Crisis Translation A snapshot in time

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ABSTRACT: The fields of disaster studies and crisis communication have been established for a long time. However, the role of translation in these fields has largely been overlooked until recently. A considerable body of research is now emerging that investigates translation as a crisis communication tool. This paper serves to provide a snapshot in time of the progress to date. A brief introduction to the disciplines of disaster studies and crisis communication is provided and crisis translation is situated at the nexus of these two areas. Following from this, the article considers the position of crisis translation in relation to topics of interest to translation studies scholars such as conflict, development, and community translation. Some of the main topics that have received recent attention to date, such as emergency response policy, translation technology, citizen translator training and ethics are then introduced. The lack of recognition of translation as a crisis communication tool in emergency response policies is called out and recommendations for such policies are highlighted. The essential role of volunteers in crisis response and how this relates to translation is discussed, along with the ethical considerations that need to be taken into account. The potential and challenges of translation technology to assist in all stages of crises is then elaborated. Taking a proposal for research directions in disaster studies as the basis, how translation studies can respond to that agenda is briefly considered. It is concluded that translation and interpreting research can contribute to the five 'guiding principles' of horizon scanning, interdisciplinarity, ethics, knowledge transfer and impact. Equally, crisis translation can also easily contribute to the five research 'thrusts' of justice, risk, habitation zones, data and technology, and infrastructure for

humanity. Indeed, the work to date on crisis and translation has already made significant contributions to these topics, but there is considerable potential for further developments.

KEYWORDS: crisis, translation, disaster studies, crisis communication, research agenda

논문초록: 재난학과 위기 커뮤니케이션은 오래전부터 존재해왔던 연구분야이다. 하 지만 이들 분야에서의 번역의 역할은 최근까지만 해도 주목을 받지 못해왔다. 오늘 날 위기 커뮤니케이션 도구로써의 번역의 역할을 심층적으로 다룬 연구 결과가 상 당수 등장하는 상황에서 본 논문은 최근 부상하고 있는 '재난번역' 분야의 연구 현황 을 소개한다. 먼저 재난학과 위기 커뮤니케이션을 간략하게 정리한 다음, 두 분야에 서의 '위기번역'의 역할, 분쟁·개발·지역사회통번역과 같은 번역학자들의 관심주 제와 관련한 위기번역의 위상을 살펴본다. 이어서 '위기대응 정책(emergency response policy)', 번역 기술, '시민 번역사' 교육과 윤리에 대해 소개하면서, 현존하는 비상대 응 정책이 위기 커뮤니케이션 도구로써 번역을 인정하지 않는 현실과 관련하여 관련 정책적 권고도 제시한다. 구체적으로는 위기대응과 관련한 자원봉사자의 필수역할, 자원봉사자와 번역의 관계를 논의하는 한편, 고려해야 할 윤리적인 사안들을 다룬 다. 또한 번역 기술이 위기대응 전반에 기여할 수 있는 가능성과 직면하고 있는 도전 과제를 논하면서, 연구 원칙과 주요 관심 분야를 중심으로 한 재난학의 연구방향 제 시 제안서를 바탕으로 번역학에의 기여 가능성을 간략하게 고찰한다. 결론에서는 통 번역학 연구가 이슈스캐닝(horizon scanning), 학제성, 윤리, 지식 전파, 영향력의 5개 지침과 관련하여 기여할 수 있다는 점, 특히 위기번역이 정의(justice), 위험요소, 거 주 구역(habitation zones), 데이터와 기술, 인류를 위한 인프라 구축이라는 5개 주요 관심분야에 대한 기여 가능성이 크다는 점을 강조한다. 요컨대 위기번역은 지금까지 진행된 위기 연구와 번역학 연구에 각각 기여해 왔으며, 앞으로도 그 발전에 기여할 잠재력이 매우 풍부하다.

핵심어: 위기, 번역, 재난학, 위기 커뮤니케이션, 연구 의제

1. Introduction

This paper provides an overview of recent work on the role of translation in crisis settings, dubbed 'crisis translation' (O'Brien, 2016). While not positioning itself as a systematic review, the paper seeks to act as an introduction and

a snapshot at the specific time of publication for readers who have yet to explore this expanding topic. Those who wish to delve deeper will be able to do so through the body of research already published, referenced throughout. As such, this article will act as a primer for newcomers identifying the main topics of interest to date, relations and overlaps with existing sub-fields within the discipline of translation studies, links with other fields of interest such as disaster studies and crisis communication, and, in conclusion, it discusses future research directions.

