



Enschede cries – Restoring ontological security after a fireworks disaster

Jeroen Warner

Social Sciences Group, Wageningen University, the Netherlands

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ABSTRACT

The article claims that to those affected, disaster is an existential experience. For them, it is an unexpected existential 'event' clearly separating a 'before' from an 'after'. In the academic disaster domain however the 'disaster as event' is being eroded both by complexity approaches and critical approaches, which both, if for different reasons, consider disaster 'normal'.

By the example of the Enschede, the Netherlands, urban fireworks explosion of 2000 I argue that we should not only celebrate community resilience but take much more seriously how disasters may paralyse and traumatize individuals and communities. The application of Giddens' 'ontological security' to urban disaster foregrounds the importance for the disaster-affected population of regaining a sense of continuity and trust in the living and regulatory environment. Retaining (cultural) memory, also mediated through the arts, supports long-term rehabilitation. In the case under scrutiny, the municipal government indeed proved responsive to a desire to preserve disaster memory rather than just look ahead, yet unresolved forensic puzzles and lack of accountability may have slowed psychological closure.

1. Introduction

I may be the only person who successively lived near two fireworks disaster sites: I lived in Culemborg 1989–1992, and Enschede 1995–2001. In Culemborg, my front door was blown open by the blast in 1991. In hindsight, the Culemborg explosion was a warning sign, one that however was not picked up. Nine years later in Enschede, my street was spared, but much of neighbourhood looked like a war zone after a fireworks depot detonated. (author's note)

The May 2000 fireworks explosion shook the mid-sized city of Enschede (pop. 150,000) in the East Netherlands on its foundations. For a moment the border city made world news, and reminded the Netherlands that despite its famed meticulous land-use planning, things could go horribly wrong. The disaster killed 23 people including four firefighters, injured 947 people, 527 of whom had to be treated in hospitals, in one of the most deprived districts of the Netherlands. An estimated 10,000 people were evacuated, 1500 out of 4163 district residents were permanently displaced as some 500 houses were destroyed or otherwise condemned (Figs. 1 and 2). Some residents who hid in basements died, and the death toll could have been much higher if not for the fine weather, on a weekend day, when many students living locally had left their digs anyway to visit their parents [1].

It has become received wisdom in critical disaster studies that

disaster is *not* an event, but the outcome of forces unfolding on a far larger timescale [2]: p.15]. The current tendency to zoom out to systems level leads to (correct) pronouncements such as: "Catastrophe is exceptional for the people involved, but at a grander scale it is almost run-of-the-mill, even more so given the recurrent spatial patterns that characterise it" [3]. In the socio-ecological systems approach, disasters are normal system collapses, inducing adaptation and resilience. In disaster sociology it has become *de rigueur* to point at the long gestation period and structural root causes of social vulnerability that make disasters accidents waiting to happen [4,5] (See Section 2 below).

However, sympathetic as I am to the long view, I would claim these perspectives do not resonate with the experience of the disaster victims. While many disasters are accidents waiting to happen, those flummoxed by disaster do not usually perceive them as such. Those involved, including many in the bureaucracy, will experience the disaster as a "freak" ("Black Swan") event—a life-changing one [6].

In building this argument I am encouraged by Fassin and Vasques [7], who note how the Event has been backgrounded both in anthropology and wider social science: "the social fact often transcends the contingency of the event ... for Marxism, structuralism, historical forces, the event is 'absent' ". The authors suggest characterizing an event as "a temporally circumscribed fact that delimits two states of the world ...: one before and the other after".

By the example of a critical incident, the Enschede (Netherlands)

E-mail address: jeroen.warner@wur.nl.

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fireworks explosion of 2000, I will argue that we should take much more seriously the “here and now” of disasters. People and institutions experience disaster as a loss of boundaries and solid ground, being turned upside down and inside out [8]. It is a major disruption of their routines and constitution, upsetting their trust in the world and in authorities. Disaster wreaks havoc on how people understand the world, on how its constitutive elements cohere.

I find it fruitful to discuss the traumatic disaster experience in terms of *ontological (in)security*, an emerging strand in disaster studies. A “critical situation” such as a disaster can ‘destroy the possessions that support our sense of who we are; they fracture the social structures that provide us with everyday needs such as friendship, play, and affection; they disrupt the routines that give our lives a sense of predictability; and they challenge the myth of our immortality’ [9]. When this sense of continuity is gone, people will find it hard to piece their lives together and likely look for blame.

This existential experience of disaster is an aspect that seems to fade from view in two prevalent strands of disaster literature: political ecology and adaptive management. For this study, I therefore collected, collated and interrogated the literature (academic, technical reports and media, in Dutch and English) on Enschede specifically from a psychological and cultural perspective. But ultimately, it started from my own participant-observant reflections and conversations, as a resident and local radio volunteer, of what my old neighbourhood and city have gone through.

The following Section (Two) will introduce the emerging “ontological security” concept in an urban disaster context. After that, interspersed with more autobiographical details, I will sketch the historical and cultural background of the fireworks disaster, how the response reflected social capital and solidarity, but also how the aftermath left the community traumatised (Sections 3 and 4). Participatory reconstruction of the area, with due regard for cultural memory, may have gone some way towards restoring ontological security. A conclusion closes the contribution.

2. Conceptual framework

‘What the resilience preachers look for is a person to be unchanged in the face of trauma. But I would argue that this is impossible, that people are

always changed by trauma, and furthermore, that we ought to be. Rather than shift ourselves to change what is, the foundations that fund these initiatives would be better off addressing the gaps, filling the lacks, changing what isn’t’. [10].

