseeing the actions of other entities.

At a higher level, Regions were charged by the statute of 1992 to provide to the predisposition and implementation of regional programmes of prevision and prevention, in harmony with the central programmes, and more generally must participate in the organization and application of all the components of civil protection activities. Some of the regions with special autonomy (*Regioni a Statuto speciale*) have direct competence of some civil protection tasks: the provinces of Alto Adige/South Tyrol and Trentino, that combined to form the Trentino-Alto Adige/Süd Tirol region, are responsible for the fire service, Friuli Venezia Giulia for the same matter and for prevention and rescue for natural disasters. The other regions were inserted into the system of civil protection by the Legislative Decree no. 112 of 31 March 1998 (known as the Bassanini reform). This administrative delegation of authority, in the phase of the so-called “administrative federalism”, added many more tasks with functions of civil protection, among them, the articulation of the seismic zones and the programmes of prevision and prevention. Successively, by the constitutional reform introduced by the 2001 statute, civil protection was divided between State and the regions (*competenza concorrente*) by the new text of art. 117 of the constitution, and this reinforced the powers of the regions, admitting the legislative competence of all the regions in the matter, besides the administrative competence already fixed by the statute of 1992 and the Bassanini reform. Recently, annual ordinances of the Department of Civil Protection provided €1 billion in seven years (2009-2016) for prevention works in the regions, to be tendered among municipalities identified by the same regions from microzonation plans, which finally appear as a legal element of civil protection and recognize a new task for the municipalities<sup>16</sup>.

So, one could say that there are two lines of intervention in civil protection at local level, though not lacking in some overlapping between them. One line – programming and planning – runs from the region to the province, while the other line — the practical execution of emergency operations — runs from the prefect to the municipality. At the top, the power of the Prime Minister and his delegates at the political level, and the tasks of the Department of Civil Protection on the administrative and technical level, represent the link of both lines of the activities and superintend the whole system.

## 5.2. Command and control in situ. The “*commissario*”

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<sup>16</sup> A partially different situation concerns two regions with special status, the Trentino-Alto Adige/Südtirol and the Friuli Venezia Giulia. In the first one, each of two autonomous provinces in which it is articulated has power over works of prevention and first help for public calamities and the region, over fire brigades; the second one has power over the same matters



It is argued that only a special official can be given the role of being in charge of civil protection activities in situ. A practice much older than the present epoch adopted the extraordinary figure of a commissary (*commissario*), which may be compared to the “incident commander” of the North American experience as described in Emergency Response, 1993. A *commissario* (*vicario generale*) was appointed in the person of a duke of the affected territory for managing the emergence due to the Sicily earthquake of 1693. Under the precise instructions of the Viceroy himself, he acted with great rapidity in responding to the emergency and he checked the reconstruction which was decided in each case by the great feudatories and which resulted in the splendid baroque edifices we still admire (Dufour, 1985). Goethe in his *Viaggio in Italia*, relates with subtle irony his meetings in Messina with the *commissario*, an English subject, for the Calabria and Messina emergency of 1783. In the 1908 Strait earthquake a military official lead the operations; the emotion of the entire nation was very intense, there was a meaningful solidarity by foreign states, but also a hard repression, under a “state of siege”.

Contemporary experience of this regime is very frequent, as it seemed to be prescribed by Act no. 996 of 1970 and authorized (but practically always used) only by the statute of 1992. In the first important occasions of the Republican era (Friuli 1976, Irpinia 1980), the *commissario* was Zamberletti, and his experience was successful. In more recent occasions, the democratic character of the government suggested the choice of the president of the region, frequently assisted by some vice-commissary such as the president of the province. (Thus it has been in most earthquakes; in the quakes of 2016 the past president of another region who had had previous experience in an event in his original region, was appointed). Sometimes an official of the Department of Civil Protection or its head himself is appointed (Bertolaso, in the case of L’Aquila and the Campania refuse emergency), causing a confusion of power that deserves clear criticism.