1.1 Crisis Translation, Disaster Studies, and Crisis Communication

What does the term 'crisis translation' encompass? It cannot be claimed that this term is well-defined and understood because it is, in fact, an evolving concept. Prior to delving into its current (though evolving) definition, it is useful to first explore and position it with respect to terms from related disciplines.

1.1.1 Disaster studies

Though the terms 'crisis', 'emergency' and 'disaster' (in English) may be differentiated along the parameters of duration, cause and scale, they are frequently used interchangeably and are not clearly defined or differentiated. Generally, a crisis (or a disaster) is understood to mean an unexpected event, with sudden or rapid onset that can seriously disrupt the routines of an individual or a collective and that poses some level of risk or danger (adapted from Quarantelli, 1998).¹ The field that studies such events from an academic perspective is 'disaster studies'. According to Landahl et al. (2019), the sociological study of disasters (at least in North America) can be traced back to a doctoral dissertation in the 1920s by Samuel Henry Prince who wrote about the 1917 collision of two ships in Halifax, Nova Scotia. One of these ships had a cargo of munitions and the subsequent explosion killed 1,963 people and injured 9,000. However, Alexander (2017) informs us that major disasters

¹ It is important to acknowledge here that some disaster studies scholars argue that disasters are actually *predictable* events (i.e. not unexpected) that result from the interaction of the planet's systems, human systems, and the built environment (see: Mileti, 1999).

had been systematically investigated before this date. For example, the 1883 eruption of Krakatoa was documented by Symons in 1888.

Quarantelli (1987) provides an interesting overview of the emergence of disaster studies, at least in the American context. According to him, a distinct field of study began to emerge in the 1940s-1950s. He explains that the earliest disaster research in the US around the 1950s was almost exclusively supported by the US military and had practical concerns and an applied focus on wartime situations (Quarantelli, 1987, p. 294). The assumption was that issues relating to disasters were primarily social-psychological in nature and that what constituted a 'disaster' was mainly visualized as a major earthquake (Quarantelli, 1987, p. 301). Quarantelli speculates that the social science work on disasters may have gone in a very different direction "if, for example, such diffuse emergencies as famines or droughts or epidemics or even large scale riverine flooding [...] provided the prototype of what constituted a disaster" (Quarantelli, 1987, p. 301). The emphasis in those early days was on reaction, not prevention, and on planning, not management.

Although Quarantelli's commentary is on the development of the field in the US, it is fair to say that the scholarly development in that region influenced the international field. For instance, a 1979 report on emergency management by the (US) National Governors Association is credited with the initial categorization of the disaster life cycle into four phases, i.e. mitigation, preparedness, response and recovery. Disaster researchers around the world still refer to these four stages, though they are not seen as distinct or mutually exclusive (Landahl et al., 2019) and moves are afoot to nudge the thinking away from the typical 'cyclical' view of the disaster life-cycle to a framework that is less repetitive and inevitable in its conceptualization (see Bosher et al., 2021). The conceptualization of these 'stages' in a disaster is relevant for our discussion of the role of translation and interpreting and will be elaborated further on below. It is worth noting that Alexander (2016) positions disaster not as a social-psychological phenomenon, but rather as a socio-economic problem, noting that "[a]s disaster is largely a socio-economic problem, their influence on impacts and suffering is profound and they beg to be understood" (p. 3).

For the sake of convenience in this article then, the term 'crisis' will be used as a broad term with the meaning specified above. When referring to the academic field, 'disaster studies' will be used and, as is the norm, when referring to civil or governmental response, 'emergency response and management' is the term that will apply. For the sake of completeness, there are a number of other related terms that are worth noting here, such as 'disaster prevention and management' (DPM) and 'disaster risk reduction' (DRR) (see Alexander, 2016).

1.1.2 Crisis communication

The broad field of 'crisis communication' has been established since at least the 1980s (Heath & O'Hair, 2009). While crisis communication encompasses aspects of business and reputation management (e.g. when a product is recalled due to defects), it also refers to communicating during crises, emergencies and/or disasters. As with the field of disaster studies, it is well established. However, the field has paid scant attention to the need for, or role of, translation and interpreting in crisis communication. To address this gap, researchers in translation studies have relatively recently started to examine not only the need for and use of translation and interpreting in crisis response, but also the role of translation as a risk reduction tool in the disaster cycle (Federici & O'Brien, 2020; O'Brien & Federici, forthcoming). Since crisis communication to create the parallel term—'crisis translation'—which alludes to the role of translation and interpreting at the intersection of crisis communication and disaster management and disaster risk reduction.