2.1. Disaster as an event?¹

The customary perception of disaster as a sudden, disruptive calamitous “event” [11] implies that disaster has a point of beginning and an end. The emerging consensus in the disaster studies community however appears to be that this is an overly short-sighted perspective. Influential disaster research has moved from event-based to bigger time scales since the late 1960s:

- complexity approaches, such as adaptive risk management and resilience, led by ecologists, eroded the concept of ‘disaster’ (a)
- critical approaches, often bracketed under political ecology, led by human geographers and anthropologists, eroded the concept of ‘event’ (b)

I will briefly elucidate.

a. SES: “Event ≠ disaster”

The familiar and increasingly critiqued [12] “disaster life cycle” is all about avoiding hazard turning into disaster, or if that is not feasible, turning inevitable disaster risk into an elegant, ‘safe’ failure. This is taken to its extreme in the currently ubiquitous concepts of adaptive management and resilience. In a complex adaptive system, crisis and collapse in its “omega” phase is a normal phase after a maximum, an ‘inevitable’ and even positive moment, which enables the system to regenerate. If the system maintains its vital functions throughout the crises, it is an adaptive, self-organising system. This can even be productive: the periodical recurrence of disasters can strengthen the social capital in a community [13]—after Nietzsche, ‘what doesn’t kill you



Fig. 1. Disaster site before 13 May 2000.

¹ This article forms part of a Special Issue on ‘disaster as event’.

makes you stronger' [14].

The resilience concept fits the ideology of the retreating state; the 'ideal citizen' is expected to brace for impact, resilient to anything [15]. This however assumes an agency that may be structurally impaired to begin with. While the adaptive systems approach celebrates resilience, disasters may paralyse and traumatize individuals and communities such that they experience a crisis of meaning, resonating in the loss of "ontological security".

b. PE: "Disaster \neq event"

The realisation that disasters are not externally caused events, but rather predetermined by poor governance has caused critical disaster authors strongly push back against the idea that disasters are events at all. Hewitt [13], for example, claimed that the focus on 'emergency management' elbows out risk reduction prevention and takes away the limelight from patent safety failures and underlying risks. Rather, disasters are "common expressions of underlying processes" that are "not confined by boundaries of time and space" [14]-p.470]. Disasters to this critical strand in disaster studies are not unfortunate extreme interruptions of normality; rather, it is the way things have normally worked through the ages that lays the groundwork for disaster, and hence, normal occurrences.

Educational catchphrases like, "Disaster by choice" [2], "Disaster risk creation" [9] or "Disasters by design" [16] suggest disasters are normal occurrences, created through systemic mechanisms creating differential vulnerabilities. A Political Economy or Political Ecology analysis consequently takes a longer time lens to explain root causes creating the preconditions for events like the "500-year earthquake" in Perú in 1970 [5]; the almost inevitable result of 500 years of exploitation and mismanagement, a cumulation of vulnerability. Tracing the disaster back to systemic forces can bring key insights in the antecedents of disaster and point at root causes to be radically undone.

In such an analytical frame, the Enschede disaster might qualify as a 500-year disaster. But while the analysis of disasters as 'accidents waiting to happen' works from an external ('etic') vantage point, I would maintain they are not experienced as such by those affected. If we look at disaster risk from an "emic" (cultural-insider and culture-specific) rather than an "etic" (science-driven and generalizable) vantage point, the Enschede disaster was an unexpected, existential event shaking people's belief in their environment and its governance, due to the traumatic loss of home. The discussion will briefly touch on the role of cultural

expression such as poetry in processing this trauma.

2.2. Ontological security

An understanding of disasters as existential, life-changing events leads me to embrace here what Tim Harries [17] has termed the emerging "emotional turn" in disaster studies. A key concept in this strand is ontological security, a concept coined by psychologist Laing [18] and best known in sociology and geography from the work of Anthony Giddens [19,20].

For Laing [18], ontological security is the "confidence that most human beings have in the continuity of their self-identity and in the constancy of the surrounding social and material environments". This confidence is not only necessary to know one's place in the world and in relation to others, it is also essential for human agency. As Harries [17] has it, people not only want to *be* safe from natural hazards; they also want to *feel* they are safe.

Now that traditional "political communities and social ties have been put into question as sources of identity", modern ones put their faith in abstract systems such as money and expert systems - a shift from "people-based" to "things-based" [21]:p.178). When "all certainty has gone and neither God, magic, nor science can any longer be represented as having control over the forces people encounter in their lives" [22]; p.10, emphasis added) this can make people feel alone and vulnerable.

In today's "risk society" [113], the amount of risk may not necessarily be growing, but our preoccupation with it is. While instilling fear, known and even unknown risks do not necessarily erode ontological security if an individual has 'confident expectations, *even if probabilistic*' [23] about the 'continuity of one's self-identity and the constancy of the surrounding social and material environments' [19]. "Ontological insecurity" on the other hand relate to "unknown unknowns": hazards we are unaccustomed to, 'situations that threaten or destroy the certitudes of institutionalized routines' [20]:p. 61].

Ontological security entails trust in a stable and predictable milieu. '(R)outines create a cognitive order and sense of safety and trust in the world; they function as a coping mechanism against existential anxiety, enhance psychological well-being' [21]:p.144]. 'Because routinized social relations stabilize our identities, individuals become attached to the self-conceptions their routines support, regardless of their content.' [24]: p. 347]. Continued experience with "nonfailures" allows people to ignore the precariousness of modern life and hide in a protective cocoon [19]:p. 40). "Magic thinking", the belief that everything is going to be



Fig. 2. Disaster site, two weeks after the incident

Source: Simone Wiers, Mutual Joint Visit 2016 - Workshop on Explosives and Pyrotechnics, Ministerie van Sociale Zaken en Werkgelegenheid; https://minerva.jrc.ec.europa.eu/en/shorturl/minerva/11_nov_10_incident_enschede_13_may_2000pdf.

all right is obviously easier in a notoriously well-planned West-European country like the Netherlands. This belief in continuity, that ‘everything always works’ [25] makes people buffer against unwelcome information that may upset this sense of continuity their routines provide. Most will not take precautions even when made aware of the hazard. This mental buffer may extend to policymakers, who as representatives of the modern state are supposed to manage and in so doing ensure ontological security—but may not want to hear about threats [26]:p.125].