To summarize the hierarchy of the civil protection organization, one starts at the top with the cabinet, the Prime Minister (or his delegate); all the implicated ministers (Ministers of the Interior, Infrastructures, Cultural Heritage, National Health etc). In direct line from the Prime Minister, the Civil Protection Department, assisted by the National Council of Civil Protection (suppressed by decree no. 300 of 1999), the National Committee for Prevision and Prevention of major risks, the operative committee of civil protection (Act no. 225 of 1992); then the extraordinary commissary, the regions, the provinces, the prefects, the municipalities, the fire brigades, and the volunteer organizations.

## 6. Society and culture in the civil protection action and in the reconstruction

As already stated, calamities are not a mere technical facts, but also a social one (Solbiati and Marcellini, 1983; Crespellani 2012, 2016). Of course, they involve directly the whole society and individual citizens, not only the institutions. Even if it is improbable that they can provoke, in the world of today, the demise of a whole society, as occurred in ancient times to the Minoic civilization and probably contributed to fundamental events such as the fall of Troy and of the walls of Jericho, as recalled by Solbiati and Marcellini (1983, p. 103). Such events change, and not just provisionally but often permanently, the life of the entire community of the disaster location. They tend to remove people, and especially young people, from their traditional surroundings and ways of life, to destroy ancient artefacts, to ruin artistic monuments and entire environments with their historic and landscape value.

Nevertheless, it can be observed that society in general, including the communities directly hit, feel a strong sense of trauma at the time of a calamity, especially when it has the

dimension of a catastrophe, but in the long term people tend to repress and to forget them.<sup>17</sup> It is easy to consider calamities as extraordinary events even in the zones exposed to particular risks and not to think they can actually occur. The effects of memory erasure are perverse, because it hinders the prevention, not only in planning and in the construction of buildings and infrastructures, but also in the more simple behaviour of the single citizens. In fact, there are some measures of prevention that all the inhabitants of the risk zones can adopt: for instance, certain expedients in the position of furniture and some preparations for future events, such as keeping a supply of water, torches and precious objects in case of an emergency.

As the community is involved in the consequences of the calamities even more than the life of the single citizens and the tasks of the institutions, participation of the population is necessary in the principal decisions for reconstruction. One must underline that this means not just the participation of local authorities in the decisions of the regional and central powers (which is surely important) but the presence of the citizens themselves in the process.

Owing to the overlapping of rescue, recovery and reconstruction, this problem must be accounted for in the spirit of the institutions from the initial interventions. Many of the mentioned characteristics, that are surely present all over the world, are valued more in Italy than in other countries, due to its long, complex and rich cultural history. So, Italy cannot accept a model, adaptable to other countries, which is founded on the *substitution* of the centers destroyed or altered by the calamity (De Marco, 2017; Crespellani 2012 c), though of course the substitution of some elements of the habitat may be desirable for technical reasons. Unfortunately, the substitution model was adopted after the Belice quake and in the valley of L'Aquila, but one understands why. After the Friuli earthquake, the population claimed a reconstruction "where it was, as it was" and the same claim has been made in the recent earthquake of central Italy. Of course the sharpest criticism against the substitution model, as the 2016-17 event of central Italy showed, concerns the artistic monuments and the historic centres that are now some of the most notorious objects of preoccupation (De Marco 2011; Crespellani 2011a) even if not necessarily endowed with exceptional value and celebrity. The need for the participation of the population has often been claimed, but it was rarely adopted and how to achieve it has not been fully investigated and experimented.

Another form of participation by the people frequently arriving in large numbers from other parts of the country and above all those associated with organisations that are specialized and trained in prevision, prevention and, above all, emergency help, has always been recognized and encouraged by law and at present by the fundamental statute. Of course, they are subject to the coordination and limits posed by the authorities, *inter alia* by extraordinary ordinances which determine the forms and modalities of their participation. The participation of people, organizations and public institutions coming from abroad also occurs as witnessed in the famous the case of the 1966 Florence flood.