1.2 Situating Crisis Translation

To facilitate cross-disciplinary collaboration in a recent EU-funded project², a working definition of 'crisis translation' was required. The initial definition proposed was as follows: "[...] any form of linguistic and cultural

² The project in question was called 'INTERACT – The International Network in Crisis Translation', which was funded by the European Commission (grant number 734211) between 2017 and 2020. This project facilitated cross-disciplinary and cross-sectoral network building and research activities which contributed significantly to the emerging body of work and was coordinated by the author of this article. Further information about the project and its outputs can be found at the following URL: https://sites.google.com/ view/crisistranslation/home (retrieved December 1, 2021).

transmission of messages that enable access to information during an emergency, regardless of the medium" (Federici et al., 2019, p. 247). The team of researchers later elaborated on this: 'crisis translation considers language barriers in the context of multi-dimensional cascading effects that widen existing vulnerabilities or engender new ones by means of miscommunication' (O'Brien & Federici, 2020, p. 131). This statement highlights how crises can be multi-dimensional, have cascading effects, and have greater impacts on those who have existing vulnerabilities. A good example of cascading effects is the Great East Japan Earthquake of 2011, which started with an earthquake, followed by a nuclear accident, and then flooding. In our most recent reflections, and in reference to 'language barriers'—we should only talk about 'languages'. As languages are merely a natural state of humankind, the barriers are artificial, social constructs" (O'Brien & Federici, forthcoming).

As the readers can ascertain, the thinking on this topic is evolving. Nevertheless, the fundamental premise underlying the concept of crisis translation remains that in today's age of globalization, increased urbanization and migration, communication during a crisis must be multilingual and multicultural and that this communication is enabled through translation and/or interpreting. It is worth noting that attention on crisis translation commenced in advance of the global COVID-19 pandemic (see, for instance, Cadwell, 2019; Cadwell & O'Brien, 2016; Doğan, 2016; Federici, 2016; O'Brien & Cadwell, 2017). The COVID-19 pandemic only reinforced the argument emerging in pre-pandemic times that translation had been seriously overlooked as a crisis-response, risk reduction and preparation tool.

An immediate question that arises when discussing 'crisis translation' is whether the term means 'interpreting,' 'translation' or both? As the working definition above suggests, a primary focus in crisis translation is *during* a crisis, the urgency of which suggests that the modality of interpreting could be more relevant than written translation. While interpreting during a crisis is without doubt an urgent requirement the field of crisis translation to date has rather focused on written translation. This may come as a surprise interpreting is immediate and useful in urgent situations, whereas translation takes more time. However, three factors have influenced this focus on the written modality: (1) the fact that the role of written translation had thus far been overlooked in this setting and so attracted the attention of scholars whose main focus and expertise was in translation; arguably, interpreting for crises has also received insufficient attention, though it has been given more consideration in the domain of conflict, military, refugee, or peacekeeping settings (e.g. Gaunt, 2016; Moreno-Bello, 2021; Ruiz Rosendo, 2020; Ruiz Rosendo & Persaud, 2019; Todorova, 2020; Valero Garcés, forthcoming), in health (e.g. Ng & Crezee, 2020), or police settings (Del Pozo Triviño, 2020; Drugan, 2020), to give just a few examples; (2) the crisis cycle entails far more than a 'response' stage (discussed above, and see below for further discussion) and the written modality has perhaps even more to offer in these other stages of a crisis; and (3) the professional and disciplinary lines drawn between translation and interpreting have a tendency to dissolve in a crisis because an interpreter may also be asked, out of urgency, to translate and vice versa. For these reasons, the recent work in crisis translation has had a strong focus on the written modality and, consequently, this article will do so too, while recognising the essential and overlapping role that interpreting plays in crisis response.

Additional questions that arise when discussing what 'crisis translation' entails are whether it includes (1) conflict settings, (2) development settings, and (3) community translation. Returning to the characterization of a crisis as something that is generally an unexpected event, with sudden or rapid onset that can seriously disrupt the routines of an individual or a collective and that poses some level of risk or danger, it is clear that a conflict can be characterized as a crisis. There is a significant body of work in translation studies on conflict, some of which is mentioned above (see also: Footitt & Kelly, 2012a; Footitt & Kelly, 2012b). Despite overlap and interconnection, it should be noted that not every crisis results from a conflict and not every conflict is unexpected or sudden. Crises can of course have cascading effects, one of which might be the emergence or exacerbation of conflict (e.g. if food shortages arise because of a serious drought, which leads to conflict over food supplies).

