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The crash of emotions: Socio-material landscapes of guilt in automobility

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ABSTRACT

Experiencing automobility necessarily includes socio-material interactions in which the potential for road crashes or near-misses is ever-present. Rather than viewing road crashes as mere physical collisions, this paper understands them as socio-material encounters in which emotions – particularly guilt – play a constitutive role. Drawing on ethnomethodological go-alongs and interviews with persons who have been involved in crashes in Central Europe, we examine how guilt emerges in road crash situations and how it relates to the larger system of automobility. We show that guilt emerges as deeply intertwined with responsibility, as a rationalized, individualized, and human-centred practice. As such, guilt saturates (Ahmed, 2014) the whole system of automobility, which becomes sticky through various objects and socio-material relations such as police reports, crumpled car bodywork, or the reporting of guilt to (significant) others. In this way, we argue, automobility effectively normalizes systemic violence. Yet, navigating guilt also involves contesting its individual and human-centred forms—this is done mainly through highlighting the socio-material complexity of the road crashes, such as wet roads or road layouts. Despite these contestations, structural forces often remain silenced, allowing guilt to function as a mechanism that conceals the systemic violence entangled with automobility.

1. Introduction

Road crashes are situations in which emotions are enacted in many shapes and forms: some take loud, expressive forms, such as shouting in anger and attributing blame for a mistake or inattention; others can be more quiet emerging through bodily responses like freezing in fear; some unfold momentarily, while others are effective long after the crash has happened. During go-along walks through the city, as we talked with research partners—that is, participants in the study—about their mobility practices and crash experiences, one such emotional dynamic repeatedly surfaced: (that surrounding) guilt. More often than not, the discussion moved toward identifying who (rather than what) contributed to the crash, foregrounding moral aspects of individual and human culpability over systemic causation, thus highlighting guilt as not only internal feeling, but as a practice re-producing automobility and (emotional) relations within.

This obduracy of human-centred, individualized guilt captured our attention. It revealed that responsibility, while deeply embedded in automobility, was not merely assigned or acknowledged but repeatedly moralized and entangled with guilt and blame. *Responsibility* can be understood as a social response to what is perceived as individual failure within an otherwise well-designed and governed system of automobility (Urry, 2004). Within this system, harm is assumed to be preventable, and responsibility comes to replace chance as the dominant explanatory frame (Beck, 2009). At the same time, the ontology through which automobility is governed produces moralized simplifications, translating complex socio-technical failures into individualized accounts of fault through bureaucracy (Graeber, 2015), statistics (Vardi, 2014; Braun and Randell, 2020) or media and survivor's narratives (Kwakman et al., 2025; Fevyer and Aldred, 2022). Participants in automobility are thus constructed as moral agents, expected to manage and judge risk and to navigate socio-material relations and interactions within automobility responsibly (c.f. Sheller and Urry, 2000). Consequently, crashes can be understood as moral breakdowns—explaining why, during interviews and go-alongs, the described experiences so often crystallized around guilt or blame, rather than only around descriptive 'responsibility'.

Guilt, in this article, is understood as a relational and affective mode

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of experiencing a crash, emerging alongside blame and responsibility. Moving beyond psychological accounts that frame guilt as a self-conscious or moral emotion, we approach guilt as a practice woven into the broader socio-material relations within automobility. Such understanding stems from Ahmed's (2004) rejection of emotions as internal states or personal properties that *are,* instead treating them as practices that *do things*. Objects of emotions then circulate, move, create boundaries or connect (ibid.). As such, guilt can become deeply entangled with automobility, embedded in human bodies through narratives and imaginaries of automobility, and importantly also through relations with infrastructures and materials. Drawing on ethnomethodological go-alongs and interviews in a car-heavy European city' we explore the ways in which guilt is emerging in context of crashes. We further ask how participants navigate the predominant individual and rationalized logic of guilt and what strategies they employ to contest it.

We situate our analysis in a theoretical discussion concerning automobility and emotions as they relate to (sustainable) infrastructure development (Cohen, 2012; Green et al., 2012; Scott, 2016) and to different mobility modes such as driving cars (Sheller, 2004; Miller, 2001; Tråsavik et al., 2024), riding bikes (Scott, 2016) or travelling by public transport (Eales and Thomas, 2021). This allows us to understand guilt as a specific part of a broad scale of emotions through which automobility, as a complex relational system, shapes practices, identities or power dynamics (Cahill, 2013; Braun and Randell, 2022; Holleran and Notting, 2023; Miller, 2001), and generally has a fundamental role when it comes to the spatial practices that surround our worlds (see Urry, 2004; Sheller, 2004). Drawing further on understanding automobility as entangled with various forms of violence (Braun & Randel, 2022; Culver, 2018; Hosseini and Stefaniec, 2023) and particularly on Žižek's (2008) notion of systemic violence, we understand road crashes as emotional encounters in which guilt can be experienced, enacted and embodied as both an individualized and systematically forceful emotion. It is in this context that we further ask how the emerging notions of guilt relate to systemic violence. Emphasizing this entanglement, we adapt the term *road crash* to foreground the physical, social and emotional impacts of automobility, following scholars criticizing terms such as *accident* or *collision* for obscuring its structural and unequal violence (Kwakman et al., 2025).

