

A Temporal Device: Disasters and the Articulation of (De)acceleration in and beyond 1970 Ancash's Earthquake

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Recibido: 16 de septiembre de 2021 / Aceptado: 8 de noviembre de 2021

Abstract. Historically, disaster studies have been confronted with two antagonistic, but not exclusive, conceptualizations of catastrophes: first and foremost, extreme singularities that produce history, but also processes that perpetuate sociopolitical structures and inequalities. By exploring how the 1970 earthquake in Ancash, Peru was the scenario for implementing discourses of acceleration and deceleration amid strong transformations in Peruvian society, this article presents an alternative understanding of disasters beyond disruption and continuity by focusing on the temporal articulations they induce. When conceived as temporal devices, disasters have the capacity of restructuring rhythms, scales, and temporalities heterogeneously and manifoldly. This paper aims to bring forward arguments that, although grounded in the 1970 Ancash earthquake, can be applied to other discussions of disasters, catastrophes, and crises as triggering scenarios of economic, social, or cultural acceleration and deceleration.

Keywords: Critical Disaster Studies; Assemblage Theory; Latin American Studies; COVID-19.

[es] Un dispositivo temporal: desastres y la articulación de la (des)aceleración en y más allá del terremoto de Ancash de 1970

Resumen. Históricamente, los estudios de desastres han presentado dos comprensiones antagónicas de las catástrofes: singularidades extremas que producen historia o procesos que perpetúan estructuras sociopolíticas e inequidades. Mediante un análisis del terremoto de 1970 en Ancash, Perú, y su influencia en la implementación de discursos de (des)aceleración en medio de grandes transformaciones en la sociedad peruana, este artículo presenta una comprensión alternativa de los desastres más allá de la ruptura y continuidad, para enfocarse en las articulaciones temporales que estos producen. Al ser concebidos como dispositivos temporales, los desastres tienen la capacidad de reestructurar ritmos, escalas y temporalidades de manera heterogénea y múltiple. El artículo pretende aportar argumentos que, aunque basados en el terremoto de Ancash, pueden aplicarse a otros debates sobre catástrofes, crisis y desastres como desencadenantes de aceleración y desaceleración económica, social o cultural.

Palabras clave: estudios críticos de desastres; teoría de ensamblaje; estudios latinoamericanos; COVID-19.

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Cómo citar: Usón, T. J.; Stehrenberger, C. S. (2021). A Temporal Device: Disasters and the Articulation of (De)acceleration in and beyond 1970 Ancash's Earthquake. *Res Publica. Revista de Historia de las Ideas Políticas*, 24(3), 467-480.

1. Introduction

Within months after the COVID-19 outbreak was declared a global pandemic, the number of academic articles stemming from a variety of scientific disciplines that explored in what ways it “accelerated”, “decelerated”, or “catalyzed” social, or socio-technological “processes”, “transformations”, or “developments”, reached three-digit numbers. Interested in these questions were economists who swiftly portrayed COVID-19 e.g., as *the great accelerator*

in “fast-tracking the existing global trend towards embracing modern emerging technologies”³. Soon after, sociologists in general and scholars of acceleration theory in particular chimed in with one of its most prominent proponents, Hartmut Rosa, stating that COVID-19 has been “the most radical decelerator (*Entschleuniger*) that we have experienced in the last 200 years”⁴. Torres and Gros, on the other side, argued that “the deceleration process triggered by the pandemic is neither exogenous to the acceleratory logic governing modernity nor implies a sharp inter-

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³ J. Amankwah-Amoah et al., “COVID-19 and Digitalization: The Great Acceleration”, *Journal of Business Research* 136, 2021, p. 602.

⁴ H. Rosa, “Das Virus ist der radikalste Entschleuniger unserer Zeit”, *Der Tagesspiegel*, 2020.

ruption of it⁵. The COVID-19 operates, according to the authors, as an accentuator of the socio-temporal tension between acceleratory and deceleratory tendencies. At the same time, other voices have emphasized the systemic consequences that the current pandemic may have. While some authors talk about the external shock that the virus represents, and its capacity to exacerbate the already-running economic and ecological crises⁶, others stress that crisis narratives like the pandemic operate to strengthen the bio-political control of governments over the population⁷.

Such ascriptions of temporalities or temporality-altering effects of crisis, catastrophe, and disaster are neither a historical novelty nor an innocent speech act. Williamson and Courtney⁸ show how narratives referred to disasters and crises historically have unfolded in many forms and temporal scales, depending on the source and actors dealing with them in the first place. Whereas media reports commonly reduce catastrophic situations to discrete events, social scientists tend to refer to the processual character of disasters and the structural conditions leading to them⁹. Moreover, environmental historians take the temporal discussion even further, emphasizing both the sociopolitical processes involved and the *longue durée* of the interactions between human and ecological systems. “These tensions”, McGowran and Donovan¹⁰ argue, paraphrasing Manyena¹¹, “can be summarized as between understanding disasters as potentially transformational but also as moments where dominant power relations persist, and between conceptualizing disasters as outcomes, or events, rather than processes”.

This event-process dichotomy has shaped the discussions from studies on risks and disasters, influencing what is understood by the real nature of the catastrophes. Hazard-oriented approaches have proposed understanding disasters as threats that must be anticipated¹², but also as “catalysts for changes”, where the emphasis should be placed on developing the proper capacities so that communities can learn

from hazardous experiences to build future adaptation¹³. These perspectives, commonly associated with the well-known formula equating risks to the combination of hazards and the levels of vulnerability among populations, perpetuate an understanding of disasters as anomaly and disruption, assuming an *ex-ante* normality that has to be recovered. Structural conditions leading to such a catastrophic scenario, however, are rarely expounded. In other words, “vulnerability, which is rooted in the structures, is relegated to the second order while risk becomes of primary concern”¹⁴.

Critical approaches have tried to overcome *hazardist* –and, thus, *eventualist*– perspectives to pay complete attention to the structural causes leading to the emergency of disasters. The central argument at hand is that rather than the exception to the rule, emergencies, crises, and catastrophes are the norm of a capitalist system exacerbated by the neoliberal agenda. The statement aims to put into question the very understanding of what is conceived as the normal by exploring the specific set of values, norms, political conditions, and social configurations that allows turning structural inequalities, ecological exploitation, and expressions of colonialism, patriarchy, and white supremacism into the rule. By conceiving states of emergency and exception as the norm that enables the perpetuation of the political system¹⁵, critical approaches relate disasters with narrative resources to justify and negotiate political intervention, rather than “measured telos delivering us a new normal”¹⁶. Similar concepts like crisis, under this view, would also be considered forms of critique with analytical and political purposes rather than first-order observations¹⁷ that ultimately conceive and treat unstable situations as manageable, politically operable environments¹⁸. As alternatives, critical disaster studies scholars have proposed concepts such as “slow disasters” and “slow emergencies”¹⁹, in which disaster stretches “both back in time and forward across generations to indeterminate points, punctuat-

⁵ F. Torres and A. Gros, “Slowing Down Society? Theoretical Reflections on Social Deceleration in Pandemic Times (and Beyond)”, *Theory Culture & Society*, in press, p. 15.