Crises and conflict can eventually lead to situations where attention is turned to making things better through, for example, peacekeeping and rebuilding efforts and this is where 'development' lies on a continuum³ of

³ Landahl et al. (2019) also talk about a 'continuum' in relation to disasters, though their focus is on a continuum of negative impact, moving from emergency to disaster to catastrophe and they consider it in terms of how overwhelmed national response assets might become.

sorts. In the field of development, language and translation are important, but often overlooked (Crack, 2018). A development setting will have fewer of the traits of unexpectedness, suddenness, or rapid onset of a crisis setting, though of course routines might still be disrupted and there may very well be risk to individuals and groups and, indeed, danger. Calls for connections between development studies and translation studies have begun to emerge and suggest a broadening of standard translation studies concepts that go beyond inter- or intralingual communication to intersemiotic translation (e.g. Bernacka, 2012; Marais, 2018, 2014, 2013; Marais & Delgado Luchner, 2018). This move could have interesting implications for understanding, managing and communicating in highly complex crisis settings, which often require multimodal approaches to communication to be effective (see, e.g. Chen, 2020; Sciurba et al., 2021). Marais and Delgado Luchner (2018) point out that there is no one standard approach to development, that approaches differ between countries due to their "different spatial and historical constraints" (p. 383). Likewise, crisis response in development contexts will differ depending on the hazard and risk profile as well as the linguistic make-up of the specific region.

To turn to the final frequently-asked question: how does 'crisis translation' relate to 'community interpreting' or 'community translation'? This article cannot delve into an extensive discussion about these two fields. However, we will briefly explain how crisis translation may, or may not, overlap with both concepts. Marais and Delgado Luchner (2018) explain that the concept of community interpreting arose in the Western, mainly Anglophone, world and that it was closely linked with the provision of language services for migrants or minorities. They make an important distinction between the Western contexts where "multilingualism and the non-mastery of the official language of a state by some of its citizens remain an exception" (Marais & Delgado Luchner, 2018, p. 389)—and that of development contexts where multilingualism is often the norm. In Western contexts, community interpreting is seen as a short-term measure to "reestablish a balance" (Marais & Delgado Luchner, 2018), but its purpose and practice might be very different in other contexts.

The concept of 'community translation' is not transparent but is often closely linked with the development of community interpreting, therefore "referring mainly to the written translation of public information for an

immigrant population" (O'Hagan, 2011, p. 12). O'Hagan (2011) goes on to expand this notion beyond public service translation and to link it with the development of Web 2.0, the internet and social networks and so it has come to be linked with the practice of professional and non-professional translation in technological environments such as Wikipedia, YouTube, TED Talks, and Facebook, to list just some examples (Yamada, 2020). In origin then, and to the extent that accessibility of information for a migrant who might find themselves in a crisis (e.g. injured and in a hospital) is the focus of a translation task, community interpreting or community translation could be seen to overlap with crisis translation. Further, the inclusion of both professional and ad hoc translators or interpreters is a common trait. Social media are known to play an important role in crisis communication in general (e.g. Cheng, 2018), and in crisis translation specifically (Marlowe, 2020; O'Brien et al., 2022); an interest in social media is therefore common to both. Where the 'community' and 'crisis' aspects differ has to do with the level of urgency of the communication, the level of disruption, or of danger. Undoubtedly, some beneficiaries of community interpreting/translation may need information urgently, be seriously 'disrupted' and may even be in danger, but this is not consistently the case. As we have mentioned earlier, some phases of the disaster cycle are less urgent than others (mitigation, preparedness, recovery). Thus, we see crisis translation as a form of 'community translation', sharing some of its characteristics, but which sits on a continuum characterized by urgency, disruption and danger.

As this discussion hopefully portrays, crisis translation is an emerging concept that relates to other subfields of inquiry in translation studies and has overlaps with them. It includes the written and spoken modalities, which can play various roles at different stages in the disaster lifecycle. The difference between crisis translation and contexts of conflict, development, or public service, mainly lies in the level of urgency, risk and danger, in the existence of underlying vulnerabilities among those who need the translation, in the nature of the content to be translated, and in who does the translating and/or interpreting. We propose to view these fields as overlapping to some degree, occupying a continuum of urgency, risk and danger, but united in one overarching goal, which is to ensure that those who need relevant and accurate information in a timely manner to assist with action that could preserve well-being, health, safety, and even life, have access to that information in

a language they can understand and, crucially, can act on, as well as in an appropriate format (text, audio, image etc.).