### 7. *The relationship to science. The L'Aquila case*

Another important point is the role of science: many branches of science: seismic science, engineering (geology, structural engineering, geotechnique), hydro-geologic sciences, meteorology, and others). After Lisbon 1755 the 19th and 20th century developments in scientific knowledge occupy a significant role in the fight against catastrophes. Of course science and scientists are independent, but generally they feel their responsibility on this

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<sup>17</sup> The memory erasure has been rightly classified by Nimis (2009), 9 ff, in collective, individual, institutional.

dramatic front and know they can collaborate in alleviating disasters by research. So, they are generally disposed to collaborate with public institutions and, above all, with the civic protection organizations. As for the civic protection organizations themselves, they are conscious of the need for that collaboration. Sometimes, and particularly in the Bertolaso epoch and on the eve of the L'Aquila earthquake, this autonomy of science was put aside by a large part of the scientific community, as the Eucentre, financed directly by the Department of Civil Protection, was created at the University of Pavia, giving origin to "an inextricable intertwining between power and the world of knowledge" (Crespellani, 2011 a and b) that found its summit in the construction in L'Aquila valley of the so called C.A.S.E., planned and realized by Eucentre.

Since the 1970s, there has been much research activity in seismic issues. Founded on a broad collaboration and coordination of research projects by academics of the different universities and other experts within the National Research Council (a public organ), the Finalised Project of Geodynamics, was created. It was led by professors Franco Barberi and Giuseppe Grandori (respectively a distinguished geologist and a structural engineer) and represented a significant advancement in that field. The same professors, at the time of the Irpinia earthquake proposed the institution inside the same Council, of the National Group for Defence against Earthquakes (GNDT) (see Grandori- Barberi, 1980), which followed, with a public authority and great success, the same lines of research inaugurated by the Finalised Project of Geodynamics. These two sets of studies equipped Italy with a very advanced body of knowledge on seismic geology and seismic engineering, closely linked to the advanced milieu of the international scientific world.

On the other hand, the fundamental statute of 1992 establishes a National Committee for Prevision and Prevention of Major Risks as a consulting body — which ought to be scientifically independent — at the service of the civil protection, composed of experts on the different kinds of risk, in order to supply instructions and fulfil requests for studies and research to be conducted on the evaluation of the risks and the interventions necessary in each field (in strict contact with the GNDT).

But this same body was the protagonist of what might be called the most outrageous event in the activity of the civil protection in the 2009 L'Aquila earthquake. After many shakes that followed one another for four months and other indications of risk that alarmed the population and provoked some of the citizens to adopt forms of self-protection, on 31 March (that is to say six days before the terrible event that destroyed the town and produced 309 casualties) the National Committee met in L'Aquila, in an incomplete complement of members but including other experts. The meeting was very brief and was not accompanied by a visit to survey the cracks which had opened in many buildings in the town, nor did it include a historic examination of the previous seismic events that had hit L'Aquila two centuries earlier and having the same series of quakes as the current one. The experts, stating the truism that "earthquakes cannot be predicted" and obeying an instruction issued by telephone by the head of the civil protection, Bertolaso, who was absent, concluded that there was no reason to fear a big quake and dared publicly to inform the population of their conclusion, encouraging it to remain calm. The thesis, excessive in principle, was refuted by Grandori and Guagenti (2010) respectively the famous engineer and an authoritative mathematician, who demonstrated that the presence of several factors that proved the probability of the event.

Afterwards, the behaviour of the Committee was the object of a criminal proceeding, in the third degree established by Italian law. In the first degree, the L'Aquila tribunal condemned the 7 members of the body to six years of prison, finding them guilty of incompetence, imprudence and failing in due diligence. This verdict shocked many scientists, as well of

journalists, opinion-makers, politicians, all over the world, who promoted a collective protest of experts (as a matter of fact many of them were not true experts, but simple citizens), maintaining the widespread conviction that “Science cannot be processed”. Later, the Court of Appeal of L’Aquila and the Supreme Court (*Corte di Cassazione*) acquitted the accused, except for one, confirming the restraint of the judges in the face of scientists, even in so clear a case. Another verdict acquitted Bertolaso for his unlawful instruction.