⁶ K. Dörre, “Die Corona-Pandemie – eine Katastrophe mit Sprengkraft”, *Berliner Journal für Soziologie* 30, no. 2, 2020, pp. 165-90.

⁷ G. Agamben, *Where Are We Now? The Epidemic as Politics*, Lanham, Rowman & Littlefield Publishers, 2021.

⁸ F. Williamson and C. Courtney, “Disasters Fast and Slow: The Temporality of Hazards in Environmental History”, *International Review of Environmental History* 4, no. 2, 2018, pp. 5-11.

⁹ Cf. e.g., Piers M. Blaikie et al., *Vulnerabilidad: el Entorno Social, Político y Económico de los Desastres*, Lima, La Red, 1996.

¹⁰ P. McGowran and A. Donovan, “Assemblage Theory and Disaster Risk Management”, *Progress in Human Geography*, April 7, 2021, p. 8.

¹¹ S.B. Manyena, “Disaster and Development Paradigms: Too Close for Comfort?”, *Development Policy Review* 30, no. 3, 2012, pp. 327-45.

¹² B. Anderson, “Preemption, Precaution, Preparedness: Anticipatory Action and Future Geographies”, *Progress in Human Geography* 34, no. 6, 2010, pp. 777-98.

¹³ D. Paton and P. Buergelt, “Risk, Transformation and Adaptation: Ideas for Reframing Approaches to Disaster Risk Reduction”, *International Journal of Environmental Research and Public Health* 16, no. 14, 2019, E2594.

¹⁴ Manyena, *op. cit.*, p. 332.

¹⁵ G. Agamben, *State of Exception*, Chicago, University of Chicago Press, 2005.

¹⁶ W. Anderson, “The Model Crisis, or How to Have Critical Promiscuity in the Time of Covid-19”, *Social Studies of Science* 51, no. 2, 2021, p. 4.

¹⁷ J. Roitman, *op. cit.*; K. Fortun et al., “Researching Disaster from an STS Perspective”, in U. Felt et al. (eds.), *The Handbook of Science and Technology Studies*, Cambridge, The MIT Press, 2016, pp. 1003-28.

¹⁸ D. Bond, “Governing Disaster: The Political Life of the Environment during the BP Oil Spill”, *Cultural Anthropology* 28, no. 4, 2013, pp. 694-715.

¹⁹ B. Anderson et al., “Slow Emergencies: Temporality and the Racialized Biopolitics of Emergency Governance”, *Progress in Human Geography* 44, no. 4, 2020, pp. 621-39; C.S. Stehrenberger, “Annobón 1988. Slow Disaster, Colonialism, and the Franco Dictatorship,” *Art in Translation* 12, no. 2, 2020, pp. 263-87.

ed by moments we have traditionally conceptualized as «disaster», but in fact claiming much more life, health, and wealth across time than is generally calculated²⁰.

We share some of the main arguments proposed by critical approaches. At the same time, we find it necessary to have a clearer picture of the ontological character of disasters. While e.g., Hagen and Elliot²¹ argue that “[a] critical approach should not only reexamine what «disasters» are; it should also inquire into what they do in the social world”. In our opinion, it is not about what disasters do in the social world, but how they produce the *social* and the *world*; how the articulation of disasters as concrete but diffuse networks produce temporal continuities and disruptions integrating –and affecting– both geophysical forces and sociotechnical elements. This idea is a call against the risk of neglecting the existence of disasters when considering them as simple analytical or rhetorical devices, as some critical voices have proposed. More than “interpretive fictions”²², disasters exist in concrete and material forms. They are specific arrangements of and articulations among actors and materialities –both virtually and actually.

This article explores the historicity of the attribution of certain temporalities to disasters, in both the field of social science studies of disaster and their consequences in the governmental discourses and practices that dealt with them. It examines some of the most common interpretations of the relationship of time and disasters brought forward during the last few decades by disaster sociologists and anthropologists and acted upon in disaster mitigation and protection and risk reduction programs. However, this paper not only traces how the double questions of “what is the temporality of disasters?” and “what do disasters do to the temporality of social processes?” have been answered so far. It also develops theoretical suggestions for alternative framings of disaster-time. Important to note here is that, although we mainly discuss the notion of disaster from a historical perspective, we also refer in broader terms to entangled concepts like crisis and catastrophe. Thus, rather than offering concrete definitions of those terms, we explore how they were enacted in certain historical moments and built upon specific temporal assumptions.

The first section of our article examines how Cold War “social science disaster research” wrote about the acceleratory and deceleratory conditions that disasters and crises present. Our analysis will allow us to reflect on common portraits of catastrophes as either

extreme singularities that produce history or as processes that perpetuate sociopolitical structures and inequalities: as disruption or permanence; change or endurance; continuity or instant.

In the following section, we aim to connect this broader history of disaster studies with the case of the 1970 earthquake in Ancash, Peru –which left around 70 thousand fatal victims and more than one million people affected. We will explore how it was interpreted as a disruptive force that offered a chance to accelerate the implementation of ambitious political projects, including an ambitious agrarian reform and new urban plans amid the reconstruction of cities prompted by the then government of Juan Velasco Alvarado, but also as a social arrangement deeply embedded in the Peruvian society: a colonial project that historically rejected any expression of indigeneity.

Building on the work of scholars from science and technology studies (STS)²³, in the last section of the article we propose considering disasters as assemblages that unfold in, across, and for time. As temporal assemblages, disasters operate as devices shaping time in concrete ways, presenting constant negotiation between different rhythms and scales –negotiations that play out in, for example, the discussions about acceleration and deceleration. We suggest exploring disasters not as events or processes but as temporal devices that allow us to talk about events or processes in the first place, emphasizing the messy temporalities of social –particularly also of mnemonic– processes that were and are at work in its unfolding. Our aim is to thereby develop more generalizable ways of thinking about disasters that might also apply to other types of situations, such as those that the COVID-19 pandemic implies.

2. Disaster temporalities in the broader history of Cold War social science research

Whether accelerationist, decelerationist, sources of social transformations, or strengtheners of social structures, disasters have been commonly portrayed as extraordinary spatio-temporal moments and processes other than normal. These conceptualizations, as we will see in this section, have important origins in approaches coming from the social sciences during the Cold War (and amid the nuclear crisis) that aimed at combining military emergency response and strategic thinking with techno-scientific tools for anticipation and civic preparedness²⁴.

²⁰ S.G. Knowles and Z. Loeb, “The Voyage of the Paragon: Disaster as Method”, in J.A.C. Remes and A. Horowitz (eds.), *Critical Disaster Studies*, Philadelphia, University of Pennsylvania Press, 2021, p. 27.

²¹ R. Hagen and R. Elliott, “Disasters, Continuity, and the Pathological Normal”, *Sociologica* 15, no. 1, 2021, p. 5.

²² J.A.C. Remes and A. Horowitz (eds.), *Critical Disaster Studies*, Philadelphia, University of Pennsylvania Press, 2021.