2. Research Topics

In this section, some of the research topics that have been a focus of attention within crisis translation will be discussed. Although the topic is relatively recent within translation studies, it would be impossible to include all of the topics or articles that have been published in this 'snapshot'. Priority is given to the topics that have received most attention to date and a brief mention is given to other emerging topics.

2.1 Emergency Management Policy and Translation

Emergency management is typically guided by policy that is drawn up and maintained by national or regional governments, along with bodies that have dedicated responsibility for emergency response, for example the defence forces or the Federal Emergency Management Agency (FEMA) in the US. Policy provides guidelines for action and can range from the vague and aspirational to concrete recommendations, the latter moving more towards principles of implementation. Emergency management policy may contain specific sections dealing with communication which details responsibility, lines of reporting, modes of communication, etc. This is where one might expect to find references to the multilingual and multicultural make-up of a society, to the need for translation and interpreting in crisis response, and to how those needs might be met. One might also expect reference to protocols for communicating with deaf and hard of hearing, blind and disabled members of society, along with consideration of how to ensure effective messaging for those with limited literacy skills and limited digital skills, including but not limited to the elderly. Policy represents an important device in any government's arsenal of crisis preparedness, mitigation and risk reduction. However, if the role of translation is not specified, or underspecified, in such policies, it is reasonable to assume that translation will be an afterthought in crisis communication. An analysis of five national emergency response policies was carried out by O'Brien et al. (2018) to

learn if and how translation was factored into the policies for New Zealand, Japan, Ireland, the UK and the USA. Somewhat unsurprisingly, it was found that translation received little acknowledgement as a risk reduction, crisis preparedness or response tool. This was of course a limited analysis of only five national policies. The situation may be better for other countries, especially those that have stronger (legal) provision for, or recognition of, language rights, but we expect that the findings could apply to many countries. Further analysis of other national emergency response policies is eagerly awaited. The research on policy during the INTERACT project led to the publication of ten high-level policy recommendations that are targeted specifically at emergency response policy makers. Those recommendations include, for example, advice that there should be an explicit 'owner' of the translation policy within an organisation, that policy should be developed in consultation with stakeholders, and that training is provided for professional and volunteer translators and interpreters so that they can effectively operate in a crisis.⁴ This last point also touches on ethical aspects: operating in a crisis is not something that translators and interpreters typically do. Training on how to manage the stress and risk should be provided to any person expected to engage in a crisis translation setting.

Policy does not, however, guarantee implementation. On the flip side, implementation does not necessarily require policy. Despite the rather vague nod to translation in Ireland's emergency response policy (O'Brien et al., 2018), our analysis of Ireland's translation response to the COVID-19 pandemic illustrated that translation could take place without being explicitly formulated in a national policy (O'Brien & Cadwell, forthcoming). Similarly, Wang (2019) and Zhang and Wu (2020) demonstrate that translation can certainly take place in an emergency, but still, enshrining its place in an emergency response policy would lessen the ad hoc approach which, in turn, would likely improve outcomes, especially language coverage and speed of production. Developments in this direction through dedicated working groups on national emergency language services is evidenced by, for example, Piller et al. (2020).

⁴ All policy recommendations can be consulted here: https://reliefweb.int/report/world/ international-network-crisis-translation-recommendations-policies (retrieved March 24, 2022).

2.2 Citizen Translators, Training and Ethics

Professional translators and interpreters are an asset in crisis communication, but there are several reasons why there may not be an adequate supply of them. First, the profession of translation and interpreting is not established equally across the world. The training programmes that contribute to the creation and sustainability of the profession cannot be accessed in equal measure globally. Second, translators and interpreters may themselves be affected by a crisis at a local level and may be temporarily unable to provide their normal level of service. During the response stage of a crisis especially, responders may turn to volunteers to provide emergency language services. The contribution of volunteers from a variety of professions and disciplines (e.g. engineering, medicine) to crisis response is well acknowledged. It is viewed as a "legitimate way in which people can participate in the activities of their community" (NZMOCDEM, 2013, p. 4) and as an activity that deserves recognition and respect (NZMOCDEM, 2013). The challenges of volunteer coordination are also well-documented. For example, a volunteer coordination team is recommended, training and resources need to be provided, technology is desirable to support coordination and communication (Herranz et al., 2013), and legislation may need to be complied with (NZMOCDEM, 2013). Since translation is regrettably often an afterthought in crisis response, the training and management of language volunteers in this domain is immature. The INTERACT project mentioned earlier aimed to start filling this gap by creating short, online '101' type content as a starting point for organizations seeking to engage translation volunteers (Federici & Cadwell, 2018; Federici et al., 2019).⁵ To build on the initial '101' course content work, the team also co-developed a masters-level module for translation studies programmes at the University of Auckland, University College London and Dublin City University on the topic of crisis translation. The aim of these ongoing modules is to enable translation studies students (and students of refugee integration in the case of DCU) to develop a skillset for supporting multilingual crisis settings (Federici et al., 2019). The topic of volunteer crisis translation was further developed by examining the