#### 8. Some principles for reconstruction

As already stated, reconstruction is *not* a task of civil protection but, as the different activities of the post-disaster period are interdependent, some principles about it are an inevitable part of the problems of civil protection.

But here also, especially but not uniquely in the seismic issue, the statutes omit to indicate the most common and important directives and criteria that it should be the task of legislation to specify. So it is left to culture and to practice, reflecting the particular conditions of our country, but very often provoking their unfulfilment, encouraged by the comprehensible popular hurry to reshape their conditions of life and by frequently improper economic interests. The most important principles that reflection and practice have indicated are the following.

As a first principle, because of the overlapping in time and space between the different periods of civil protection and reconstruction, this connection must be observed; in time, because whoever acts in the recovery, and even at the moment of emergency, must consider the effects on the reconstruction, and in space, because recovery and reconstruction have to follow the same indications of seismic analysis.

Another principle, deriving from the simple fact of the social character of a disaster event, is that not only the action of local powers —which is commonly recognized and frequently practised in the safe practical cases — but also the whole population, the residents and all the people who have an interest in the reconstruction, *must* be among the participants of reconstruction. They have a precise right to express their word and although theirs is not necessarily the final word, it must be seriously considered by the authorities and if possible put into practice. This happened in Friuli and the principles the population expressed as a guide to reconstruction were right — “reconstruct our towns where they were and as they were” and “first the factories, then the homes, and then the churches”. Obviously, as every extremism has its defects, Nimis 2009 (p. 16 ff.) while warmly adhering to the “Friuli model”, points to certain risks of this as the unique criterion, such as the adaption of the reconstruction to the structures of the peripheries already spoilt by previous chaotic development. But in general, one must recognize the safe choices of the people about where and how to reconstruct and to live and not to lose the relationships and the connections to persons and places that they are accustomed to. A similar attitude was present in Umbria after the 1997 seism.

After such a violent destruction of the often very comfortable and beautiful environment of vast zones of Italian country, hills and mountains, as occurred in Belice and Irpinia, compared to the respectful characteristics of the reconstruction in much of Friuli, and above all in Umbria and Marche, the growth of sensitivity about the more recent earthquakes is important. It must be positively appreciated that, after the tragedy of L’Aquila, the special statute on the last earthquake of Central Italy prescribes that “hearing and consultation” (art. 2.3), “vast involvement of population” (art 11.1) and “public consultations, forms of public debate and of public inquiry” (art. 16.2), must be observed by the *commissario* in the analysis of the potential of the territories and of their production. Similar are the

prescriptions to be observed by the “regional special offices for reconstruction” in the planning of the reconstruction of the centers and of the nuclei of particular interest, and by the “permanent conference “for reconstruction in its obligatory advice on the planning instruments, on the projects of public works and on environmental infrastructures and on restoration of cultural heritage sites. More generally, one aspect of the right of people to express their will is the strong *resilience* that they generally show in resisting the temptation to leave such unrewarding soils.

A related principle is that which imposes the tenacious will of all the actors of these tragedies to save *the special identity* of the territory involved, in such a varied and personal character of the different parts of the Peninsula.

A fourth principle suggests that, in the planning related to reconstruction, the reconstruction has to incorporate the results of microzoning referring to the different areas of municipal territory. Delocalization may be necessary, but results of seismic analysis and the will of the population must converge as much as possible. More generally, there is a relationship between town and country planning and reconstruction or construction of a human settlement and of landscape treatment.

A fifth but more uncertain principle concerns the possibility of economic development. In every post-event economic development is the legitimate and possible wish of people — but what kind of development? The horrible modern development of Belice and Irpinia, the abandonment of the ancient way of life, which changed the identity of urban and country scenery, inevitably changing the relationship between people? Or development following a continuity even if within the limits of a “*possible reconstruction*”, practised in Venzone and, with differences, in Gemona (Friuli), reactivating, more than the architecture, the complexity of the ancient contexts, combining “concreteness and abstraction”?

