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SHARED RESPONSIBILITIES AND DISASTER PREPAREDNESS

Abstract

This article focuses on some «disaster ethics» considerations on disaster preparedness and its related responsibilities. After recalling that concerns about preparedness and vulnerability have come to the fore in the domains of «disaster risk reduction» over the last decades, the article will endorse the view that the demarcation between natural disasters and human-induced disasters has becoming blurred and even questionable in many cases. Then, it will be argued that the ethical assessment of disasters needs to consider the entire disaster cycle and that ethical duties extend to the phase of disaster preparedness and require a framework of prospective and shared responsibilities. Accordingly, a number of ethical duties concerning disaster preparedness will be commented upon. Finally, the article will discuss a specific socio-epistemic dynamics of blame assignment that unbalances the appraisal of both vulnerability conditions and moral responsibilities of certain worst-off disaster victims.

Keywords: Disaster ethics, Duties, Preparedness, Responsibility, Vulnerability.

Responsabilidades partilhadas e a preparação para desastres
Resumo

Este artigo centra-se em algumas considerações da «ética dos desastres» a propósito da preparação face a desastres e respectivas responsabilidades. Após se recordar que as preocupações a respeito da preparação e vulnerabilidade têm nas últimas décadas vindo ao de cima no domínio da «redução do risco de desastre», o artigo advoga a perspectiva de que a demarcação entre desastres naturais e desastres com origem humana tornou-se turva e, em muitos casos, até questionável. Argumentar-se-á que a avaliação ética dos desastres tem de considerar todo o ciclo de desastres e que os deveres éticos se estendem à fase de preparação face a desastres, exigindo um enquadramento prospectivo e responsabilidades compartilhadas. Serão comentados, neste âmbito, alguns deveres éticos a propósito da preparação face a desastres. Por último, o artigo discutirá uma dinâmica sócio-epistémica de atribuição de culpa que desequilibra a consideração das condições de vulnerabilidade e das responsabilidades morais das vítimas mais desfavorecidas resultantes de certos desastres.

Palavras-chave: Ética dos Desastres, Deveres, Preparação, Responsabilidade, Vulnerabilidade.

Introduction

This article will address the assessment of disasters preparedness from the point of view of disaster ethics. This perspective takes into account the shift in «disaster risk reduction» towards issues of vulnerability and preparedness over the last few decades. An overview of this turn is offered in the first section. In the third, central section, it will be argued that in the ethical evaluation of disasters we need to consider the whole process of the disaster management cycle, as well as the corresponding victim protection cycle, and that a series of individual and collective duties can be mapped on this comprehensive perspective. These are therefore not restricted to the immediate rescue and aid phase nor to the subsequent recovery stage, but also extend to the previous phases of disaster prevention, anticipation, and mitigation. Consequently, some ethical duties related to disaster preparedness will be examined and understood as derivative and positive duties requiring a framework of prospective, shared and institutionally mediated responsibilities. Before and after commenting upon these duties, two moral arguments will be deployed in separate sections, one to support the questioning of a sharp demarcation between natural and anthropogenic disasters (second section), and the other to dissolve an alleged paradox concerning some epistemic preconditions of solidarity for the assessment of vulnerability and moral responsibility of certain worst-off victims of disasters (fourth section).

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1. A shift in framing disasters

For a long time, the dominant approach to dealing with disasters was focused on reacting to what was considered unpredictable and unavoidable events. Exceptionalism and intractability were typically qualities of so-called natural disasters such as earthquakes, tsunamis, hurricanes, floods, droughts, wildfires and so on. Over the last four decades, however, the center of gravity has shifted worldwide toward a primarily preventive and proactive approach. In the realm of disaster management, foreseeable disaster scenarios are accordingly addressed in advance. Likewise, planning and coordination tasks implying material and human resources feature prominently, such as realistic emergency plans to activate response procedures should disasters materialize. Of course, the reactive approach still predominates in numerous responses to disasters around the world, and relapse into inadequate preparedness is frequent even in geographical areas prone to certain types of natural hazards. Moreover, interests and concerns on post-disaster works remain paramount among stakeholders of disaster management, and it is not coincidence that disaster research is dominated by post-disaster studies[2]. However, rather than being restricted to responses to immediate impacts and to reconstruction and recovery efforts, studies and actions are increasingly concentrating on the preventive aspects of *disaster risk reduction*, with social vulnerability and community resilience coming to the front.