²³ A. Donovan, “Geopower: Reflections on the Critical Geography of Disasters”, *Progress in Human Geography* 41, no. 1, 2017, p. 44-67; P. McGowan and A. Donovan, *op. cit.*

²⁴ Cf. Tracy C. Davis, *Stages of Emergency: Cold War Nuclear Civil Defense*, Durham, Duke University Press Books, 2007; C.S. Stehrenberger, “Praktisches Wissen, Wissenschaft und Katastrophen. zur Geschichte der Sozialwissenschaftlichen Katastrophenforschung, 1949-1989,” *Berichte zur Wissenschaftsgeschichte* 40, no. 4, 2017, pp. 350-67.

2.1. From extraordinary events to processual thinking

In 1961, the following definition of disaster by sociologist Charles Fritz²⁵ was published:

In its most general sociological sense, a disaster is defined a basic disruption of the social context within which individual and groups function, or a radical departure from the pattern of normal expectation (...) an event, concentrated in time and space, in which a society or a relatively self-sufficient subdivision of a society undergoes severe danger and incurs such losses [...] that the social structure is disrupted and the fulfillment of all or some of the essential functions of the society is prevented.

This passage was crafted in the context of the research that Fritz conducted as a member of the first social science disaster research team that was established at the National Opinion Research Center (NORC) of the Chicago University in 1949. The United States Army funded the group to generate through the empirical study of human reactions during “actual” peacetime disaster knowledge that could be used to predict human behavior during a nuclear attack against the US. The use of knowledge about the past was meant to regulate individuals and populations in the present with visions about the future. Disaster studies were thus born within the logics of anticipation and as part of the reactionary disposition of preparedness that no longer aimed to prevent disasters but rather create the capacities to manage them²⁶. This management was not supposed to come from structural transformation but a techno-fixed approach taking place at an individual level of behavior.

In order to operationalize the extrapolation of civil disaster knowledge to the anticipated nuclear attack, the research group started conducting field studies after disasters that were assumed to be similar to how a nuclear attack was imaged: as a sudden, abrupt event that caused the biggest destruction in the brief moment of the “impact”, and in a limited space. These studies included the consideration of events such as earthquakes, tornadoes, and blizzards. Soon, the disaster research group not only studied phenomena based on the characteristics of a nuclear disaster but also defined a disaster as a phenomenon with these features. A side effect of this epistemological movement was that it crystalized the conceptualization of phenomena such as earthquakes as sudden, concentrated events. While Cold War disaster research did not invent disaster-as-event thinking, as such think-

ing predated it, it nevertheless lent it scientific authority. It is in this context that scholars such as John Powell et al²⁷. proposed more refined understandings of disaster events and split them into linear-chronological time periods and zones, such as pre-impact, emergency, and recovery.

While particularly from the late 1960s onwards the possibility of long-lasting effects of disasters was increasingly recognized, and some studies on them were conducted, they clearly remained as second priority for decades. Researchers often concluded that these effects –e.g., when it came to mental health– were not very severe²⁸. In this sense, the almost exclusive focus that during the Cold War disaster research had on disasters as concentrated in time and space went hand in glove with a negation of slow disasters. Among those were epidemics, but also ecological disasters that are, per definition, slow-moving. What is interesting is that disaster researchers were very much aware that this narrowed focus was subject to critique by scholars who worked at the field’s margins. This critique was even recognized as partly valid yet did not cause a radical shift in how research objects were conceptualized. In some cases, it was furthermore debunked in arguments that constructed ecological disaster and their study as the opposite of being interested in the social. Quarantelli and Dynes refer to this issue in 1977:

[D]efinitions of a social nature have clearly and fortunately replaced the very early referents in almost solely physical terms. Nevertheless, even the newer conceptions tend to assume concentrated space-time events, leaving unclear the categorical status of very diffuse events, such as famines and epidemics, that would otherwise be classified as disasters. In fact, some writers have stated that the emphasis on a specific event as an identifying feature is a pro-Western, pro-technology, pro-capitalism bias, unsuitable for distinguishing disasters in underdeveloped societies (West gate & O’Keefe 1976). Other critics have argued that disasters are inherently political phenomena and should be so conceptualized (Brown & Goldin 1973); the implication of this for research, if it is a valid position, has so far been unrecognized²⁹.

Similarly, in the same text, Quarantelli and Dynes argue in favor of a more processualist view of disasters by affirming the principle of “continuity” –a notion that was taking form in several studies of organizational change in contexts of disaster at the time. According to Quarantelli and Dynes, research on the field not only showed minor changes as consequenc-

²⁵ C. Fritz, “Disasters”, in R.K. Merton and R.A. Nisbet (eds.), *Contemporary Social Problems*, New York, Harcourt, Brace & World, 1961, p. 655.

²⁶ S.J. Collier and A. Lakoff, “Vital Systems Security: Reflexive Biopolitics and the Government of Emergency”, *Theory, Culture & Society* 32 (2), 2015, pp. 19-51.

²⁷ J.W. Powell, J. Rayner, and J.E. Finesinger, “Responses to Disaster in American Cultural Groups”, in *Symposium on Stress*, Washington D.C., Army Medical Service Graduate School, 1953.

²⁸ E.L. Quarantelli and R.R. Dynes, “Response to Social Crisis and Disaster”, *Annual Review of Sociology* 3 (1), 1977, pp. 23-49.

²⁹ *Ibidem*, p. 24.

es of extreme events, but also sustained that “changes and shifts as do occur in structure and functions were, in most cases, already manifest in the pre-disaster period. In other words, disasters do not seem to initiate major organizational changes. At most, they appear to accelerate existing trends and, in this sense, reflect the principle of continuity”³⁰. Acceleration, under these terms, appears to be the opposite of radical change.

These last passages are particularly interesting because they not only demonstrate the bifocal views of disaster as either instant or process, and either natural or social are inextricably linked; but mention the already circulating insights that these separations are coined by capitalism and colonialism that were however not adopted by the disaster research mainstream. We will return to this point below, but first we need to summarize how early disaster research not only depicted the temporality of catastrophes themselves, but how they declared that disasters would change the temporality of social phenomena.

2.2. Temporal arrangements

According to Charles Fritz, disasters accelerated the social processes: “[b]y compressing vital social processes into a brief time span and by bringing normally private behavior under public observation, social processes and linkages between social and personal characteristics become much more visible. Processes and cycles of human behavior that usually span many years are enacted in a matter of hours, days, or months in a disaster”³¹. The increased velocity of social processes in disasters was an important factor in the constitution of their special epistemic qualities. As “natural laboratories”, catastrophic situations were a contrast medium for the revelation of the essential structures and functions of social units. This “laboratorization of the world”³² –applied as we will see below also during the aftermath of the 1970 earthquake in Ancash and also with respect to the COVID-19 crisis– thus rest upon specific notions of the temporality of disasters that not seldomly involved violence, which renders them, as explained elsewhere, problematic³³.