#### *9. Finance, the possibility of corruption, the issue of efficiency*

Obviously, the financial burden of calamities is very high<sup>18</sup> and due to exceptional events, which is why the Italian government insisted, and the European Union seems favourable to grant, that the expenses for calamities are subtracted from the calculation of the allowed budgetary deficit, as both the Fiscal Compact and article 81 of the the new Italian constitution make it possible.

If some costs devolve to the private persons and to enterprises, the principle of solidarity, — and all the more in a state that considers it as a fundamental constitutional principle — is in great part an engagement for public finance. In a time of economic crisis the costs are especially heavy, but all the same inevitable. Generally, they are specified by the special statutes for each calamity, and allocated according to the characteristics of the necessities of each disaster.

The following are the most recurrent costs: expenses for emergency response, subsidies for poor and handicapped persons, contributions for repairing, restoration and (if necessary) reconstruction of private houses and other buildings (which may take up different models), expenses for restoration of public facilities (transport, electric, telephonic and water networks, public offices, schools, etc.), contributions for enterprises, expenses for rescue and restoration of cultural objects. A different kind of expense concerns planning for

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18 Calculated as €6 billion for Belice, €13 billion for Friuli, €50 billion in Irpinia, €5 billion for Umbria-Marche, according to Nimis 2009 (and perhaps these are not the complete list). However, as Hillman (2005, 89) writes, “ugliness costs more”.

reconstruction and prevention, including amelioration and adjustment of constructions for the future.

The financial burden for the expenses — except those for the emergency response, that in the case of national emergencies are drawn from the National Fund for Civil Protection (for the ordinary expenses for its functioning), on the Fund for National Emergencies (for financing the major calamities) which both exist in the Office of the Prime Minister (Department of Civil Protection), and on the Regional Fund for Civil Protection — are attributed to the different ministries, the regions, the provinces and the municipalities. But, as they are exceptional, they require exceptional credits that are generally procured by increments of existent taxes (for instance, the taxes on fuels). Other sums, sometimes very considerable, come from the solidarity, national and also international, of simple citizens. In general, for each event a special fund is constituted in the budget of the Ministry of the Economy and Finance, expressly dedicated to the specific calamity.

The civil protection service can receive some financial help from the European Union Solidarity Fund, a fund created in 2002 and updated in 2014 by regulations of the European Parliament and the Council. This aid is complementary to the effort of the states and is confined as a matter of principle to major disasters, that is to say disasters resulting in a direct damage estimated at either over €3 billion or more than 0,6% of the state's GNI. It has the aim of restoring the working order of infrastructure to conditions prior to the occurrence of a natural disaster (but with restrictions that forbid a massive appeal to this fund for general prevention, except for securing the cultural heritage) and normally to help states to meet rescue services and temporary accommodation for people and to restore disaster-stricken areas to the status *quo ante*. Between 2002 and 2014 this aid benefitted 24 member states, and among them Italy, with the most numerous cases, for floods, earthquakes and eruptions to the extent of about €1.300 billion.

Arising from the nature of the financial engagement, and also from the inevitable hurry to act in emergency, recovery and reconstruction, there are many problems in the management of the event. Surely, as in every country — but in particular in a country like Italy, unfortunately ravaged by criminal organizations like mafias — it is necessary that close attention is given to the necessity of a continuous surveillance on the infiltration of corrupt organizations into the vast funds made available for the different stages of confronting disasters. Cases like, Belice, Irpinia and L'Aquila have been splendid occasions for corruption. So it is necessary that many serious expedients are carried out to avoid a repetition of what occurred in those circumstances. It is inevitable that some quick procedures, departing from ordinary rules of public procurement, have to be used. Statutes, executive decrees and ordinances provide in this case. So the role of the National Agency against Corruption (ANAC), which has the specific mission of surveillance over public procurement, is all the more important in this context. And, more simply, it is also necessary that institutions, at all levels, do not waste and do not consent that operators waste money in the various works necessary for emergency, recovery and reconstruction.