In this regard, a generalized trend cutting across a number of scientific and technological disciplines that converge in disaster risk reduction can be observed at the national, European, and international levels. If we look at the normative production, it is clearly reflected in the regulatory activity of the European Union over the last decades[3] and in the work of regional and international bodies monitoring human rights in the field of disaster management[4]. The proactive approach has been backed and articulated at the highest level by the *Sendai Framework for Disaster Risk Reduction 2015-2030*, the international non-binding policy on disaster risk reduction that continues the path of the *Hyogo Framework for Action 2005-2015* and the 1994 *Yokohama Strategy and Plan of Action for a Safer World*[5]. According to the 2021 United Nations report on the Sustainable Development Goals, since the Sendai Framework was adopted, there has been a significant increase in the number of countries and territories that have developed and adopted national or

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[2] J.C. Gaillard – C. Gomez, «Post-disaster research: Is there gold worth the rush?», *Jàmbá: Journal of Disaster Risk Studies*, 7:1 (2015), Art. #120, 6 pages. http:// dx.doi.org/10.4102/jamba. v7i1.120.

[3] See for instance C.M. Romero, «Foreword», in O'Mathúna, D.P. – I. de Miguel Beriain (eds.), *Ethics and law for chemical, biological, radiological, nuclear & explosive crisis*, Springer, Cham 2019, 1-5.

[4] M. Aronsson-Storrier – K. Da Costa, «Regulating disasters? The role of international law in disaster prevention and management», *Disaster Prevention and Management*, 26:5 (2017) 502-513; E. Sommario – S. Venier, «Human rights law and disaster risk reduction», *QIL, Zoom-in,* 49 (2018) 29-47.

[5] UNISDR, *Sendai Framework for Disaster Risk Reduction 2015–2030*, UNISDR, Geneve 2015.

local risk reduction and management strategies[6]. The worldwide trend to address disaster preparedness through the development of emergency plans and preventive measures reflects the widespread awareness that disasters are occurring and recurring phenomena and that they will increase in number, frequency, intensity, and severity in the coming decades[7]. It goes without saying that this generalized shift in framing disasters is not unrelated to the growing acknowledgment that the effects of climate change will have irreversible impacts on increasingly vulnerable communities.

Certainly, the policy relevance of preparedness in the current international agendas and regulations could be examined from other genealogical narratives[8]. In any case, these agendas and regulations prioritize the practices and principles of disaster risk reduction in view of the implementation of public policies and tend to take for granted the ethical considerations that should guide the professional interventions. So, to make explicit some moral duties regarding disaster preparedness, it is preferable to resort to the perspective of *disaster ethics*[9]. Before identifying some of these duties, I will consider a moral argument that endorses what seems to be a majority view that challenges the demarcation between natural and man-made disasters.

2. Human-natural entanglement

The traditional distinction between natural disasters and technological or anthropogenic disasters is not as clear-cut today as it was in the past[10]. The

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[6] UNESC, *Progress towards the Sustainable Development Goals*. E/2021/58. United Nations, New York 2021, p. 20. Retrieved from https://undocs.org/es/E/2021/58.

[7] Among the daily monitoring observatories with open access, see Global Disaster Alert and Coordination System (GDACS, United Nations and the European Commission - https://www.gdacs.org/) and ReliefWeb (United Nations Office for the Coordination of Humanitarian Affairs (OCHA) - https://reliefweb.int/disasters).

[8] On one of these narratives that tracks the relevant changes back to US public policies at the beginning of the Cold War, see S.J. Collier – A. Lakoff, *The government of emergency. Vital systems, expertise, and the politics of security*, Princeton University Press, Princeton 2021.

[9] References in the literature on disaster ethics include D.P. O'Mathúna – B. Gordjin, M. Clarke (eds.), *Disaster bioethics. Normative issues when nothing is normal*, Springer, Dordrecht 2014; D.P. O'Mathúna – V. Dranseika – B. Gordijn (eds.), *Disasters. Core concepts and ethical theories*, Springer, Cham 2018; V.B. Satkoske – D.A. Kappel, M.A. DeVita, «Disaster ethics. Shifting priorities in an unstable and dangerous environment», *Critical Care Clinics*, 35:4 (2019) 717-725; J. Gil, «Saving lives by counting properly. Some notes on triage and disaster ethics», in Braga, J. – S. Guidi (ed.), *Quantifying bodies and health. Interdisciplinary approaches*, Instituto de Estudos Filosóficos, Coimbra, 2021 89-100.