At the same time, many early disaster researchers found that, on the level of individuals, disasters brought certain functions to a standstill or at least slowed them down momentarily. The corresponding psychological concepts used were “shock” and “apathy” –both borrowed to a large degree from the

language of disasters and accidents, but also war-related traumatology that had been developing since the end of the 19th century in the context of train accidents or World War I and II. The latter concept was part of what the anthropologist and member of the Army-funded disaster research group at the NORC Anthony Wallace³⁴ called “disaster syndrome” –the very same that Stephen W. Dudasik ascribed to the “victims” of the Ancash earthquake. In 1980, Dudasik wrote in regard to the event:

Many individuals were psychologically overwhelmed by the problems they faced, and some either wandered aimlessly through the ruins or engaged in activities seemingly inappropriate to the emergency which existed. A few actually perished in the days following the earthquake because they were oblivious to exposure and hunger. At least part of the explanation for such behavior lies in the conditions created by the earthquake, and the state of shock is characteristic of what Anthony Wallace calls the “disaster syndrome”³⁵.

Notable in this account, which problematically affirms the passive status of the disaster survivors, is that the disaster syndrome itself operates on the basis of a linear time with its own chronology and that it is yet again based on the notion of the suddenness of the disaster.

Despite the predominance of the event-based definitions, the first disaster researchers were also interested in the question of the effect that catastrophes had on long-term processes of social change. Samuel Henry Prince³⁶, whose dissertation on the Halifax explosion is largely considered the first properly social scientific publication on disaster, was already interested in how the changes that disasters brought upon were “progress”. He declared with caution: “catastrophe always means change. There is not always progress”. Yet, he underlined in his work the positive long-term changes that the disasters brought upon, such as a new sense of unity in dealing with common problems. As Joseph Scanlon³⁷ points out, “[t]he underlying basis for this thesis is actually theological. He believed Christ’s death on the cross showed salvage comes from suffering. He linked the idea that suffering is necessary for salvation to the idea that catastrophe leads to social change, adversity leads to progress”. Similar discourses can be found in the Cold War, where systematic disaster studies became institutionalized. For authors like Charles Fritz, the idea of a society resurrected from the rubble –with the

³⁰ *Ibidem*, p. 34.

³¹ C. Fritz, *op. cit.*, p. 654.

³² M. Guggenheim, “Laboratizing and De-Laboratizing the World: Changing Sociological Concepts for Places of Knowledge Production”, *History of the Human Sciences* 25, no. 1, 2012, pp. 99-118.

³³ C.S. Stehrenberger, “Disaster Studies as Politics with Other Means: Covid-19 and the Legacies of Cold War Disaster Research”, *Items: Insights from the Social Sciences*, 2020.

³⁴ A.F.C. Wallace, *Culture and Personality*, New York, Random House, 1961.

³⁵ S.W. Dudasik, “Victimization in Natural Disaster,” *Disasters* 4, no. 3, 1980, p. 332.

³⁶ S.H. Prince, *Catastrophe and Social Change. Based Upon a Sociological Study of the Halifax Disaster*, New York, Columbia University, 1920.

³⁷ In R. Solnit, *A Paradise Built in Hell: The Extraordinary Communities That Arise in Disaster*, New York, Viking Adult, 2009, p. 80.

nuclear Armageddon as the ultimate event— was also combined with the notion of progress-through-disaster via growth through an “«amplified rebound» effect, in which the society is carried beyond its pre-existing levels of integration, productivity, and capacity for growth”³⁸.

The narrative that disaster and crisis —just like misfortune or tragedy— offer a chance for individual, organizational, and social growth has become widespread in the last third of the 20th century, in and beyond the academic context. Their advancement has to be seen as connected to the increasing importance of “therapy culture” and the self-help industry that heavily influenced disaster writing and images in many dimensions of consumerist society³⁹. It is also an essential component of the paradigm of resilience that has survived the end of the Cold War. This stabilization of disasters and crises as sources of development required, however, the unfolding of concrete catastrophic situations where such military, goal-oriented visions of recovery could be applied. As we will see in the following section, the aftermath of the 1970 earthquake in Ancash was a perfect scenario for such an endeavor.

3. The (de)accelerationist event

The 1970 earthquake in Ancash, Peru, has been cataloged as an event that marked a before-and-after moment not only for the region’s inhabitants but also for the whole nation. The movement, which measured 7.7 grades on the Richter Scale and had its epicenter in the Pacific Ocean 25 kilometers away from Chimbote, Ancash’s main coastal city, led to the near total destruction of cities like Huaraz, the region’s capital, over the Andes. The ground motion also activated a massive landslide from the Huascarán mountain that buried around 25 thousand inhabitants of Yungay and several hamlets located over the foothills of the *Cordillera Blanca*, one of the two Ancash’s mountain ranges that form the Santa River’s valley —known as the *Callejón de Huaylas*.

The destruction left by the earthquake led to a profound sense of loss and dispossession —feelings that still persist among the survivors. However, feelings of radical transformation were caused not only by the loss of their homes and loved ones but also by the series of political reforms impulsed by the government after the event. The Revolutionary Military Government of Juan Velasco Alvarado, a general that staged a coup against the president Fernando Belaun-

de Terry in 1968, led at the time “a nationalist project that aimed to radically transform the Peruvian society by eliminating the social injustice, breaking with the foreign dependency, redistributing the land and the wealth, and putting the destiny of the Peruvian on their own hands”⁴⁰. The earthquake gave Velasco Alvarado’s regime the perfect scenario to implement an ambitious left-oriented agenda and make Ancash a model region to push its revolutionary political project forward. The radical and modernizing urban planning of cities like Huaraz aimed to highlight the redistribution and social justice processes that Velasco Alvarado’s government wanted to promote. These processes comprised a new distribution of urban land and the provision of social housing for historically marginalized groups, which included the so-called *indios* (indians) and the *campesinado* (peasantry) in the highlands of the *Callejón de Huaylas*. But it also led to deep disruptions that, for an urban elite, represent the “cancellation of the old Andean order”.

3.1. An accelerationist engine

“The earthquake of the 31st of May 1970 confirmed the unequal and unjust socio-economic and political order existing in the Affected Zone, a situation that as revolutionary Peruvians we have the obligation to change through the tasks of Reconstruction and Rehabilitation”⁴¹, stated CRYRZA, the Commission for the Reconstruction and Rehabilitation of the Affected Zones, in April 1972. In tune with the position of Juan Velasco Alvarado’s Revolutionary Military Government, the agency’s statement came to make explicit what was conceived as the true nature of the earthquake: the revealer of the systemic injustices permeating in and structuring Peruvian society. The role of the government, under these terms, was that of an articulating apparatus leading to the overcoming of the subordination that subaltern groups, portrayed under the figure of the *indio* and the *campesinado*, had experienced since the beginning of the Spanish invasion⁴². “The reconstruction”, in this sense, was a process that aimed “to bring not social order but, at the same time, modernization”⁴³.

Politics to face the catastrophic consequences of the earthquake were not conceived in the aftermath of the event. Both the agrarian reform and the expropriation of urban land tenures for the modernization of urban settlements were part of Velasco Alvarado’s ambitious political plan to promote a “revolution from above” or *por decreto* (by decree)⁴⁴. The earthquake rather provided the regime with the perfect

³⁸ Fritz, *op. cit.*, p. 692.

³⁹ T. Recuber, *Consuming Catastrophe: Mass Culture in America’s Decade of Disaster*, Philadelphia, Temple University Press, 2016.