Now that over half the global population live in cities, the *urban* has become a clear focus for disaster scholarship; indeed, much of the above lessons were taken from urban disasters [27a,b]. Is ontological security at all achievable in an urban environment? Giddens would claim that present-day ontological security is undermined by life in highly dynamic, created rather than natural environments, notably cities. This appears to betray an anti-urban stance [28] reminiscent of philosophical and theological debates on urban disaster raging after the 1755 tsunami and earthquake ravaging the city of Lisbon, Portugal. Against Voltaire’s Enlightenment optimism, Rousseau developed a theory of vulnerability, claiming that “natural disasters” are mediated by precarious and unhealthy city life, and the dense pattern of high-rise urban housing in, as concerns Lisbon, an earthquake-prone area [29,30]. This disagreement is echoed in 20th century debates between modernist architects promising urbanism could improve human condition through urbanism versus more critical voices like Mumford’s [31] who presented “a pessimistic perspective of urbanism, referring to the development of cities racked by war, famine and disease” [27a].

Saunders [32] however counters Giddens’ pessimism, claiming urban life brings plenty of routines, and still enables the bonds and mutualities weaving an individual into the social fabric the essence of social life. And while Giddens believes place (attachment) itself has become eroded as an anchor for ontological security, Jabareen et al. [33] make a convincing case that places, local habits and practices still matter in ensuring urban ontological security. For them, ‘urban ontological security’ denoting “feeling safe in individuals’ everyday routine and confidence (trust) in the urban fabric on its social and physical entities. It is about the confidence in the ‘constancy’ of the urban fabric—the social and physical environments—to support the routinized actions of everyday life” [30]:p.4]. This includes trust in government bureaucracies and their ability to manage urban spaces and activities and regulate (severe) negative externalities.

Central to maintaining ontological security are people’s actions to control the “home environment”, to keep the uncontrollable outside world at bay. A stable home provides the means to generate an ongoing stability of self-identity and sense of control over everyday life circumstances [34]:

“Catastrophic damage to one’s immediate physical environment can have debilitating effects on one’s post-disaster recovery (...) Many residents returning to post-disaster homes and communities report adverse impacts on their mental health and prolonged disruption to ontological security, citing the changed landscape as an ambient reminder of trauma” [9]:p. 266.

Those who have lost this sense of home are prone to nostalgia [34]. Nostalgia (νοσταλγία) comes from the ancient Greek *nostos*: homecoming, and *algos*: pain, ache. In its original meaning, it conveys you can never return to where you came from, once away from home, you will never be the same. Its modern meaning has shifted to reliving the memory. This leads to embellishment and rose tinting of the past; nostalgia is the past idealized. Hawkins and Maurer found residents of New Orleans displaced by Hurricane Katrina in 2005 “appeared to gain solace by reminiscing about their community as it was before, and that grief and nostalgia are common reactions to environmental and social displacement post disaster” [34]:p.149).

Such mental coping strategies hold the potential to promote practices of resiliency, but for the economically disadvantaged, increased

vulnerability to hazards and emergencies encumbers the achievement of ontological security [35]. Indeed the disruption, and psychological upheaval caused by displacement and rehabilitation, hits those already vulnerable particularly hard, exacerbating pre-existing vulnerabilities—including, as we shall see, immigrant families [9].

To recover a sense of continuity, it is essential that disaster victims regain confidence in their environs. After any major event, conspiracy theories,² blaming mechanisms (and blame avoidance mechanisms) prove irrepressible. An emergency is also a political act, a state of exception declared by authorities, making it not only a social but also a political event. A disaster is political from the very start [36]: disaster means failure to protect, and with failure comes the search for culprits [37]. In a blame frame,³ the explosion is attributed to, for instance “human neglect, defective behaviour, or the absence of control, for which someone is to be held responsible.” [38]. For their part, responsible decision-makers are keen to deflect responsibility, and to avoid discussing their own position [37,38].

3. Enschede: a 500-year industrial disaster?

Textielstad	Textiles city
<i>Het is het eindpunt van de trein, bijna geen mens hoeft er te zijn, bijna geen hond gaat zover mee: Enschede.</i>	<i>It’s the end of the train line Almost nobody needs to be there Almost not a soul travels that far Enschede</i>
Willem Wilmink (1936–2003)	(author’s translation)

A parapet at the Enschede Drienerlo (now: Kennispark) train station bears this poetic legend by Willem Wilmink, a local, nationally known poet/songwriter, right next to an FC Twente logo, the local soccer team that has seen its highs and lows. It expresses the modesty and self-deprecation typical of the region, and reflects how the rest of the country tends to consider Enschede: ‘far away’, ‘boring’, ‘industrial’ [39]. Its title refers to a proud history as a centre of textiles production. There’s however no urgency to come visit this border city abandoned by its textile kings.

The Enschede tragedy maybe was not a “500-year event” *sensu* Oliver-Smith [5], but the city’s vulnerability had a long gestation period. The area worst affected by the fireworks disaster, Roombeek, was an impoverished working-class neighbourhood, with many unprepossessing working-class houses of less than sturdy quality, centering on the landmark Grolsch beer brewery.

Textiles had come up as an industry in the 18th century. Industrial cities in the east and south Netherlands developed around 1900, including Enschede, connected by the expanding rail network. The steam engine made the Twente region the key textiles industry from around 1850s. By 1940 85% of Enschede’s employees was in textiles, and after the Second World War, textiles production and industry remained the economic lifeblood of Enschede. When automobiles became affordable, workers could move into single-family homes in suburban areas, leaving the city centre to students, artists and immigrant labour [40]. But by the 1960s Twente lost out to foreign competitors and in the 1970s almost all textiles plants closed. Industrial buildings were torn down, leaving unsightly stains in the inner city. In Roombeek, only the brewery stayed in business. Artists colonised abandoned industrial buildings. Mainly Turkish ‘guest workers’ who had found employment during the textiles boom, never went back to Turkey when Enschede faced industrial decline. As a result, Enschede has a high percentage of Turkish residents. Economic downturn meant high levels of unemployment and urban impoverishment. For a time, Enschede teetered on the brink of bankruptcy, was put under central government guardianship in

² Detectives received a call saying the arsonist lighting both Culemborg and Enschede was on the video footage [44].

³ also termed “keying” or “modelling” [38].

the late 20th century, and again in the 2010s.