[10] Among the landmark works that challenged the mainstream conception of natural disasters as exceptional events, with exclusively natural causes and segregated from the normal functioning of society and policy making, were P. O'Keefe – K. Westgate – B. Wisner, «Taking the naturalness out of natural disasters», *Nature*, 260 (1976) 566–567; K. Hewitt (ed.), *Interpretations of calamity. From the viewpoint of human ecology*, Allen & Unwin Boston 1983; and P. Blaikie – T. Cannon – I. Davis, B. Wisner, *At Risk. Natural hazards, people's vulnerability, and disasters*, Routledge, London 1994. For the Latin-American context, see A. Maskrey (ed.), *Los desastres no son naturales*, La Red, Lima 1993. Retrieved from https://www.desenredando.org/public/libros/1993/ldnsn/

distinguishing criterion hinges on the major causes of disasters, whether natural or man-made. Earthquakes can be said to be caused by shifting tectonic plates and plagues by biological pathogens, while the collapse of the twin towers in New York was the result of premeditated attacks and most train derailments are due to human error and technical failure. This general classification is further subdivided according to etiological descriptors. Thus, for example, according to the Centre for Research on the Epidemiology of Disasters, climatological, geophysical, hydrological, meteorological, biological, and extraterrestrial disasters are classified as natural disaster subgroups, while the industrial accidents, transport accidents and miscellaneous disasters, encompassing those due to wars and armed conflicts, are among the technological disasters[11]. It is common to abbreviate the set of chemical, biological, radiological, nuclear, and explosive disasters as CBRNE crises.

The distinction between natural and technological disasters makes it possible to assign duties to the parties involved on the basis of the causal traceability of the existential and socioeconomic impacts to which such destructive events give rise. Whether or not the root causes of disasters can be determined as being beyond human control is decisive when it comes to attributing responsibilities and deciding the extent to which reparations can be demanded from other actors, especially from the state. According to this, a natural disaster that escapes human control does not attract the involvement of the state and other organizations (e.g., with positive obligations to protect some victims from damage to private property or to indemnify them for such damage) in the same way as human-made hazardous activities and technologies, where liability is more likely to be found and established. This way of apportioning burdens of proof seems to be in line with certain psychological dispositions. People tend to think that a certain degree of unavoidable but unintended and non-human risk has to be accepted, even with resignation, but if the source of any risk was identifiable in the actions or omissions of human beings, whether it is acceptable or not is a matter that can be argued. Moreover, the assumption that human control over the causes and effects offers a criterion for justifying the distinction between duties and corresponding responsibilities is anchored in influential strands of the Western ethical tradition, such as the Kantian one[12]. As applied to disasters, it remains central in many judicial cultures and is supported by international human rights law[13].

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[11] Centre for Research on the Epidemiology of Disasters (EM-DAT, CRED / UCLouvain, Brussels, Belgium). See https://www.emdat.be/classification.

[12] This was a contentious issue in the path-breaking debate on moral luck between Bernard Williams and Thomas Nagel and featured as a key issue in the post-Rawlsian discussions on egalitarian justice. For Sven Hansson, the persistence of said assumption lies behind the inability of traditional moral theory to engage with issues of risk; see S.O. Hansson, *The ethics of risk*, Palgrave Macmillan, Basingstoke 2013.

[13] M. Hesselman, «Establishing a full 'cycle of protection' for disaster victims: Preparedness, response, and recovery according to regional and international Human Rights supervisory bodies», *Tilburg Law Review*, 18 (2013) 117-119.

However, most disasters involve both natural and human sources and nowadays damages resulting from natural hazards are often interwoven to technological interventions[14]. In fact, the demarcation between the two general types of disasters is becoming blurred and even controversial in those «natural» cases where the causal complexity does include decisive human factors and where the alleged bad luck resulting from the natural forces is not entirely unrelated to human control capacities, or to failures in these capacities. It is a widely held position that disasters are more a consequence of socio-economic than natural factors. As Ilan Kelman puts it, disaster risk combines hazard and vulnerability, and the causes of disasters are misidentified if they are seen as emerging from the hazard component, thus deviating from vulnerabilities, which are entirely societal processes; in other words, disasters are not natural because they are caused by vulnerabilities[15]. The normative implications of the indeterminacy and entanglement of the natural and the human aspects are not negligible in practice, particularly in view of disaster preparedness. Among other things, they could mean a whole reassignment of responsibilities and duties of prominent agents, such as states and large organizations, and reduce the gap with the responsibilities and duties attributed to clearly anthropogenic cases.