⁵ This course content can be viewed on https://www.youtube.com/watch?v=ng1446y Nz0E&list=PLg2pAk9z_gypTwz-peEseoui7b7Z0E4jP.

potential for 'agent based modelling' (ABM)—a class of computational model for examining systems and determining their emergent behaviour—as an approach for managing volunteer translation in crisis response (Ogie et al., 2022). There is potential for much further research on the use, management, training and effectiveness of volunteer crisis translators. In addition, the concept of ABM could be further researched as a tool for monitoring the effectiveness of the interactions, behaviours, attributes, skills, and workflows in crisis translation.

As with all crisis response volunteering, the ethical dimension needs to be examined carefully. There is no denying that the use of untrained volunteers to translate crisis content comes with many challenges, not least of which are: do volunteers adequately understand the content to be translated, can they produce an accurate and appropriate translation, if they undertake to translate content, will they do so within an agreed timeframe, what are the potential outcomes if a translation is incorrect, is their deployment undermining an existing group of professionals or the 'value' of translation in general, possibly veiled in excuses relating to a lack of budget and so on? These valid questions must be counterbalanced from a language rights perspective: in Article 2 of the Universal Declaration of Human Rights language cannot be a barrier to rights and freedoms in general. Scholars in humanitarian development have also argued that language cannot be a barrier to providing timely and accurate information in a crisis (Greenwood et al., 2017). Furthermore, we need to consider what the impact is if arguments in favour of professional translation only result in no information being made available to those who need it. The specific example of translation volunteers in crisis response has been examined through the lens of virtue ethics by O'Mathúna et al. (2020) and Hunt et al. (2019), and more broadly through the lens of Ricoeur's 'linguistic hospitality' by O'Mathúna and Hunt (2020). This work led to a set of ethics recommendations for crisis translation.⁶ Turning again to Marais and Delgado Luchner who discuss informal translation and interpreting practices in the development context, they argue that such practices can be analysed as "meaningful adaptions to a specific set of contextual constraints" and that "adaptations are made under the constraints

⁶ The ethics recommendations can be accessed on https://doras.dcu.ie/23511/.

of limited financial and human resources, which is much more complex than a mere 'failure' to comply with professional standards that have been defined within a different frame of reference" (2018, p. 391). The debates on the use of volunteers in crisis and development settings are highly complex and are by no means settled, but a body of work is emerging to help us comprehend and debate the issues.

2.3 Technological Issues

Translation technology, such as translation memory (TM) tools, terminology management tools and machine translation (MT), have traditionally been developed due to commercial or geopolitical demands. The early research and development of MT was driven by the geopolitical dimensions of the Cold War and TM tools arose due to growing demands in globalization, especially in the IT domain, where large volumes of repetitive text required translation into many different languages.

Given the reasons for their initial development, a logical question is whether and how translation tools such as TM, MT and terminology are suited to crisis communication and what research is required in this subdomain. MT may potentially be considered the most suitable technology for crisis response, given the speed of production it enables, its online availability in a growing number of languages, and its increasing success in the neural machine translation (NMT) paradigm. When translation is required at speed, MT is, on the surface, the most logical tool. There is evidence of its use in crisis response, the best-known example being the rapid development of an English to Haitian Creole engine following the Haiti Earthquake of 2010 (Lewis, 2010; Lewis et al., 2011). It goes without saying that the use of MT for communication in life-threatening situations is highly problematic, given that it is still a far from perfect technology. In fact, NMT could be seen as even more problematic for crisis response because the output can be perceived to be highly fluent and therefore correct to the non-trained eye, even though the meaning might be warped or wrong; getting the message wrong in crisis communication is far from ideal. Challenges in addition to the quality problem include the lack of coverage for languages that may be required in crisis response, the lack of domain-specific engines that cover crisis content, and, not least, the requirement for power and infrastructure to be available to run this technology. The MT research and development community continue to tackle these challenges in general, looking at ways to improve language coverage for so-called 'low resource' languages⁷ and ways to run MT systems on mobile devices (e.g. Agrawal & Chandak, 2007), for example. One significant challenge to add here is that those in the field of emergency response may not be fully informed about the pitfalls of MT technology. In a domain where saving lives is a priority and resources are always stretched, using an online, free tool may seem like an obvious choice. The necessity for training in basic MT Literacy (Bowker & Buitrago Ciro, 2019) is clear.