The duty to combat this eventual “second disaster” is committed firstly to government and secondarily to judges. In the first place the recent establishment of the ANAC is a guarantee of meaningful resistance. If criminal behaviour on the part of private persons or of members of public institutions emerges, the courts are the inevitable frontline.

A more general problem is that in disaster times the efficiency of the all bodies that integrate the administration has a particularly strong challenge. In these circumstances the generally scarce efficiency of Italian administration has to be overcome by an effort to act rapidly and promptly in the accomplishment of their tasks. It ought to be said that, at least in

some cases (Friuli, Umbria, Marche, Emilia), this happy circumstance was possible. Nevertheless, in other cases people and local institutions complain about the slowness of procedures and remedies. It seems inevitable that generally a decade is necessary to reach the end of reconstruction (and there are cases in which this time has been observed), while it is clear that early operations of emergency and recovery have to be much more rapid. Anyhow, we are entitled to invoke the maximum speed to alleviate the pain that every calamity creates.

#### *10. Conclusion: a desirable development of a reform.*

Finally, the state of the civil protection question suggests restricting the habit of regulating each new catastrophe by special statute and that a new fundamental statute must be approved as a tool for renewing the rules in force today. The 1992 statute, though modified by the 2012 and 2013 Acts, needs to be rewritten after twenty-five years of experiences, sometimes positive but sometimes unhappy and taking account of relevant progress in science, technology and organization issues. There will always some need for special statutes for new events, but the general model is sufficiently tested to be formulated in acts of parliament.

As we said, the present rules reveal some important gaps and inadequacies. For instance, it is not in doubt, in the light of so many happy and unhappy experiences that legislative acts have to indicate the principal criteria for the different stages of anti-seismic actions and particularly for preparedness on the one hand and recovery and reconstruction on the other. Instructions have to be addressed in principle to people, to professionals, to economic operators and to local governments, that fulfill the necessary task of handing over to future generations not only a safer, not only an economically more efficient environment for producers and workers, but also, to a people whose history has been until now so rich in culture and beauty, a country worthy of its past.

The perception of this need seems to be fundamentally shared by Executive and parliament; so the statute n. 30 of 16 March 2017 delegates the Executive, within certain principles and criteria prescribed by the same Act, to regulate the matter. This statute confirms many points in the present rules and introduces others more detailed though not complete. It now remains for the Executive, possibly after an audition process of experts, to redact and approve within nine months the legislative decree that one hopes will be efficient and appropriate.

Similarly, very recently a decree of the Minister of Infrastructures containing a revision of the technical standards for constructions has been approved in agreement with the Conference of Regions and Local Government. It will be in continuity with the rules now in force, though it has to include important new elements especially for seismic regulations and for existing buildings. A “seismic bonus” (*sisma bonus*) for prevention policies is promised by the same agreement, in order to favour not only the surety but also the increase of public works, of infrastructures and buildings.

But it may be lamented that in the above-mentioned statute of delegation some problems do not appear to be clearly resolved, for instance those concerning the principles of prevention and those of reconstruction discussed in previous sections. This gap may certainly be filled by an attentive elaboration of the future legislative decree. So one would fervently hope that the norms of the decree promote not only the qualities of safety and utility, but also of beauty whose reasons have been presented above.

A more marked criticism may be formulated against the spirit which seems to permeate some trends expressed by conferences recently held in northern Italy, organized by

professional associations and by an important region and sponsored by the Ministry of Infrastructures itself. It seems that, *inter alia* by extending the “sisma bonus” to the zones of the lesser seismic category, this kind of financial government intervention, originally conceived for the retrofitting and the reinforcement of buildings and linked to the recovery of the areas most at risk, is dissipated to the benefit of the construction industry in general and especially to the more active initiatives of some less hazardous and less vulnerable zones. If this trend were to be consolidated, the true objective of the prevention of seismic damage in Italy would be frustrated at the risk of the more exposed regions of that unhappy country.

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\* Professor (from 1972 to 2009) of Constitutional Law and Administrative Law at the Universities of Cagliari and Firenze



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