⁴⁰ Translated by the authors from C. Aguirre and P. Drinot (eds.), *La Revolución Peculiar: Repensando el Gobierno Militar de Velasco*, Lima, Instituto de Estudios Peruanos, 2018, p. 12.

⁴¹ B. Bode, *No Bells to Toll: Destruction and Creation in the Andes*, Lincoln, iUniverse, 2001, p. 178.

⁴² C.F. Walker, “El General y su Héroe: Juan Velasco Alvarado y La Reinención de Tupac Amaru II,” in C. Aguirre and P. Drinot (eds.), *La Revolución Peculiar. Repensando El Gobierno Militar de Velasco*, Lima, Instituto de Estudios Peruanos, 2018, pp. 71-104.

⁴³ B. Bode, *op. cit.*, p. 178.

⁴⁴ D. Kruijt, *La Revolución por Decreto: Perú Durante el Gobierno Militar*, San José, FLACSO, 1991.

scenario to push its plans of social transformation forward. It was, according to the government, a catalyst, an accelerator for sociopolitical modernization—a position that was subsequently promoted not only by the leftist regime but also by liberal, pro-market advocates⁴⁵. Moreover, it also led to the creation of pivotal agencies for disaster risk management in the country, including the National System of Civil Defense (SINADECI) through the Decree Law Nr. 19338, that would strengthen the militarist perspective to cope with extreme events.

As the months passed, central agencies started to perceive Ancash's main urban centers as real “laboratories” for social and political experimentation. In Chimbote, the government aimed to enact an ambitious project of urban and industrial reactivation that would turn the city into an economic power capable of challenging Lima's economic primacy⁴⁶. The refoundation of Yungay, one of the cities of the *Callejón de Huaylas* that the avalanche from the Huascarán completely buried, was seen by CRYRZA as a possibility for relocating the city into a safer place while moving beyond the old urban structures that historically had excluded the *indios* and *campesinos* and impeded them from becoming owners of urban land tenures⁴⁷. Huaraz, meanwhile, turned into the first city where the government officially implemented a massive urban expropriation that converted 2 million square meters of the city center into public terrains to build social housing projects, aiming to convert “the ruins of the cities and the dust of the earth today faded” into “a part of the New Peru of our children”⁴⁸.

The urban transformation that the government aimed to apply included both a redistribution of urban land tenures and a redesign of urban areas based on ambitious zoning efforts for a well-organized and controlled urban growth. Moreover, the lethal consequences left by the avalanche from the Huascarán—which took the lives of around 25 thousand victims—also forced authorities to conceive new forms of reducing the exposure to natural hazards. Concretely, estate agents proposed moving from politics and measures based on the construction of mitigation infrastructure, which includes flood contention dams in creeks and rivers, to the delimitation of zones ex-

posed to extreme events⁴⁹. The zoning efforts aimed to incorporate the scientific and technical knowledge that public agencies had been accumulating over the last years, including “large-scale glacial lake control projects and extensive glacier monitoring”⁵⁰. The zoning plans were used to reevaluate the reconstruction of urban neighborhoods in safer areas, considering even the complete relocation of cities like Yungay to risk-free areas.

In order to achieve the expected urban and rural transformations, the government aimed at sustaining its program on a decentralized structure that would allow establishing the dialogue between the government and the people. Behind agencies like CRYRZA—and its successor ORDEZA (Regional Organism for the Development of the Affected Zone)—laid decentralization efforts that enhanced local actors to work actively on the recovery of the affected areas⁵¹. For this, agencies like the SINAMOS (National System of Support for Social Mobilization) were conceived to “achieve the conscious and active participation of the national population in the duties that the economic and social development requires”⁵²—an effort that, according to Bode, in reality was aimed at ensuring that citizen participation “was controlled by the national government (...) and never usurped by private interests”⁵³.

Eventually, Juan Velasco Alvarado's decentralization efforts started colliding with a highly centralized state apparatus where, “despite [its] rhetoric about public participation, outsiders controlled decisions at many levels”⁵⁴. Notwithstanding the governmental efforts for locating the headquarters of agencies like CRYRZA in the same affected region, the strong political dependency on Lima remained unchanged. “In other words, «business as usual» for both coast and *sierra*: bureaucratic centralization and stagnation everywhere”⁵⁵. Despite the discourses of local empowerment, the government kept acting as a protectionist entity dealing with a vulnerable, “underdeveloped” mass of people incapable of decision-making. After all, “the *sierra* was [still] considered an area of cultural and economic backwardness”⁵⁶.

This paternalistic attitude was also expressed—and perhaps fueled—by a team of Lima-based psychiatrists from the Hospital de Policía who went to study

⁴⁵ See J.P. Osterling, “The 1970 Peruvian Disaster and the Spontaneous Relocation of Some of Its Victims: Ancashino Peasant Migrants in Huaynopampa”, *Mass Emergencies* 4, 1979, p. 120.

⁴⁶ N. Clarke, “Revolutionizing the Tragic City: Rebuilding Chimbote, Peru, after the 1970 Earthquake”, *Journal of Urban History* 41, no. 1, 2015, pp. 93-115.

⁴⁷ A. Oliver-Smith, *The Martyred City: Death and Rebirth in the Andes*, Albuquerque, University of New Mexico Press, 1986.

⁴⁸ Law Decree of 1972; in B. Bode, *op. cit.*, p. 183.

⁴⁹ M. Carey, *In the Shadow of Melting Glaciers: Climate Change and Andean Society*, Oxford, Oxford University Press, 2010.

⁵⁰ M. Carey, “The Politics of Place. Inhabiting and Defending Glacier Hazard Zones in Peru's Cordillera Blanca”, in M.R. Dove (ed.), *The Anthropology of Climate Change: An Historical Reader*, West Sussex, Wiley-Blackwell, 2014, p. 250.

⁵¹ B. Bode, *op. cit.*; A. Cant, “Impulsando la Revolución: SINAMOS en Tres Regiones del Perú”, in C. Aguirre and P. Drinot (eds.), *La Revolución Peculiar: Repensando el Gobierno Militar de Velasco*, Lima, Instituto de Estudios Peruanos, 2018, pp. 283-317; Oliver-Smith, *op. cit.*

⁵² Translated by the authors from the Law Decree N° 18896, Article 1; in A. Cant, *op. cit.*

⁵³ B. Bode, *op. cit.*, p. 177.

⁵⁴ P.L. Doughty, “Plan and Pattern in Reaction to Earthquake: Peru, 1970 - 1998”, in A. Oliver-Smith and S. Hoffman, *The Angry Earth: Disaster in Anthropological Perspective*, New York, Routledge, 1999, p. 250.

⁵⁵ A. Oliver-Smith *op. cit.*, p. 153.

⁵⁶ A. Cant, *op. cit.*, p. 289.

and treat the “psychological disorders and perturbations of conduct” that had allegedly been “observed” “frequently” after the earthquake and to prevent further ones from happening as well as to help in the so-called “organization of the community”. Those depictions, published among others in an article from Infantes et al.⁵⁷ shortly after their psychiatric intervention in the catastrophe zone, claimed that individuals had become “regressive”, that they were completely passive, insensitive to pain, and resembling “automats”. According to the authors:

(...) people behaved without any sense of unity, nor specific aims, like 6 to 7-year-old children. (...) There was an atmosphere of marked aggressiveness and distinct manifestations of affective ambivalence. (...) These people fed on local products (...) that they “took by force” from their owners (...). They drank water from the irrigation ditch, (...) the group lived surrounded by a “belt of excrements”. (...) It is not surprising that this population lived in a state of permanent (...) discomfort, anxiety, irritability and a pessimistic mood⁵⁸.