3.1. A 45-year permitting tragedy

On 14 February 1991 in Culemborg, a commuter town south of Utrecht, a storage bunker containing fireworks exploded, killing the owner's daughter and son-in-law. Roofs in the neighbourhood were lifted, doors were dislodged, windows were shattered. The operation, MS Vuurwerk, was buffered by the Diefdijk levee, surrounded by an uninhabited open landscape [42] preventing further loss of life and homes. Enschede was not so lucky. Incidentally, after the Culemborg event, a SE Fireworks ex-employee notified the Enschede Local Authority that his former employer did not comply with the terms of its licence, but the warning failed to be acted upon.

The Culemborg case was by no means the first of its kind, and as the 2020 Beirut ammonium nitrate explosion attests, the Enschede disaster wasn't going to be the last. Like in China, where gunpowder was developed, the tradition of lighting fireworks around New Year's Eve is celebrated in the Netherlands as cherished cultural heritage. Since the 1970s, privately lighting fireworks has been a widespread obsession, and even after serious fireworks incidents and concerns over their physical and material impact made doctors and police clamour for a ban, these were dismissed as irrelevant by lawmakers. This cavalier attitude to explosives is reflected in the regulations governing the storage of fireworks both being permissive and poorly observed, which more often than not led to incorrect classifications and safety regulations.⁴

Permitting in Enschede is a telling example. Established in 1977, Kunstvuurwerkbedrijf Smallenbroek Enschede ("SE Fireworks"), first produced, then imported Chinese fireworks, often used for pyrotechnics to enliven music spectacles by stars like Tina Turner, the Rolling Stones and Michael Jackson. While Enschede's 1986 and 1995 zoning plans stipulate higher-risk companies cannot expand their business, Smallenbroek did anyway without municipal obstruction.

In 1995 the City of Enschede however started planning a new urban development in the run-down Roombeek district, Groot Roombeek, a gentrified residential area which had no place for a company like SE Fireworks. The local authority started negotiations with Smallenbroek, owner of the land and buildings on it, on resettling the company the depot to a different location at the city limits and sale of the land to the local authority, but this was dragging on. In 1997 the permit was granted retroactively. A heart condition compelled Smallenbroek to sell his enterprise to two of his employees in 1998, Bakker and Pater, although he stayed in business.

At the time of the explosion, SE Fireworks' new owners held a permit to store 16 tonnes of class I and II fireworks until 2002 [43]. In light of grand upcoming millennial events, the company had requested another environmental licence and the company placed many more containers on its grounds than this licence allowed. The post-disaster inquest found that 177,000 kg of fireworks and other explosives were stored at SE Fireworks at the time of the explosion [1]. But very few people were aware of this on that fateful Saturday.

4. The event: Enschede, 13 May 2000

As I walked home from Enschede's central train station late that sultry afternoon, a big black plume was hanging over my neighbourhood. Unaware of what had happened, I walked faster to check if the house was still there. In a parallel street, I saw broken windows. My home, a terraced house on the disaster's "outer ring", was intact and I called my Dad to let him know I was fine. Switching on Teletext (Ceefax), however, I was greeted by a grim warning. The fireworks depot was sited close to the Grolsch beer brewery, with 5000 L of liquid ammonia stored in a

(compartmentalised) tank. And still I did not flee. Later, a Twente University Chemical Engineering department report found that, had it been hit by debris and exploded, would have suffocated everyone in a 400m perimeter and injured the whole of Enschede's population [also cf [45]].

None of my neighbours was aware that there was a fireworks depot in the middle of a residential area. People living in Roombeek lived in blissful ignorance that they were exposed to industrial disaster—and had been for over 20 years. Neither, apparently, did the mayor. It transpired that concerned citizens who sent letters to the municipality had been sent from pillar to post. (author's note)

Crucially, Enschede's fire brigade had no idea of the risks they were exposed to, either, when they were called in to fight a fire around 15hrs. As black smoke filled the air, word got around that a paper depot had caught fire and that some fireworks had been lit. This spectacle drew an excited crowd, who were neither dispersed nor evacuated. The SE Fireworks owners who were on-site told firemen to get off the container roofs but they refused. Had they known the depot held illegal fireworks, the lives of two firemen might have been saved.

By 15.27pm the fire was seemingly under control, but only minutes later a third container caught fire, exploded, leading to a chain reaction of further explosions in other storage units, and springing windows and blowing tiles of roofs. As this culminated in a big explosion in the central bunker propelling burning concrete and fireworks into neighbouring houses, causing further fires [44].

4.1. Culture of mutual support

The disaster area was immediately sealed off so I could not access what was happening almost round the corner from me; I depended on the news media to understand the situation. Others I spoke to later were not so compliant and ventured into the disaster area.

A local radio volunteer myself, I moderated many stories, ditties, out-pours of emotion on Enschede FM as the city pulled together in the weeks after the disaster. Common to those stories was a sense of total disbelief rather than anger that this could happen in a well-organised country like the Netherlands. People experienced the fireworks explosion as a bolt out of the blue—an 'Act of God'. (author's note)

Despite its weak socio-economic status, with derelict industrial estates, high unemployment rates and low-income households [48], Roombeek itself was a relatively cohesive neighbourhood, with a reasonable coexistence between denizens from ten different cultures. This social cohesion and 'cosiness' came to be glorified and idealized in hindsight. After the disaster Enschede saw an outpouring of solidarity. Local sports associations opened their grounds as temporary shelter, and people from all over town personally brought clothes, toiletries and toys.

The word 'community' does not necessarily have the same resonance in a Dutch context as it does in Anglo-Saxon literature, with its extended meaning of neighbourliness (e.g. Ref. [44]). However, the parts of the Netherlands and Germany speaking 'Lowlands Saxon' dialects upholds a similar principle of neighbourly solidarity ('noaberschap', *Nachbarschaftshilfe*), of helping your neighbours whenever they need it, as a cultural phenomenon. This neighbourliness extends across the border: not accidentally, Enschede-Gronau was the first Euro-region (*Euregio*) bringing together municipalities on both sides of the German-Dutch border, in 1958 [46].