Another classification refers to the ontology of disasters according to their time scales and distinguishes between discrete events and long-range processes and thus between rapid or imminent disasters and slow-onset disasters. The insights provided by both social and natural scientists make it possible to adjust the time scales of historically occurring hazards, since even apparently disruptive and isolated natural phenomena often have their parameters of occurrence[16]. Some emerging disasters that are already looming over us and will affect generations to come will rarely follow a scripted pattern, but the conditions for the unfolding and incidence of many others, like the antibiotic resistance, are being created in advance[17]. Indeed, a powerful trend in disaster thinking sees all disasters as slowly evolving processes. Again, the normative implications are not minor and concern our sense of responsibility in disaster preparedness. They point likewise to the need to correct the prevailing social, political, and economic short-termism, which undermines the binding force of individual and collective obligations with regard to future disasters.

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[14] M. Coeckelbergh, «Vulnerability to natural hazards: Philosophical reflections on the social and cultural dimensions of natural disaster risk», in Gardoni, P. – M. Colleen – A. Rowell (eds.), *Risk analysis of natural hazards. Interdisciplinary challenges and integrated solutions*, Springer, Cham 2016, pp. 29–33.

[15] I. Kelman, *Disaster by choice: How our actions turn natural hazards into catastrophes*, Oxford University Press, Oxford 2020.

[16] Lucy Jones therefore argues that forward-looking planning can be projected even for some exceptional events. See her *The Big Ones: How natural disasters have shaped us*, Anchor Books, New York 2018.

[17] A.M. Viens – J. Littmann, «Is antimicrobial resistance a slowly emerging disaster?», *Public Health Ethics*, 8:3 (2015) 255-265.

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3. Duties in disaster preparedness

In the ethical evaluation of disasters - and even more so in public policy decision-making - it is necessary to consider the entire cycle of disaster management and the accompanying cycle of protection of victims and professionals. Relevant ethical obligations arise in each of the continuous, often overlapping phases of the disaster cycle. In response to disasters the immediate objective is to provide safety, food, shelter, clothing, and protection to the victims, to assess the damage and loss of property and infrastructure, and to proactively seek the means to restore a new normality. This brings to the fore, among others, the humanitarian imperative and duties of care and assistance, as well as morally guided triage systems. There are also specific duties in the recovery phase, including those concerning the rehabilitation of damaged communities, those calling for disaster research to benefit the affected communities, and those aimed at the reintegration and care of health and humanitarian professionals themselves. However, the obligations of efficient and fair treatment are not limited to the rescue and short-term relief and to the recovery phases. There are also duties to disaster preparedness whose performance or disregard greatly pre-decides the course of expectations and responses in those subsequent phases.

Disaster risk analysis and management are indispensable to minimize the impacts of future hazards, reduce the human losses and property damage that would otherwise likely cause, and alleviate the inevitable human and animal suffering they often entail. It is a complex undertaking, encompassing scientific and technological standpoints and the work of engineers, economists, planners, and so on. But it is also a *normatively complex* task. In the preparedness phase, there is a general duty to undertake effective planning to disaster anticipation. This duty can be broken down into more specific ethical obligations to create distinct plans to be enforced in a wide range of sectors, such as in the area of health care provision and in the humanitarian medicine[18]. Alongside the obligation to ensure good planning, a number of duties relating to anticipation and prevention call for assessments of the risks and vulnerability of communities and the adoption of measures to avoid or mitigate the potential adverse impacts of specific hazards. These are derivative, positive, largely collective, and institutionally mediated duties.

First, they are based on more basic duties, such as the duty to care and protect human life and the health and well-being of individuals and communities. In this respect, a parallel can be drawn between the duty to care by which health professionals, among others, are concerned for the health and well-being of patients,

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[18] B. Jennings – J.D. Arras – D.H. Barrett – B.A. Ellis, *Emergency ethics. Public health preparedness and response*, Oxford University Press, New York 2016; and K. Simm «Ethical decision-making in humanitarian medicine: How best to prepare?», *Disaster Medicine and Public Health Preparedness*, 15:4 (2021), 499-503.

and the duty to protect by which state and community leaders and officials, among others, are concerned for the health and well-being of citizens. These duties of care and protection are mutually implicated and reinforcing if articulated in preparedness for disasters and multi-casualty emergencies.