This article is structured as follows: first, we theoretically contextualize guilt and embodiment in a complex relational system of automobility intertwined with systemic violence. After we describe our methodology, we explore the various practices of guilt as they emerged in the go-alongs with our research partners. In doing so, we analyse guilt as deeply entangled with automobility and attributed to individual people—as sticking to bodies and structures (Ahmed, 2004). Such enactments of guilt then hide the complexities and contextually-fluid categories that are embedded in situated interactions, temporalities, bodies and memories—that is, in socio-material relations of automobility. The analysis presents the specific mechanisms by which guilt, entangled with responsibility and blame, re-produces automobility as a system effectively normalizing violence by placing moral weight of individual, human culpability, away from systemic causation. Finally, we capture moments that contests guilt's individualized, human-centric framing, showing the socio-material complexity of guilt emerges as responsibilities and related feelings of guilt become pluralized across multiple (non)human actors in automobility, yet seldom challenging the structural system[1].

[1] Vision Zero, or Safe System Approach can represent an example of such contestation in institutionalized form and as a new discursive arena in the making, re-defining and re-producing existing norms, relations, responsibilities and practices of road safety (see e.g, Elvebakk, 2007).

2. Understanding guilt in automobility

To explore guilt as a relational practice within automobility, we follow the "mobilities paradigm" (Scott, 2016; Sheller and Urry, 2006; Manderscheid, 2013), which situates automobility and emerging affectivities beyond individual, utilitarian practices determined by economic and technical aspects. In this framework, automobility is not just a mode of transportation but a complex socio-material and relational system enacted through mundane interactions. Within these interactions, systemic hierarchies also emerge. Such hierarchies within automobility then shape various regimes of control including infrastructures in which the distribution of space and resources correspond with the dominance of cars in (central European) urban environments (Braun & Randel, 2022; Culver, 2018; Manderscheid, 2013). These infrastructures then, in turn, co-create the existing hierarchy and the marginalization of, for instance, pedestrians and cyclists by prioritizing the convenience of cars and drivers over the safety and well-being of "others".

Unequal social relations stemming from car dominance can be found on personal, local, regional, and global scales, encompassing issues such as traffic injury and mortality, environmental hazards, and unequal access to mobility shaped by ethnicity, gender, and geopolitical contexts (Sheller, 2023; Sheller and Urry, 2000). In this sense, automobility can be conceptualized as a system entangled with various forms of violence (Braun & Randel, 2022; Culver, 2018; Hosseini and Stefaniec, 2023). The concept of violence in this understanding goes beyond what is subjectively experienced "against the background of a non-violent zero level", as a perturbation of the "normal, peaceful state of things" (Žižek, 2008:2). Rather, subjectively experienced violence can also be understood as a form of "systemic violence", whose invisible counterpart is working not unlike "something like the notorious 'dark matter' of physics" (ibid.). This invisible part of violence "has to be taken into account if one is to make sense of what otherwise seem to be 'irrational' explosions of subjective violence" (ibid.). Hierarchies, embedded within this systemic violence and intersecting with automobility practices, can be also understood with Urry (2004, 2006) who explores automobility as an entanglement of social and material relations through which power is inhabited, negotiated and unevenly distributed, with materialities such as the car contributing to the empowerment of drivers. The ambivalences of such empowerment are evident, for example, in the growing deployment of larger and heavier cars that paradoxically generate new safety issues for those less 'armed' with 'heavy machinery' (Saylor, 2021).