This depoliticizing description of mental problems combined with a portrait of “backward” ways of life, anti-social and even criminal behavior, as well as a proximity to waste, echoes several non-local specific colonial, classist stereotypes that have been used to characterize impoverished or colonized people, in scientific discourses and beyond, in Latin America but also elsewhere. The psychiatric team was part of an enormous disaster aid effort articulated in the aftermath of the earthquake with the support of a strong humanitarian contingent arriving not just from Lima, but also from countries like Argentina, Germany, Cuba, the US, and the Soviet Union. As such, it was part of the Cold War’s disaster diplomacy and South-South medical solidarity⁵⁹. Like many disaster aid endeavors that are coined and created by asymmetrical global power relations, the support was characterized by specific chronopolitics of “humanitarian government” that precluded the “victims” to deal with the present that often lay or was explained to lay in the past (e.g. impoverishment caused by colonialism) and dependencies that lasted long into the future⁶⁰.

The false promises of decentralized decision-making led to a frustrated process of local empowerment

and intense disputes between the local population and state agencies. In Yungay, survivors strongly rejected the relocation plan promoted by CRYRZA to the point of founding the new city only a few kilometers from Huascarán’s landslide scar. Moreover, Chimbote faced severe confrontations between the government and the population due to the reconstruction plan’s slow development and infeasibility, a scenario that ultimately led to a strong strike of dockworkers in 1973⁶¹.

In Huaraz, as in other cities, local inhabitants strongly contested expropriation plans citing unfair treatment to the few remaining local survivors⁶². Furthermore, the zoning plans promoted by the government to avoid building in zones exposed to hazards were perceived as another strategy of the regime for restricting the individual right to decide where to reconstruct the buried houses⁶³. All these situations turned the initial idea of bringing social justice through a re-foundational process of reconstruction into irreconcilable disputes sustained on what survivors considered an inefficient recovery plan and abusive treatment.

3.2. The regional stagnation

Narratives and testimonies from local actors relate to the accelerationist thesis installed by authorities at the time. However, they present substantial differences attributed to the quality of the transformations. Whereas CRYRZA and state agencies conceived the earthquake as an opportunity for pushing forward their transformative social and political agenda, urban survivors considered it an abrupt event that led to the irreversible destruction of an idealized past. “First came the earthquake, then the disaster”, is a common phrase that, according to Anthony Oliver-Smith⁶⁴, appeared during the aftermath –referring to the allegedly catastrophic consequences Velasco Alvarado’s program left in the region. It was a human earthquake over the seismic event (“*sismo sobre sismo*”) that came to erase the few remains of the old Ancash left by the 1970 event.

The feeling of abrupt change experienced the first years after the earthquake was in any case a novel phenomenon in the region. In the aftermath of the 1941 flood in Huaraz, a catastrophe that left between three and five thousand victims and the new part of

⁵⁷ V. Infantes et al., “Observaciones Psicopatológicas En El Área Del Sismo (Ancash)”, Lima, Departamento de Psiquiatría del Hospital de Policía, 1970.

⁵⁸ Translated by the authors from *ibidem*, p. 176.

⁵⁹ A.E. Birn and M. Carles, “Latin American Social Medicine Across Borders: South-South Cooperation and the Making of Health Solidarity”, in E.E. Vasquez, A.G. Perez-Brumer, and R. Parker (eds.), *Social Inequities and Contemporary Struggles for Collective Health in Latin America*, London, Routledge, 2020, pp. 41-58.

⁶⁰ See J. Pribilsky, “Development and the «Indian Problem» in the Cold War Andes: «Indigenismo», Science, and Modernization in the Making of the Cornell-Peru Project at Vicos”, *Diplomatic History* 33 (3), pp. 405-26.

⁶¹ N. Clarke, “La Revolución Peruana y los Trabajadores en Chimbote, 1968-1973,” in C. Aguirre and P. Drinot (eds.), *La revolución peculiar: Repensando el gobierno militar de Velasco*, Lima, Instituto de Estudios Peruanos, 2018, pp. 353-87.

⁶² B. Bode, *op. cit.*

⁶³ M. Carey, *In the Shadow of Melting Glaciers: Climate Change and Andean Society*, *op. cit.*

⁶⁴ A. Oliver-Smith, *op. cit.*, p. 106.

the city destroyed⁶⁵, efforts for improving the connectivity of Huaraz with the rest of the country led to profound transformations that ended up disturbing the modest, but robust, local economy that the city had achieved in the previous decades. According to a local historian and “*Huaracino original*”⁶⁶ (17/12/2019), “the year after [the flood], the highway was built, and everything was over. Products manufactured in Lima and way cheaper arrived and killed all the business here. (...) With the highway also many people left, many valuable elements”. The catastrophic transformations, in this sense, are related to the flood but, most importantly, to the construction of the interregional highway which dragged Ancash into new economic and political rhythms that the region had not experienced in the past.

By the end of the 60s, old *Huaracinos* argue, Huaraz had recovered some of the reputation that had made the city a relevant regional exponent before 1941. However, the 1970 earthquake came to erase the incipient recovery of the former decades. The disruption caused by the event was felt by survivors as a withdrawal in every dimension –a return to the “*vida cavernaria*” or cave life⁶⁷. The first aid efforts commanded by the government took several days to arrive, which created intense feelings of despair and abandonment among survivors. “We stayed like that for weeks, building tents with our blankets. We didn’t have food or water; there was no aid, no light, nothing. It was very traumatic”, shares one survivor from Huaraz (17/12/2019). The slow governmental reaction was followed by what survivors considered an insufficient and inappropriate support given by state agencies like CRYRZA and the Board of National Assistance (JAN) in charge of distributing the national and international aid donated by different countries⁶⁸. Most of the testimonies of urban survivors accuse the organization of unequally distributing the support among the population, prioritizing people from other places (commonly referred to as *indios* or *campesinos*) that were –allegedly– scarcely affected. “[The government] started to give blankets, but we didn’t receive any. They arrived in rural areas that didn’t suffer losses”, says one survivor from Yungay (19/12/2019).

As previously said, survivors agree that the catastrophic consequences of the 1970 earthquake neither began nor ended in the years after the event. Just like with the 1941 *aluvión*, the *real* disaster was all that came afterward. “Everything changed with the earthquake, where 60% of the population of this little city migrated. (...) Only a few stayed, and with the reconstruction Huaraz turned into a cosmopolitan city.

The military government brought 500 workers from Cusco and other regions to work here. They stayed, and nowadays we have colonies of all those departments”, argues an elderly *Huaracino* (17/12/2019). This internal migration refers both to people from other parts of the country and rural actors from the highlands. According to some survivors their relatives, that flow of people is what ultimately transformed the peaceful and idyllic *serrana* city into a mix of different cultures and traditions that buried the *Huaracino* identity to the point of near oblivion.