Importantly, the duties to plan, anticipate and prepare for potential threats to health and safety carry an epistemic dimension. They incorporate knowledge of the weaknesses and strengths of certain communities and depend on scientific information and technological interventions on disasters that may affect those communities. In addition, they are conditioned by incomplete data, limitations in forecasting and risk assessment capabilities, and levels of uncertainty that increase with temporal distance. Because of that, proactive disaster preparedness is doomed to remain an incomplete task. Even so, duties of preparedness entail to seek information granted by sound science and backed by relevant justifications, as well as to rely on national and international institutions and agencies that have proven to be reliable informants, while it is morally reprehensible not to heed such information and justifications or to retreat into culpably negligent ignorance.

Positive duties oblige their holders to take actions and pursue objectives for protecting from harm. The aforementioned duties are specified and organized through technical provisions and preventive measures aimed at reducing risks and minimizing the direct and indirect impacts of hazards on groups and communities. However, the question remains open as to whether our obligations towards those affected by disasters are, in each particular case, general duties or duties of justice. On the one hand, moral duties refer to preparedness for assistance in case of emergency or need. It is reasonable to hold that we owe duties of humanitarian assistance to those who suffer from disasters, but also to those who might be affected by a disaster in the future. On the other hand, in certain circumstances there are duties of fair distribution of resources as well as duties concerning access, inclusion and recognition of those affected by present and future disasters. These duties imply a substantial commitment to help and compensate those most needy and under-represented, a commitment that is of a denser and more prolonged temporal character than those concentrated on the emergency responses[19].

Finally, honoring the preparedness moral duties involves the existence of collective responsibilities during the preliminary phases of disaster cycles. While we may be individually obliged, the effective and fair practice of these duties hinges on shared responsibilities that can be institutionally mediated and enforced in cross-sectoral contexts. Importantly, the holders of those positive duties are not only the states, but also the professionals, the stakeholders, the organizations, and the rest of relevant agents of civil society who deploy the required cognitive and moral division of prospective labor. Together with the extension of the exercise of

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[19] A. Lukasiewicz – C. Baldwin (eds.), *Natural hazards and disaster justice*, Palgrave, Singapore 2020.

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shared responsibilities in civil society and in the political sphere, some appropriate institutional designs that function in a legitimate way might partly counteract the short-termism and shortsightedness that characterizes voters, parties, and electoral cycles in current democracies and that is highly detrimental to the creation and continuity over time of the necessary public policies[20].

Among the relevant duties in disaster anticipation and preparation are the duties to cooperate and to train. On the one hand, duties of cooperation and communication as part of disaster preparedness are to be understood as working for community development and resilience. In this vein, those who have to respond to emergencies and disasters are obliged to try to obtain and tune the necessary resources to save lives and protect common goods when a disaster strikes. This effort will be conditioned by existing communication channels and supportive relationships. It is therefore a collective ethical obligation to maintain and ensure communication and collaboration networks among the multiple agents and organizations that must be involved and coordinated in the response and relief operations, in order to keep ready the necessary human and material resources and put them at the complete disposal of the community.

On the other hand, health, humanitarian and civil protection professionals in disaster situations have a duty to train themselves adequately for the tasks they will assume. Some ethical training should be part of disaster preparedness for reasons of efficiency and integrity. It is expected that knowledge of their obligations to victims, their professional duties and their obligations to institutions will result in the responsible exercise of their professional practice. In addition, because they should be aware of what usually happens and can be expected in disasters situations, they must be prepared mentally and emotionally and be able to anticipate the kinds of ethical expectations that may conflict and the difficult - or even tragic - challenges and decisions they may face in the dramatic circumstances of disasters. Good training can help them to protect their psychological and emotional stability and to cope with personal crises and moral distress in both the relief and recovery phases.