Indeed, the mutual assistance culture was brought to bear at responder level when neighbouring cities such as Hengelo, Oldenzaal and Almelo came to the rescue, as well as police officers, fire cars and ambulances from cities further afield to respond to the fireworks disaster. Fire trucks from Germany just pulled in when they heard about the explosion, invoking their duty of neighbourly assistance [47]. Fire-fighters from Nordhorn, Gronau and Rheine came to support their Dutch colleagues to fight fire and remove the injured from the scene. This was

⁴ A 2005 TNO trial in Poland testing low-class fireworks (1.2, 1.3, 1.4), found they are far more destructive than previously assumed [107].

badly needed as “the Enschede fire brigade lost almost all of its material, fires were not extinguished, and the many fires grew into one gigantic sea of fire” [48:p.522]. The unannounced assistance was a mixed blessing as it proved hard to coordinate [49]. In addition to a Dutch thank-you the German responders also got a formal reprimand as they had not asked for permission to operate [51].

A total of 5–8000 rescue workers helped out in the first few days [52]. Moreover, Dutch Queen Beatrix came to visit Enschede the day after the event. In an iconic picture, she is seen wrapping an arm around a female police chief who welled up hearing a family that had been reported missing was found dead. That same day Prime Minister Kok pledged the equivalent of 225 million euros for reconstruction, promising ‘nobody would be worse off’. The fund proved slow in coming, though, leading to graffiti urging Kok to show Enschede the money [53].

4.2. Beautiful disaster? Dealing with trauma and cultural memory

In August 2010 TwentseWelle textile museum (today's Museumfabriek), which chronicles the neighbourhood's recent and remote industrial past, organised a beautiful, moving exhibition. It showed videos and works of art produced by local artists and every-day objects from three towns struck by disaster: Boscastle, UK, flooded in 2004; Filigno, Italy, shaken by earthquake in 1997; and Enschede. I went with my father, who after his retirement had continued to live in nearby Hengelo. The building's tower overlooked the rebuilt district. Despite the optimistic title, ‘Veerkracht’ (Resilience), the display also showed many did not ‘bounce back’. Some wounds never healed: ten years on, substance abuse was rife, and physical and mental treatment were still needed for those who had looked death in the eye. (author's note)

Disaster retrospectives are new to Enschede, a city that has had its share of very bad luck through the ages ever since it was given city rights in 1325. It suffered badly in the 80-year Dutch war of liberation waged on the Spanish Empire (1568–1648). The city burnt down repeatedly, in 1517, 1750, and notably 1862, when 85% lost their homes, mostly of which were wooden buildings. In the Second World War, the city suffered two major air raids. Allied ‘friendly fire’ intended for German town of Rheine, on 10 October 1943 took 151 lives and 401 were injured. On 22 February 1944, 40 people were killed in a second Allied raid [54].

Memory is crucial for the development of coping strategies [55]. Yet, the desire to erase the memory of trauma and helplessness, and the dream of the ‘clean slate’ after disaster, to forget and start over is a powerful one, for planners and residents alike. After any major shock, calls and utopias emerge for a radical departure, to make the disaster a ‘beautiful’ one. The war-torn city kept its eye on the future and rebuilt quickly. Hundreds of buildings were demolished or displaced, new streets built. A monument was erected in the Volkspark, a locally well-known venue for leisure and events, but until 2020, there was no event in Enschede to commemorate the raids [56].

The ‘clean slate’ was also the default mode after the 2000 fireworks disaster, which dealt another big blow not only to Roombeek, but to the entire city and beyond. Within 48hrs an IAC (Information and Advisory Centre) was established reaching out to the disaster affected population. An estimated third out of the 36,000 people who were more or less directly involved in the 2000 fireworks disaster, were diagnosed with posttraumatic symptoms [40]. While 8% (250) of Roombeek's citizens were of Turkish origin [48], one third of the 1200 disaster victims were Turkish, 70% of whom were diagnosed with Post-traumatic Stress Syndrome [57]. A major earthquake in the Marmara region in Turkey in August 1999 had already shaken several of them, and they had not anticipated that a disaster could hit them in the Netherlands [58]. They tended to attribute their symptoms such as insomnia, depression and fear to the disaster (external attribution). Loss of home appears to have hit the Turkish especially hard, as to their minds it reduced them to “vagrancy” inciting feelings of shame [59]. The stress of having to stay in alternative accommodation and with family, financial problems and

perceived poor handling thereof by the local authorities, can be understood in this context. Especially first-generation Turkish migrants had hoped that a therapist would help them forget the disaster rather than having to go through it again and again [57].⁵

This forward focus is also reflected in the way city planners intended to build the 1200 houses after the 2000 event. The planners intended to celebrate Enschede's resilience and seizing the opportunity to “build back better” [60]. After all the accident had “rendered this zone unsafe for any human residence or activity. The municipality of Enschede decided to evacuate and demolish whatever was still standing. For the time being, the district was considered to *no longer exist*.” [61]; emphasis added].

It was clear that Roombeek could not go back to its declining pre-disaster status. Also, like other industrial towns, Enschede was keen to reinvent itself. Disaster literature however suggests that a fresh start is not a foregone conclusion: a disaster can make it more difficult rather than easier to bring about change after a shock [62]. Disasters can open the door to radical departures, but lasting changes will only come about when pre-disaster developments are in place that can be accelerated [63]. This was also the case for Roombeek. As it happened, an urban renewal and gentrification plan for the district, Groot Roombeek, had already been in place since 1995, and new apartments were already planned in old, obsolete factory buildings, so that Enschede's authorities were open to redirecting the plan with a view to rehabilitating the district after the fireworks disaster.

In Enschede, disaster-affected people self-organised to represent their interests (the Belangenvereniging *Slachtoffers Vuurwerkkramp*), expressing a strong desire to conserve the affected streets, houses, churches and especially Enschede's industrial heritage. Survivors wanted a recognisable link with the past, to help the wounds heal sustained by a traumatised community [58], and restore the loss of cultural identity.