Although perhaps not immediately obvious, translation memory technology has a role to play in crisis translation. Taking into consideration that there are different phases in crisis response, as mentioned earlier, TM could be used as a tool to support translation of content relating to recovery, mitigation and preparedness (O'Brien, 2019). Terminology, too, is a key feature of crisis response given that clear and well-defined concepts are paramount to comprehension. The field has attempted to translate core terms in several languages. For instance, the UN has created a list of disaster risk reduction terms translated into Arabic, Chinese, English, French, Russian, and Spanish⁸. Initiatives in this space, however, tend towards the use of websites or downloadable PDF files, which might limit accessibility in times of crisis response. A more agile use of mobile technology is called for when it comes to multilingual disaster terminology.⁹

Two further topics are worth mentioning briefly here: The first is the increasing viability of speech technology in the form of speech-to-speech and speech-to-text, sometimes via MT. We note that this technology in increasingly being used in interpreting settings (Duarte et al., 2014; Fantinuoli, 2018) and for training MT engines (Paulik & Waibel, 2009) and its applicability to crisis response is clearly evident. The second topic of note here is one that builds on an increasing body of research about accessibility, notably for deaf,

⁷ For one such initiative, see: https://www.statmt.org/wmt21/unsup_and_very_low_res. html.

⁸ See https://www.preventionweb.net/understanding-disaster-risk/terminology.

⁹ For developments in this direction where the UN disaster risk reduction terminology is being translated for Sierra Leone and a mobile app is also being developed, see this blogpost (https://sites.google.com/view/crisistranslation/blog/fmf-sierra-leone-2021?authuser=0) on the INTERACT website.

hard of hearing and blind communities, and the guidelines and technologies that enable translated web content specifically to be accessible (Torres del Rey & Morado Vázquez, 2019). Scholars have now started to investigate such matters in relation to crisis content and translation (Morado Vázquez & Torres del Rey, forthcoming; Rodríguez Vázquez, forthcoming; Torres del Rey & Morado Vázquez, 2019). While sign language interpreting became more 'visible' in main stream news during the COVID-19 pandemic (often as a result of substantial lobbying by the deaf community), there is still a dearth of services offered across all aspects of day-to-day living.

3. Future Research Directions

In 2018, the US Federal Emergency Management Agency (FEMA, 2018) published a report whose aim was to guide future research in Disaster Studies over three to five years. This was seen as necessary due to the highly interdisciplinary nature of the field, to guide development, to build the literature for replication, rather than duplication (Landahl et al., 2019). Five guiding principles and five research thrusts were proposed by FEMA. The guiding principles were (1) Scanning the Horizon, (2) Fostering Interdisciplinarity, (3) Embracing Ethics, (4) Transferring Knowledge, and (5) Maximizing Impact (US FEMA, 2018). Scanning the Horizon is about delving into literature in various disciplines to identify true literature gaps. As has been presented in this article, this task has already commenced, at least from a translation studies perspective, where scholars in this field are knocking on the door of disaster studies with a particular offering that seems to have received little attention so far. We can only speculate as to the reasons for the lack of attention: Is it because language is not considered to be a challenge in disaster management (this is hard to believe; the challenge of communication in emergency settings is especially recognized)? Can we attribute it to an inevitable hierarchy of challenges in a limited resource environment (medicine first, talk later)? Or is it simply a blind spot in disaster studies where attention has been given to vulnerabilities (age, gender, economic status, etc.), but language and its role in accessing information has been overlooked? Whatever the reason, translation studies has a valuable offering to make to the field, which leads to the second guiding principle.