It has been argued that compliance with preparation duties is also beneficial for both professional and economic reasons, which adds an instrumental justification for such duties. First, one argument holds that it is preferable to have an ethical framework and tools for disaster preparedness in advance so that professionals can be empowered when resources are scarce, or their mental faculties are compromised[21]. Unlike duties that are activated under pressure and in the heat of the moment, in reaction to recent or imminent disasters, duties to proactively plan and promote

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[20] T. Mulligan – K. Taylor, R. DeLeo, «Politics and policies for managing natural hazards», *Oxford Research Encyclopedia of Natural Hazard Science*, 2019. Retrieved 29 Nov. 2022 from https://oxfordre.com/naturalhazardscience/view/10.1093/acrefore/9780199389407.001.0001/acrefore-9780199389407-e-314.

[21] C. Ryus – J. Baruch, «The duty of mind: Ethical capacity in a time of crisis», *Disaster Medicine and Public Health Preparedness*, 12:5 (2018) 657-662.

coherent and reasonable measures are thought in periods of normality and with time to evaluate sequences and consequences. As a result, proactive measures, especially if they provide legal certainty, can ease the burden on professionals who are forced to intervene under conditions of stress and exhaustion, to make problematic decisions or to introduce technical adjustments or moral initiatives on the fly.

Finally, a consequentialist argument in public health argues that when preventive measures are economically effective, they should be given priority in the actions of managers and decision-makers. And, in parallel with this, several case studies show that there is strong evidence in favor of the economic effectiveness of disaster risk reduction management and that, on the other hand, certain inadequate preparations for disasters have been remarkably inefficient in the long run as they have resulted in disproportionate cost overruns over the years compared to the estimated costs of good preparedness[22].

4. A socio-epistemological paradox?

We said that preparedness has acquired a normative centrality coinciding with the shift in disaster management practices and strategies towards social vulnerability and community resilience. One reason for this normative traction is that preparedness accommodates a two-track perspective - retrospective and prospective - and allows responsibilities to be assigned both in view of what has happened and with a view to what might happen[23].

Retrospective evaluation seeks to find out past events and courses of actions, understand the whys and wherefores, and learn from the experiences of those involved (decision-makers, officials, experts, stakeholders, and victims). It assesses what went wrong and could have exacerbated the damage, what did work and could have minimized the negative effects and, finally, what needs to be corrected in order to avoid or reduce loss and damage in the future[24]. In addition to contributing in this way to the generation of resilience, it highlights who should be held responsible and why. «Retrospective responsibility» implies here the answerability of the parties involved and sometimes gives rise to liability to sanctions. Usually, accountability and retroactive burden-sharing can be clarified by reconstructing the causal history

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[22] A. Healy – N. Malhotra, «Myopic voters and natural disaster policy», *American Political Science Review*, 103 (2009) 387-406.

[23] V. Dranseika, «Moral responsibility for natural disasters», *Human Affairs*, 26 (2016) 73–79. M. Smiley, «Collective responsibility», in Zalta, E.N. (ed.), *The Stanford Encyclopedia of Philosophy* (Summer 2017 Edition), retrieved from https://plato.stanford.edu/archives/sum2017/entries/collective-responsibility/. J. Nihlén Fahlquist, *Moral responsibility and risk in society*, Routledge, London 2019.

[24] M. Crossweller – P. Tschakert, «Disaster management and the need for a reinstated social contract of shared responsibility», *International Journal of Disaster Risk Reduction*, 63 (2021) 102440.

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of the agents and professionals who had or should have had some control over the situations that occurred, in relation to the measures that should have been taken to avoid the disaster or mitigate its effects and in relation to the precautions that were omitted (e.g., early warning systems that were not activated or routinely checked, culpable negligence of officials and politicians who did not take timely preventive measures, and so on).

As if triggered by a sort of institutionalized availability bias, preparedness and planning are often restarted and implemented after the disaster has occurred and well in advance of possible future onslaughts. They should focus on risk analysis and be tailored to the resources and vulnerabilities of the affected communities. It is not the traceability of human causation that counts most here, as when it comes to assigning liability and justifying moral contestation for actions and omissions. A more defining aspect of «prospective responsibilities» is the expectation that certain suitably trained or authorized agents will contribute effectively to procure a state of affairs to which the community aspires, such as avoiding, remedying or mitigating losses and damages to come. What is relevant, in other words, is the contribution of a plurality of agents to the generation of social and institutional resilience and the operability of a moral and professional division of labour. In this respect, public health systems and professionals are indispensable in any fair and effective disaster preparedness, not because they have privileged experience in planning management tasks, but because, whatever the disaster in question, they will assume major prospective responsibilities in order to protect and maintain the health of the population and to save and care for potential victims.