Explicitly inspired by the pioneering work of Jane Jacobs, who believed it is the social interaction rather than futuristic imagination that makes a city great [110,111], Enschede's revitalization plan managed to steer a middle course between the old and the new. Contrary to New Orleans after Katrina, an extra effort was made to enable and even encourage the displacees to return to their neighbourhood. They were offered better housing at the same rent, making it a good place to return to, which, in the end, some 35% did [40].

Moreover, an interactive planning process was started with the survivors. The target group was accessed through media and personal access, in five languages. Not only were there general sessions, but also break-out groups aiming at Turkish men, Turkish women, Moroccan men, Moroccan women, the young, the elderly, local entrepreneurs, artists. The city council however would still take the decision [48], and while most citizens were aware of the inclusive planning process, non-participation was high, possibly reflecting lost faith in authorities.⁶

A smart move was selecting an architect in charge of reconstruction, Pi de Bruijn, who originated from the region and was open to citizens' ideas. The renewal project also gave a fresh impetus to Dutch urban architecture. It reintroduced water bodies such as the Roombeek brook which lends its name to the neighbourhood, and was prominent for industrial use in olden days. A large role for private commissioning led to a wide range of architectural styles. In 2007 Enschede won the Golden Pyramid for Architecture and for regional participatory planning from the European Urban and Regional Planning Awards. Not all recovery architecture was successful, though: the office building “Stadshaard”, built by Architekten Cie, was crowned the most unsightly building in the Netherlands by NRC quality daily in 2010 [64].

⁵ Also, disasters provide an opportunity for individuals with problems to make a clean break. At least one person disappeared mysteriously [108].

⁶ Only 16% of Roombeek residents participated in the first round of consultation, 12% in the second [48,109].

To deal with the traumatic memory, spaces of remembrance were incorporated in its design. The area's characteristic red roof tiles are preserved in the new Roombeek. The municipality also helped residents recover some disaster "relics" [65], and kept many of those stored for future exhibition. A "House of Stories" with a "silent room" for contemplation was realised flowing from the spiritual succour given by local churches. Religious faith is a recognised source of resilience [66, 67], and while Enschede is largely Catholic, a multireligious memorial service was held in June 2000, including a contribution from a Turkish clergyman in light of the many Turkish disaster victims.

On the site where the fireworks bunkers used to be, a memorial park was created hosting a monument named "The vanished house between heaven and earth", with the names of the victims etched into black marble. A huge hole in the wall, caused by flying concrete debris, still marks the only building to survive in one corner of the affected area [68]. A 170 cm crater has been preserved, and the contours of exploded houses have been accentuated with steel frames [69]. Some of the new houses are adorned with poems memorialising the disaster event.

The Groot Roombeek rehabilitation project became symbolic not only of recovery from the disaster but also from Enschede's urban decline. 2008 saw not only the inauguration of Groot Roombeek, but also of the Music District, the 'Cultural Mile' and the highest office building in the Netherlands. Enschede rebranded itself as a 'Now City' [70]. But as Sliuzas [71] notes, in practice the recovery phase into the popular and lively neighbourhood that it is today, has extended over "more than 15 years". And as we shall see below, for some the story never ends.

4.3. Framing, blaming and shaming

"I was and still am furious. The Oosting (inquest) report has not taken that emotion away. We are still processing all this: more than anything else, losing five relatives". Enschede Disaster survivor cited in Ref. [72].

The disaster victims' loss of fundamental trust in the local authorities made their rehabilitation a challenge. Many were desperately looking for an explanation. Textile workers, used to a patriarchal class system of big bosses and silenced workers, felt the 'little guy' was victimised once again [73]. Days after the explosion, a frustrated Enschede resident deliberately crashed his car into the perimeter and drove into the disaster area, calling: 'What's being covered up here?' (cited in Ref. [74]).

Enschede was left with an unresolved *whodunnit*. There was considerable public pressure to solve the case, which might have brought a degree of closure. But the "crime scene", a 20ha area, for all practical purposes was destroyed, erasing the evidence [75]. Despite an official inquest, whose report purported to answer "40 questions on the fire disaster" in laymen's terms [76], it left unresolved questions such as: Were there landmines on the premises? Was it a case of arson? Did a firecracker bounce against a wall and cause the detonation? A forensic report even suggested the possibility of a botched bunker burglary [77].

There have been persistent and recurring signs of foul play since the event. The present article makes no claim at verifying or debunking such allegations, but Box 1 below summarises them to illustrate the lack of 'closure' some Roombeek residents still experience, continuing the sense of trauma 20 years after.

There was no shortage of apologies. Labour executive councillor ("alderman") Buursink, responsible for environmental permitting, accepted responsibility after learning the conclusions of the Oosting (Inquest) Commission, followed later by his Liberal colleague Koopmans. Buursink expressed annoyance to see Mayor Jan Mans, for his part, basking in the praise for his handling of the disaster [78], even though in a press conference he had denied awareness of a fireworks warehouse in the inner city. In 2005 Mans went on to act as interim troubleshooter in other municipalities.

At national level, Defence Minister De Grave faced a Parliamentary motion to step down as it transpired he had been unaware of the advisory function of his department in fireworks licensing. Not long before the fateful day, an MoD inspector had declared the fireworks operation safe [41]. The advisor however had no experience in advising fireworks factories on safety and permitting, had made concessions he shouldn't have. The Minister however secured the support of his fellow cabinet ministers and stayed on, promising to restore the citizens' trust in government regulation [79].

In February 2001 the Oosting Commission) concluded both the factory, municipality and national government had grossly neglected their responsibilities. In the Netherlands however it is impossible to sue the State: in the so-called *Pikmeer* rulings (*arresten*), made in the years prior to the Enschede event, the Netherlands Supreme Court had found public officers cannot be persecuted for crimes committed while accomplishing specific public services. As a result nobody could be forced to step down [38].

The investigation brought to light that the "level of the hazard posed by the factory had been substantially underestimated", and that no lessons had been learned in any way from the Culemborg incident in permitting SE Fireworks. There were "unpermitted containers without which the fire would not have been able to break out. The storage containers were unfit for storage of fireworks, and 900 kg of heaviest class [of] fireworks were stored (...) outside work hours, which is not allowed." [1]. The site also did not have lightning conductors, emergency escape routes and any kind of safety construction [41].