Besides migratory flows, elderly *Huaracinos* place the architectural and urbanistic changes as one of the most dramatic losses caused by the earthquake. The traditional mountain houses or *casas serranas* made of mud bricks (*adobe*), which sometimes covered entire blocks, were replaced by compact cement constructions. After the reconstruction, the migratory groups from other regions began to use different materials and building styles that strongly contrasted with Huaraz’s architectural tradition, leading to what *Huaracinos* perceived as a chaotic cosmopolitanism they compared with a *pachamanca*: a traditional Peruvian dish combining various different ingredients.

Nowadays, the older generations see Huaraz as a city that has lost its ancient identity and values. Cultural stagnation and deceleration are associated with the mixed heritage of their inhabitants and a long-standing process that takes recovering what once was lost. “Huaraz is cosmopolitan, and it doesn’t have its own face because we are still, after 50 years, in the process of recovery from something so traumatic as the earthquake. We need to configure our identity again”, says a local historian and survivor (17/12/2019). Having this in mind, elderly *Huaracinos* do not only feel overwhelmed by the profound changes experienced over the last decades; they also perceive themselves as “strangers in their own city” (*extraños en su propia ciudad*)⁶⁹.

Despite these transformations and feelings of loss, some voices argue that Huaraz is in the midst of a moment of cultural revival, with the emergence of social organizations aimed at protecting and reinvigorating the city’s cultural heritage. “Huaraz is in a wonderful moment of history after the earthquake. And the best is that these cultural expressions are promoted by children or grandchildren of those inhabitants that came to Huaraz after the earthquake. They have taken the *Huaracino* traditions and are becoming the voices for developing the new Huaraz” (researcher and cultural manager, 22/02/2020). Far from being a reason for cultural debacle, new generations see the city’s cultural mixture as an opportunity for recover-

⁶⁵ S.A. Wegner, *Lo Que El Agua Se Llevó. Consecuencias y Lecciones Del Aluvión de Huaraz de 1941*, Huaraz, Ministerio del Ambiente del Perú, 2014.

⁶⁶ All the interviews have been translated from Spanish to English by the authors.

⁶⁷ F.N. Vergara Méndez, *Luctuosos Aludes y Sismos Sobre Yungay. Historia de La Formación Del Nuevo Yungay En Su Etapa Inicial*, Lima, RS Servicios Gráficos S.A.C., 2013, p. 44.

⁶⁸ J.E. León León, *31 de Mayo de 1971. Fin y Principio de Un Pueblo Eterno, Yungay*, Caraz, Ediciones El Inka, 2016; F.N. Vergara Méndez, *op. cit.*

⁶⁹ Testimony from a survivor in the documentary *Huaraz en el Tiempo* (Huaraz Across Time), directed by Juan Manuel Quirós Romero (2018), available at: https://www.youtube.com/watch?v=QWQ8QO_Q7RQ.

ing the past in a novel way. For authors like Marcos Yauri Montero (19/12/2019), a renowned writer from Huaraz, this might even be a chance to overcome static indigenism that ultimately reifies artificial images of the rural world:

[Other writers have accused me] of not being an Andean author but a writer that has disengaged from the Andean world. But what is the Andean world for them? It's the old indigenous previous to the agrarian reform, the exploited, the illiterate, the man (sic) without aspirations, dispossessed and humiliated. I don't treat the indigenous like that because I have never seen indigenous like that. In Huaraz, there haven't been indigenous of that kind –vicious, *coquero* (somebody that chews coca leaves).

This last paragraph reveals the strong contrasts and contradictions co-existing in –and co-articulating– the new Huaraz nowadays. While local voices claim that the rural immigrants are to blame for the city's lack of culture, they also revindicate the historical figure of the indigenous as somebody “cheerful, musician, entrepreneurial, who worked (...) and knew how to make a living” (Marcos Yauri Montero, 19/12/2019). Similarly, while some refer to the current sociocultural mixture or *pachamanca* as the ultimate reason for the city's chaotic configuration, others see this hybridization as a strength and opportunity for the city's revival. The disaster, under these terms, is sometimes portrayed as a stagnator that annihilated the city's glorious past, and in other cases as a sociocultural accelerator that did not bury the city's legacy but transformed it across time. Whereas Velasco Alvarado's regime saw on the earthquake a revealer of the systemic injustices the country was experiencing in the sixties – and an opportunity for making from historically excluded groups the protagonists of the country's modernization, others conceived the earthquake as an event that turned the *indio* and the *campesino* into conflictive figures that betrayed the ancient Andean order. Politics like the agrarian reform, in this sense, are also portrayed in conflictive manners: as a necessary measure to improve the life of the people in rural areas, but also as radical governmental actions that ended up transforming the *Callejón de Huaylas* irreversibly.

4. Beyond temporally distant observations: Other disaster studies are possible

It is by no means surprising that the temporal narratives that emerged from the hegemonic depictions of the 1970 earthquake sound familiar nowadays.

The influence of authors like Samuel Henry Prince and Charles Fritz and their ideas of survivability that shaped the very understanding of the earthquake's aftermath in Ancash –an event that was conceived as a catalysator for and opportunity of change and growth, according to authorities– still permeates the imaginaries around anticipatory and recovery actions. While COVID-19 has turned into the perfect scenario for pushing forward and “accelerating” the required transformations in the labor market –or even for our global health care system⁷⁰– other challenges threatening human existence, like the geo-climatic hecatomb that the notion of the Anthropocene promotes, also share the position of an “opportunity”, e.g. “for envisioning a sustainable human presence on Earth in which humans would no longer be «invaders» but rather participants in shaping the natural environment”⁷¹.

Behind these assumptions lie various of the key concepts with which disaster researchers have perceived the temporality of disaster knowledge production and use over the past decades: directed towards progress and accumulation, with more knowledge produced meaning more knowledge being applied, meaning the world becoming better, and with knowledge production being accelerated and revolutionized by technology. As Enrico Quarantelli predicted in 2003, “the information revolution being generated by the development of computers and related technology will undoubtedly affect in major ways what can and should be done by way of disaster planning and crisis managing in the future (...). [T]he world including the area of disasters will be better off as the knowledge that will be accelerated”⁷². Even in the 21st century, (former) Cold War disaster researchers thus reproduced the typical 20th century view that while catastrophes might change over time, they will remain manageable by an increase of expertise and skills, with science being one part of the technofix required to “keep up” with growing disasters by growing science. The disaster researcher presented their findings as overcoming notions and assumptions about disasters and human behavior in them that they not only declared to be wrong, but to be based on “stereotypes,” and to be “traditional” or a “myth,” with the latter belonging to a pre-modern or even out-of-time past. Proofing the scientificity of disaster research implied thus demonstrating its modernity and its being-in-time.

Cold War social scientists, also in a demarcation from other disaster knowledge producers, studied real disasters in the field, where and when they happened, in the eye of the storm. Alas, they did research on disasters that could be studied in the field, that had a clearly definable eye, a temporal and spatial

⁷⁰ K. Iyengar et al., “Learning Opportunities from COVID-19 and Future Effects on Health Care System”, *Diabetes & Metabolic Syndrome: Clinical Research & Reviews* 14, no. 5, 2020, pp. 943-46.