On the basis of the distinction between retrospective and prospective responsibility, I will discuss an apparent paradox of ample epistemic contours and political implications. The paradox begins from the presupposition that, compared to long periods of history, many societies are now better equipped to respond to disasters and also to anticipate them, partly because they have more and better knowledge than in the past about the probabilities and risks of many of the disasters that will or might occur. Certainly, there will be shocking, unique, unprecedented, and unpredictable disasters. Even putting aside the unexpected threats of «black swans», there is a huge variety of disaster situations where limited knowledge or ineradicable uncertainty prevails. No «taming of chance» can be envisaged there. However, the specialized scientific knowledge and technological advances that find application in disaster analyses and preparedness put nowadays individuals and communities in a better position to manage risk in the face of potential disasters and to cope with at least some uncertainties around them. There are disasters that are not entirely unexpected (or not to the same extent that they might have been in the past) due to current knowledge of certain geographical, climatological, and environmental conditions. A clear example of it is wildfires, which sometimes are arsons. In these cases, individuals and communities can know where they stand and what they might

hope in general terms. It is part of their prospective responsibilities that they can be assisted by disaster experts and managers and gain sufficient indirect knowledge about the causes and consequences of many extraordinary events and about the kind of human interventions and omissions that would exacerbate their effects.

Consider now the supposed paradox I wish to dismantle by recalling some points of Rousseau's well-known epistolary reply to Voltaire's «Poème sur le désastre de Lisbonne»[25]. On the one hand, Rousseau introduced what we call social vulnerability: the outcomes of the earthquake are all the more destructive and the fate of the victims all the more massively unfortunate depending on how the buildings are placed and constructed and on how the social behaviors and lifestyles are conducted. Since then, the Western conceptions of disasters have become increasingly receptive to valuing the relations of social injustice through which misfortunes strike the most disadvantaged[26]. It is well-known that pre-existing vulnerabilities strongly influence the situations and consequences generated by disasters and, in particular, that social and economic determinants exacerbate the impacts of disasters. Those most affected by them are often those who were already the most vulnerable beforehand. In view of accumulated evidence of past events, it is to be expected that the vulnerabilities of certain groups and communities in certain societies will amplify the destructive impacts of some hazards compared to other societies that have construction and emergency preparedness standards.

On the other hand, Rousseau's letter to Voltaire also introduced what we call retrospective responsibility: those who constructed the buildings in such a way are truly responsible for the fatal consequences of a natural event that, in other circumstances, would not have caused such levels of destruction and mortality. Better urban planning could have prevented the enormous loss of life suffered in the aftermath of the earthquake. However, questions of liability are contentious, now as it was then. Quite often, in reactions to major catastrophes of the past, beholders expressed a lack of solidarity with those most affected by the disasters. The reluctance to assist some needy is often backed or triggered by religious and supernatural explanations for natural disasters that put blame on the victims of those disasters. Arguably, the enlightened debates stirred by the Lisbon earthquake contravened this type of interpretations. But this «first modern disaster» also signaled the recognition of the causal contribution by human agents to negative outcomes of disasters.

Although disasters typically awake prosocial behaviors, many post-event inquiries turn to be blame-seeking, sometimes undermining solidaristic commitments. A sort of socio-epistemological pattern is often reproduced according to which the

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[25] This interpretation of the «Lettre à Monsieur de Voltaire» differs from that offered by Jean-Pierre Dupuy in his enthralling works; see for instance *Petite métaphysique des tsunamis,* Seuil, Paris 2006.