But a wider culture of underestimating fireworks, and indeed industrial risk seems to have been prevalent. The year 2001 commenced with a another disaster at a new year's party in Cafe 't Hemeltje in Volendam, started by revellers clumsily lighting children's sparklers, killing 14 and seriously injuring 200. Bollen [44] notes the Oosting report is like any other report on such incidents, except for calling for a "cultural revolution in government in order to maintain our rules and regulations". The Commission blamed "the retreat of government" for lackadaisical monitoring. Other experts echo the attribution of the recurring industrial disasters in the Netherlands to the deregulation drive of the 1980s [80,81] and/or the pernicious spread of neoliberalism [41].

At national level, the disaster did lead to an overhaul of 'external security' policy, leading to the Fireworks Decree (*Vuurwerkbesluit*) 2002 replacing the 1988 regulation (*Besluit opslag vuurwerk Hinderwet*), and the *Omgevingswet*. The fireworks disasters, as well as major incidents in Toulouse, France and Baia Mare, Romania, also brought about a change to the European Seveso industrial risks guideline [82].

The careless fireworks permitting culture however appears to have continued in the Netherlands; according to Ale [80], monitoring even got worse rather than better after 2000. In Enschede neighbours ("travellers") living near to another Enschede-based fireworks firm, Haarman, demanded its resiting after the disaster, and, when that was refused, requested new urban development there, the *Eschmarke*, to be planned further from the site. Haarman, too, was found to store heavier fireworks than its labelling indicated. The City of Enschede claimed new national permitting rules were slow in coming [83]. In 2013 a new permit was given, despite angry protests, to expand fireworks storage another fireworks entrepreneur, Dream Fireworks (*Lenteweg*) [84], and when Enschede appointed firework-free zones for New Year's Eve parties, a short-lived citizens' initiative, these did not even cover Roombeek [85].

BOX 1 Foul play?

The lack of conclusiveness was not for lack of trying. A multidisciplinary police team was set up to conduct the biggest investigation to date [38]. In 2002 two police detectives of the so-called 'Tolteam', Paalman and de Roy van Zuidewijn, however

(continued on next page)

BOX 1 (continued)

sent their superior two memos warning against a tunnel vision on the case. The detectives feared the Dutch resident sentenced to a 15-year sentence for arson was the SE Fireworks case's 'fall guy'. He was released on appeal in 2003.

That same year a case was brought in 2003 against the two owners of the fireworks business. They were sentenced to a year's imprisonment, but strong doubts about their culpability remained [86]. During the case hearing, their legal counsel insisted on hearing the two detectives and the judge ordered the release of the 2003 police Internal Affairs report [87]. With doubt cast on the Tolteam's *modus operandi*, the mayor instructed Internal Affairs to look into the handling of the case, finding willful deception in the court case and tampering with evidence could not be excluded. When the detectives' lawyer went on national TV saying the detectives had not been heard, this move had them suspended.

The case was referred for review to national police detectives, who concluded everything had been done by the book. The disgruntled Enschede detectives insisted on having the internal reports released to the general public. When this was denied, the documents were leaked to national TV anyhow. In 2005 the detectives were summarily discharged on grounds of 'incompetence'; the court suggested they had fallen victim to their own tunnel vision. Case closed?

In 2014 the detectives' reports mysteriously showed up at Paul van Buitenen's door. Van Buitenen had made his name as a whistleblower on European Commission malpractice in the late 1990s, leading to the resignation of the entire Commission. Van Buitenen duly picked up the case and his report, which led to a hearing behind closed doors in 2018, again accused the authorities of tunnel vision. Among its wilder claims, it also implied former SE Fireworks Director Smallegenbroek might have authorised arson [88]. The whistleblower denounced Enschede as well as the Netherlands government for perjury, misleading the court and other crimes, seeking to put the blame on SE Fireworks or an arsonist to deflect attention from the public sector's errors [89]. Exasperated, van Buitenen released all documents to the public in 2020. When that release met with a deafening silence, he decided to retire [90].

5. Discussion

In hindsight, the fireworks disaster was an 'accident waiting to happen'. A reflexive exercise based on organisational understandings of disaster would have shown up the area's vulnerability: it is easy to see how the disastrous consequences of policies "could have been avoided if only the main protagonists had not been so ignorant, stubborn, or otherwise deficient" [91]. A pattern of pre-disaster negligence, and a pointless blame game afterwards jumps out.

We can thus easily observe an accumulation of human or systemic error. But more fundamentally, a safety culture was clearly lacking, not just in Enschede; in the widespread Dutch disaster culture, citizens, mayors and inspectors were largely agreed that fireworks are merely innocent entertainment. The resulting lackadaisical planning and enforcement, rather than evil intent or the wicked workings of greedy capitalism, appears to be the best candidate to explain the sloppiness in licensing, inspection and enforcement of protection standards with in a poor regulatory framework around the storage of fireworks, which led to incorrect classifications and safety regulations in a poor municipality. This analysis seems more fitting with the so-called Swiss Cheese model [92], where the disaster shows up the aligning holes in the protective (social, technological, regulatory) layers.⁷

The 'Phoenix rising from the ashes' tale of resilience however is the preferred narrative, actively promoted by the Enschede local government and echoed in most literature on the disaster. The fireworks disaster response put Enschede on the map, supported the drive for urban renewal and for marketing the city as a vibrant post-industrial powerhouse [50]. Celebratory stories of resilience however easily background the indelible trauma some people have gone through. As several have stated in the press and on local radio, their world contracted to the disaster area. "Collective trauma is devastating for individuals and for groups; it constitutes a cataclysmic event that affects

not only direct victims, but society as a whole". Collective trauma is also a crisis of meaning [93] which can take decades to overcome.