Interdisciplinarity is about researchers from multidisciplinary teams working together to provide more robust solutions. At the time of writing, there is very little (if any) truly multidisciplinary teams in disaster studies that include translation studies researchers; this is certainly something to aim for. The remaining three guiding principles can easily be addressed from a TS perspective too: The ethics of (non)-translation and of citizen translation is a rich area that needs to be explored more fully as does the ethics of *doing* research on translation in crisis settings; translation is clearly a key method for the transfer of knowledge and it is noteworthy that the only reference to 'translation' in the FEMA report is about its role in transferring research knowledge (as opposed to its role in disaster management), which, in turn, is seen as a way to maximize impact.

The five research 'thrusts' are: (1) Justice, Equity, and Capacity Development; (2) Risk Build-up and Disaster Exposure; (3) High Risk Habitation Zones; (4) Data, Technology, and Societal Impacts; and (5) Infrastructure for Humanity. Crisis translation can contribute to all of these research thrusts. Crisis translation immediately involves linguistic justice and equity and, in the context of crises, it is not difficult to argue that access to multilingual information can contribute to capacity development. Second, as mentioned above, translation can contribute to information dissemination on risks, hazards and mitigation. Third, the role of translation technology, in particular machine translation, its essential consideration of data, and societal impact both of the technology itself but also of the outcomes of that technology are relevant to crisis contexts too (O'Brien, 2019). Finally, the Infrastructure for Humanity thrust includes "universal design and accessibility for all" (p. 3); translation studies already has an emerging body of research on this topic in general (e.g. Torres del Rey & Morado Vázquez, 2019; Torres del Rey & Rodríguez Vázquez, 2016), including consideration of crisis contexts (Morado Vázquez & Torres del Rey, forthcoming; Rodríguez Vázquez, forthcoming; Rodríguez Vázquez & Torres del Rey, 2020). Translation scholars may not wish to limit themselves to these guiding principles and research thrusts when delving into the field of crisis, but they are an excellent starting point. Furthermore, as this research agenda has been developed from within disaster studies, it is sensible to embrace it and to be informed by it rather than inventing our own 'agenda'. As the FEMA report highlights:

A substantial body of knowledge exists on disasters in a variety of disciplines. Researchers and practitioners should thus thoroughly scan the many fields of study prior to any new research efforts. Such an activity invites researchers to ponder—what has already been done, what is in progress, and what needs to be done to address continuing or critical gaps in the extant literature. In this era of rapid diffusion of knowledge amid a growing field of emergency management and hazards and disaster studies across several disciplines, horizon scanning activities become all the more important to ensure that research is not being repeated or unnecessarily funded and that areas for new breakthroughs in scientific understanding will be identified and pursued (FEMA, 2018, p. 6).

This advice applies equally to translation studies as it does to disaster studies. Horizon scanning and acknowledgement of existing work may allow for multidisciplinary teams to emerge that include language and communication as a central challenge in disaster studies. The aim is to ensure that language and translation form part of a greater disaster studies research agenda and that we are "asking the right questions" (FEMA, 2018).

This article goes some way towards documenting what has already been done, what is in progress, and what needs to be done, as mentioned above in relation to disasters studies research. The aim was to provide a snapshot in time of the emerging body of research on the role of translation in crisis settings and to tentatively place it in relation to other sub-domains. The COVID-19 pandemic has increased the focus on the important role that translation and interpreting play in crisis response. At this point in time, publications are emerging addressing this topic specifically. For example, Pym and Hu (2022) discuss the role of social media in generating trust through translation of COVID-19 related information in Melbourne in 2020 and, in the same volume, Van Dijck and Alinejad (2022) discuss this from the perspective of the Netherlands. In a forthcoming volume, Krishnan et al. (forthcoming) discuss the role of health communication during the pandemic in the Indian context. Several contributions in this volume will provide perspectives from humanitarian response organisations working on the frontline during the pandemic and one chapter includes observations on the experience of the homeless in the UK. Again, this is just a snapshot of the research that is emerging, but it provides perspectives on important aspects such as trust, social media, the experience of refugees, the homeless, and from different geographic perspectives.

A 'snapshot' is inevitably static and incomplete; it provides only one perspective in time. It is likely that some relevant research has been overlooked. However, the intention was to provide an overview and some thoughts on future multidisciplinary directions, not to provide a systematic review.

The introduction discussed the birth of disaster studies and how it was influenced by wartime and military concerns. Now, with a greater emphasis on risk reduction, rather than response, and increasing attention turning to human mobility and climate change the study and management of disasters will continue to evolve. As it does, it is hoped that translation as a risk reduction tool will become more recognized and incorporated into global efforts.

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