[26] J. Shklar, *The faces of injustice*, Yale University Press, New Haven 1990. N. Zack, *Ethics for disaster*, Rowman & Littlefield, Lanham 2009; Lukasiewicz – Baldwin (eds.), op.cit.

more information some social groups get (or believe they have) about happened disasters, the more unsympathetic they can collectively become to the most affected. Of course, many people, once their knowledge has been updated, may be prone to blame experts and professionals for failing to predict the disaster or anticipate its negative outcomes. Under a hindsight bias, external and less affected groups may also hold the victims responsible for the consequences of disasters to the extent that these consequences could be to some degree foreseeable, even if the victims suffer them unintentionally. This line of reasoning usually presume that current victims derived any benefits from living in dangerous areas while assuming the exposure to risk from hazards. And the reasoning turns harsher when the costs are to be shared and those unduly risk-taken agents are to be subsidized. Since those directly affected knew enough or should have known what they were dealing with when living in the vicinity of dangerous sites, should have taken out insurance, should not have disregarded the warnings, and so on, at the end of the day they are responsible for their own misfortune. Brute luck turned out to be a bad option luck, as some luck egalitarians might argue[27]. Therefore, the argument goes, victims won't deserve compensation for the damage they suffer if they are morally blameworthy for such damage and are now worse off due to circumstances that were not entirely beyond their control.

This position seems to imply that there is no room for innocent ignorance: not only risks, but uncertainty imposes a duty on us, and we should at least be aware of what we ignore. To act otherwise in view of potential disastrous threats would be negligent. Sometimes ought implies can in the sense that if we are able to anticipate that a calamity could come, even suppose that it might come, we must do something about it. When some group or community knows or even presumes what to expect, their members are responsible of their decisions by having to be aware of the consequences that their actions and omissions could have. But even if there were non-negligent ignorance, the victims would still be morally responsible in the sense that they would have to provide retrospectively the reasons why they acted as they did.

To summarize: according to the epistemic condition of moral responsibility, the better and more refined the knowledge about disasters, the more binding the obligations to protect lives and property should be. However, more sophisticated knowledge does not always make people more concerned and supportive. It depends on how they answer the question of why disasters are allowed to occur. Usually, the answer points to a failure to adequately transform the socio-economic conditions and structures that generate the vulnerabilities of affected communities.

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[27] As Eric Rakowski put it, «all other losses, as instances of nasty option luck, would be borne solely by the owner, who might or might not have insured against such hazards» (E. Rakowski, *Equal justice*, Clarendon Press, Oxford 1993, p. 90). On insurance as a way to economize risks, but also as a mechanism of "a new moral economy of disaster -a new calculus of loss, compensation, and responsibility", see S. J. Collier, «Neoliberalism and natural disaster», *Journal of Cultural Economy*, 7:3 (2014), p. 275.

Alternatively, a blaming response could point to a failure to address and curb the collective irresponsibility of the victims themselves.

However, blaming and punishing victims for their mistakes and negligence assumes that the harms are a sort of automatic effect brought about by their wrong actions as a sort of proximate concomitant causes, while subtracting the intervention of additional factors and neglecting that other political and socioeconomic agents might share responsibility. But, as Rousseau also saw, other systemic factors do explain their misfortune as well. In most disasters, it is difficult to single out the genuine portion of damages that are solely caused by specific faults and wrongdoings. Instead of isolating *the* major causes that would saturate the moral responsibility, a far-reaching view regularly reveals that a number of systemic factors could have influenced whether those alleged proximate concomitant causes actually favour disastrous effects. Such multifactorial complexes mean rather that responsibilities are essentially shared and are to be distributed. Because of that, a deliberate ignorance or underestimation of the broader political, economic, and social context in which vulnerability was created might be adaptive to this multifactorial complexity. If this is the case, then the culpable ignorance by the freeloading victims seems to become an excuse for an additional culpable ignorance or, at least, moral dishonesty by the strict judges pedestalled as beyond reproach.

Conclusion

Duties of solidarity towards fellow human beings based on community ties are being eroded or devalued everywhere, partly due to the enduring influence of prevailing neo-liberal moralizing mentalities. However, in decent societies duties of assistance and cooperation in relief and recovery, but also those concerning preparedness and mitigation, can still be reproduced and be assigned on the basis of a web of shared responsibilities. The normative core of these responsibilities rests in part in the idea that it is the whole community who has to take seriously both the mutuality of social benefits and risks and the suffering of those most affected by disasters[28]. In this article it has been argued that there are such ethical obligations supported by collective and organizational capacities. Ultimately the realization and impact of our individual and collective duties concerning preparedness depend largely on meeting those shared prospective responsibilities that, being cross-sectoral and requiring institutional mediation, could have substantial implications for public policy-making.

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[28] On the political notion of solidarity and its connections and differences with fraternity, see A. Puyol, *Political fraternity. Democracy beyond freedom and equality*, Routledge, New York 2019, pp. 39-51.

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