⁷¹ R. Leinfelder, “Assuming Responsibility for the Anthropocene: Challenges and Opportunities in Education”, *RCC Perspectives*, no. 3, 2013, p. 9.

⁷² E. L. Quarantelli, *A Half Century of Social Science Disaster Research: Selected Major Findings and their Applicability*, Delaware, Disaster Research Center of the University of Delaware, 2003, p. 9.

focal point, thus perpetuating through their “anchoring practice”⁷³ the understanding of disasters as concentrated in time and space. However, although the fetish field drew scientific authority from the authenticity of presence, the researchers needed to maintain distance. Like many social scientists, they were committed to a notion of scientificity based on distant objectivity. The idea of distance thus can only be upheld if disasters are viewed as not only in space but also in time contained, and the other of the normal.

In order to bring upon a major change of the understanding of disasters, a radical transformation of the temporality of disaster research is required. But this turn, as we addressed at the beginning, entails much more than simply neglecting the existence of disasters –or merely stressing the processual nature shaping them. As the previous sections have shown, disaster researchers were quite aware of the temporal limitations that disaster-as-event approaches presented. However, processualist approaches were not capable of, firstly, overcoming a scientific distant positioning and, secondly, an understanding of disasters located “outside” the “world” –an ontologically independent force whose “real” causes can be “isolated” and “revealed”. The Ancash case shows us, moreover, that relying only on the societal factors shaping disasters, as well as the condition leading to a long-term duration of the disruption they cause, is not enough for proposing a socially-committed research agenda. Survivors from urban areas in Ancash also stressed the strong social and political component shaping the 1970 catastrophe –a situation that did not end up with the reconstruction of the new urban areas but it was maintained until now. However, this “structural” and political reading of the situation was also shaped by strong classist and racist assumptions about the “new” inhabitants of urban areas – the ones allegedly responsible for the current deterioration and stagnation of cities like Huaraz. Against this is that we claim the necessity of critical approaches that reflect both on the concrete articulations of actors, objects, materialities and relationships shaping what we understand by disasters, but also on our own spatio-temporal positions as researchers within those articulations.

As alternative, we call upon an assemblage-based understanding of disasters, as proposed by Donovan and McGowran⁷⁴, that allows overcoming the event-process dichotomy by inquiring on “how place-specific, uneven, socio-material relations

emerge across space-time in both contingent and unpredictable ways”⁷⁵. Based on a flat-ontology perspective that aimed to overcome the prioritization of certain forms of world production over others, an assemblage-based view of disasters promotes an alternative that avoids a naïve objectivism looking for the “root causes” of extreme events –being these “natural” or “social”. As assemblages, disasters are signified not by what is conceived as scientifically validated or not, but through the relations among the elements composing the vast network of actors entangled in diffuse boundaries of the disaster. This perspective necessarily requires to move beyond anthropocentric approaches prioritizing human actors and expanding the analysis to the socio-material components involved as well as the relations between them⁷⁶. Perhaps the most important aspect of this point is to think about disasters beyond human scope and reflect on how more-than-humans can simultaneously be mediators, translators, and victims of catastrophes. Moreover, as a field faced to the strongly future-oriented arenas of risk management systems⁷⁷, assemblage-based perspectives need to deal with the affective imaginations proposing multiple forms of future production –or *future-in-the-making*⁷⁸. When articulated towards the future, disasters are not actual arrangements with well-known consequences, but virtual risks that must be anticipated through concrete management systems. Thus, it becomes relevant to explore how those future events are brought into the present through specific political arrangements that ultimately prioritize certain actors and components over others.

Moreover, we call upon to a situated research that recognize the particular historical junctures where “boundaries materialize in social interactions”⁷⁹. As researchers, it becomes imperative that we have the capacity to reflect upon our own positions when analyzing disasters, not as distant observers of phenomena that can be isolated, classified, and managed, but as pivotal agents influencing the way that the boundaries of disasters are drawn and transformed. A situated form of doing science, based on a feminist approach that revendicates partial perspectives and connections, is a way of achieving an objective vision⁸⁰ that moves beyond “the ideologies governing the relations of what we call mind and body, distance and responsibility”. Feminist objectivity, in this sense, “is about limited location and situated knowledge, not about transcendence and splitting

⁷³ C. Camic, N. Gross, and M. Lamont (eds.), *Social Knowledge in the Making*, Chicago, University of Chicago Press, 2011.

⁷⁴ A. Donovan, *op. cit.*; McGowran and Donovan, *op. cit.*

⁷⁵ P. McGowran and A. Donovan, *op. cit.*, p. 11.

⁷⁶ *Ibidem*, pp. 11-12.

⁷⁷ B. Anderson, *op. cit.*

⁷⁸ P. McGowran and A. Donovan, *op. cit.*, pp. 12-13.

⁷⁹ D. Haraway, “Situated Knowledges: The Science Question in Feminism and the Privilege of Partial Perspective”, *Feminist Studies* 14, no. 3, 1988, p. 595.

⁸⁰ S. Harding, *The Science Question in Feminism*, Ithaca, Cornell University Press, 1986; M. Strathern, *Partial Connections*, New York, Alta Mira Press, 2005.

of subject and object⁷⁸¹. Such an approach requires an active compromise not only with finished results, but also *during* the data collection and fieldwork⁸². It implies countering the collateral effects of research work over affected areas and transforming the temporal assumptions amid “social intervention” by including notions of slow disaster and other temporal arrangements beyond reactive efforts of event-based perspectives⁸³.

Facing disasters as assemblages that explicitly articulate temporal projects means exploring their operation as real temporal devices: *patterned teleological arrangements*⁸⁴ fulfilling concrete temporal purposes –makers of a before-and-after, an acceleration or deceleration of social processes, a deep disruption or continuity of the *status quo*. Their patterned reproducibility relies on the uses that the scientific community and decision-makers

give to them to perpetuate specific interpretations and productions of the *world*. An assemblage-oriented approach, in this sense, enables us to explore those rhythms, scales, and interventions that certain articulations of disasters come to justify. It is an invitation to desessentialize the temporalities that social scientists attribute to disasters, and reflect on the role that we, as researchers, have in the acceleratory or deceleratory patterns of society.

Acknowledgements

We would like to thank Mangakane Karabo Makola, Nina Bildstein, and two anonymous reviewers for their valuable comments and feedback on earlier versions of this paper.

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⁸¹ D. Haraway, *op. cit.*, p. 583.

⁸² K. Fortun et al., *op. cit.*, p. 1018.

⁸³ *Idem*; M. Liboiron, “Disaster Data, Data Activism: Grassroots Responses to Representing Superstorm Sandy”, in J. Leyda and D. Negra (eds.), *Extreme Weather and Global Media*, New York, Routledge, 2015, pp. 143-162.

⁸⁴ J. Law and E. Ruppert, “The Social Life of Methods: Devices”, *Journal of Cultural Economy* 6, no. 3, 2013, pp. 229-40.

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