The urge to erase the memory and start afresh is a strong one, but psychologists teach us that mourning and remembrance, painstakingly piecing the story together, is of key importance [94]. Renovations and rebuilding have a positive psychological effect in fostering a sense of safety, but not without a sense of continuity with history [21]. Not everyone survives disaster the same way, but 'meaning' and 'memory' remain important for the future in rehabilitating disaster affected people and seeing identity as a resource. With due regard for mourning and remembrance, a disaster can reinforce or reshape identity. Identity after all is not static, it is a moving target, that "can be understood to be made as it is performed" [95]. Returning to the 500-year view, we may note that past mishaps and marginalisation gave Enschede a tenacious urban identity, a gritty "disaster culture" of solidarity and pride. If anything the May 2000 explosion reinforced solidarity and in so doing, supported a sense of coherence and continuity in spite of trauma.

We may note the importance of cultural memory here. After a spate of academic interest in the 1960s and 1970s, the focus on culture in disaster disappeared from the academic radar until its revival in the 2010s [96], specifically recognising regional cultures of memory [97]. In cultural memory, the arts, songs and poems have historically played an important role as an "emotional and physical practice" in community (re)building after disaster in Dutch society [99]. In modern days, hip-hop and rap songs lifted spirits after the horror of Hurricane Katrina in New Orleans [100], and the 2018 Lombok quakes in Indonesia [101].

Also in Enschede, the arts helped the people of Enschede express the unsayable. Local artists expressed their shock in art, as displayed in the on-site museum. The local radio phone-ins I hosted regularly featured self-penned poems. Some post-disaster homes in Roombeek were emblazoned with commemorative poems about the disaster. The Wilmerk poem cited in the present article (and which also inspired its title) is an especially well-loved example in the genre.

In such details, we see the forward-looking Enschede government's willingness to accommodate disaster memory and a certain nostalgia in the Roombeek redesign. They may have intuited that symbols and relics can help to heal trauma, keeping the cultural memory of disaster alive. Casting aside the old would have been a missed opportunity, ignoring people's badly shaken sense of ontological security.

From a more skeptical perspective, the debate on reconstruction and survivor involvement can be called a therapeutic 'deflector' for public outcry over the disaster (Boom in Ref. [60]). Indeed, a sense of impunity of responsible authorities complicated restoring the ontological security of those struck by the Enschede disaster. A continuing lack of accountability and clarity about the disaster, which might have brought 'closure', made it hard for the disaster-stricken population to piece their world, and trust in the world, together again. Even twenty years on, a web forum dedicated to the (causes of the) Enschede disaster (<http://www.enschederamp.nl/forum/>) is alive and kicking.

Some critical conceptual points with respect to ontological security are also in order, though. As Harries [98] noted, ontological security and safety culture can pull in different directions. Analyzed in this sense, Enschede promoted a sense of 'ontological security' but not necessarily physical security; continued tolerance of fireworks hazard translated into permissive permitting even after the disaster. Moreover this *laissez-faire* attitude is not limited to fireworks: In 2019 the safety watchdog, VSV, citing numerous examples, felt compelled to publish an open letter decrying the widespread culture of unsafety in regulation, permitting and observing safety guidelines [102].

Secondly, the lack of gradation. The case suggests that Roombeek residents saw their ontological security reduced, but not obliterated. This supports Bondi's [103] view of ontological security and ontological insecurity as a "continuum along which we all necessarily move ... rather than as a binary distinction that locates and fixes each of us within one of two discrete categories". If we accept this, we may need to refer to a 'low/high degree of ontological (in)security'.

⁷ Another explanatory model that comes to mind are Perrow's *Normal Accidents* [112], which argues that in tightly interlinked environments, high-risk technology invites accidents.

Finally, the inevitable question “whose ontological security?” crops up. The concept has been critiqued as too “totalizing” a construct: a group’s identity and experience is not homogeneous, certainly in a district with many migrants, so that papering over differences may produce security for some while creating insecurity for others [96,104]. While Enschede has tried to reach out to the migrant community in multiple languages, (a sense of) differential treatment cannot be ruled out in the Enschede case, although I did not find strong evidence for this.

6. Conclusion

<i>Een buurt, die wel veel zorgen had, maar die ook vol verhalen zat, vol humor en gezelligheid, die buurt zijn we voor eeuwig kwijt. (...)</i>	<i>A district fraught with troubles But full of stories Full of humor and warmth We've lost that 'hood forever (...)</i>
<i>Arm Enschede, verberg je in de armen van je koningin en huil, want daar is reden voor en huil dan maar aan één stuk door Willem Wilmink</i>	<i>Poor Enschede, go hide in The arms of your queen And cry, because there's a reason for tears Go on and cry your heart out (author's translation)</i>

Twenty years after the Enschede fireworks disaster, the Dutch appear to be on their way to phasing out the most dangerous types of fireworks at New Year's Eve. At national level a significant curbing of fireworks was mandated in January 2020 [105], against popular resistance after disturbing New Year's Eve incidents in which fireworks were thrown at first responders. As argued in the course of the contribution, this does not seem to evidence a radical change of culture in dealing with industrial hazard.

The story of Enschede is one of an accident waiting to happen and of

urban resilience, a gritty community overcoming adversity. This contribution however has claimed that for those affected, the Enschede fireworks explosion was an Event, a bolt out of the blue with a ‘before’ and ‘after’. While disasters can productively be analyzed as routine phases in adaptive systems or as recurring features of systemic neglect, they are not normal to those experiencing them; disaster can still be a life-changing, existential experience, experienced as confined in time and space, from which they never quite recover. Disasters ‘rewire’ people even if they are resilient.

The lack of accountability and clarity ‘after’, which might have brought ‘closure’ made it hard for the disaster-stricken population to piece their world, and trust in the world, together again. Uncertainty and impunity complicated restoring the ontological security of those struck by the Enschede disaster, which had been badly dented the Roombeek district people’s basic trust in the world around them, paralyzed and traumatised individuals and communities, eroding their ‘ontological security’.

In spite of all, a responsive municipality facilitating participatory rehabilitation and renovation with special attention for migrants, and the culture of solidarity among and with an impoverished, multicultural district, of neighbourliness born out of a host of historic disaster events, may have saved the day for Enschede. We can learn from this case, also across borders [106] when faced with future urban disasters.

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Appendix A. Supplementary data

Supplementary data to this article can be found online at <https://doi.org/10.1016/j.ijdr.2021.102171>.



Map. Location of Roombeek.

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