Making sense of automobility and its hierarchical, entangled forms of violence necessarily involves understanding affective and emotional responses that uncover the complex relations within. In doing so, we follow Sheller (2004), who argues that opening the automobility 'black box' can be done with a focus on the aesthetic, sensory and emotional responses that are part of the automobility worlds (the latter two emerging strongly in relation to a (potential) road crash, and are especially visible in the form of guilt). While Sheller (ibid.) focused on emotions associated with car use and general mobility, we focus on road crashes, with guilt as a specific form of emotion that appeared as a particularly significant practice in our data. The concept of guilt specifically was investigated in terms of the environmental and social impacts of car use, such as pollution and marginalization (Cahill, 2013); with respect to navigating the guilt of mobility in the COVID-19 pandemics (Sheller, 2004; Holleran, 2023); and regarding the process of making sense of car ownership (Miller, 2001). We enhance this knowledge by contextualizing guilt within the violent system of automobility described above while following the focus on "relations between people, machines and spaces of mobility and dwelling, in which emotions and the senses play a key part" embodied in both humans and nonhumans (Sheller, 2004: 221; see also Sheller and Urry, 2006). In this way, we wish to open up the taken-for-granted understanding of guilt as a category that can be attributed to individual humans rationally and objectively, and explore the process of ascribing guilt as relational and

situational collective endeavour taking place in complex socio-material contexts.

Sheller further develops her theory by showing not only the social relationality of emotions but also "how emotion itself arises out of particular material relations and sensations, and at the same time organizes material relations and sensations into wider aesthetic and kin-aesthetic cultures" (Sheller, 2004: 223). These sensations can be enacted through human bodies as such, as "thoughts somehow 'felt' in flushes, pulses, 'movements' of our livers, minds, hearts, stomachs, skin. (…) embodied thoughts, thoughts seeped with the apprehension that 'I am involved'" (Rosaldo, 1984:143). Emotions can, therefore, "shape the very surfaces of bodies, which take shape through the repetition of actions overtime, as well as through orientations towards and away from others" (Ahmed, 2004:4). Emotions, including guilt, can then be understood as performative and generative in and of automobility, and also as moving through objects or bodies which then "become sticky, or saturated with affect, as sites of personal and social tension" (2004:11). With repeated movements, encounters and circulations, this stickiness becomes intrinsic to the object (2004:92)—or here, as we argue, to the whole system of automobility. In line with these scholars, we understand guilt as a practice emerging from socio-material relations and contexts.

Our analytical perspective on embodiment draws mostly from socio-material viewpoint understanding body as enacted through specific practices including both material and non-material elements; in automobility this includes both biological and machinic bodies, as well as their complex hybridization (Sheller, 2004: 232). At the same time, the analytical attention given to embodied emotions here "privileges the human subject, while still allowing for a degree of intercommunication between human and non-human, social and material, cultural and corporeal" (Sheller, 2004: 237). In this view, we place an emphasis on humans experiencing emotions (and their visceral, physiological dimension), while reflecting their entanglement with nonhuman bodies (such as cars and road infrastructure), all existing in the broader context of car-cultures and "macro-level" patterns of regional, and transnational geographies (2004: 223). In this context, embodiment can be imagined as happening through driving (steering and shifting gears), intertwined with nonhuman bodies (vehicles shaping a cyborg-like bodily perception; speed cameras and motion sensors monitoring behaviour), digital elements such as navigation algorithms (guiding human and vehicle movement), and cultural ideas about driving (gender influencing drivers' behaviour). Together, these form an assemblage of embodied material and nonmaterial elements that shape how automobility is enacted and experienced.

Linking together automobility as a complex socio-material and relational system entangled with systemic violence and emotions as a processual, embodied practice that co-create lived realities, we focus on how guilt emerges in context of road crash experiences. In doing so, we show how emotions are both shaped by and productive of automobility as a system entangled with various forms of violence.

3. Methodology

The (*redacted for review purposes*) project, which forms the basis of this chapter, is an international research project involving researchers from (*redacted for review purposes)*. It investigates structures and forms of systemic violence embedded within various transportation modes such as vehicle driving, cycling or walking and the risks and violent events the actors face in urban spaces. This article focuses solely on data from the (*redacted for review purposes*), one of the larger cities of central Europe. The urban context of (*redacted for review purposes*) is dominated by cars, with a solid infrastructure for walking and public transport, but a significant lack of infrastructure for cycling—a situation creating certain degree of resistance from cycling activists with only a minor, slow and rather insufficient results. Both the general mobility practices and particular road crash experiences of our research partners (drivers, cyclists and pedestrians) were all in one way or another connected with cars and car infrastructures. While reflecting this dominance, we also wish to avoid its reproduction by limiting our theoretical focus on cars and drivers. Our focus is rather on *automobility*, i.e. on a complex system of mundane mobility practices that are dominated by cars but entangled with other forms of mobilities such as walking, taking public transportation and cycling that are mutually constitutive of everyday experiences.

The project began collecting data in 2023, employing empirical approach stemming from ethnomethodology (Garfinkel, 1967) to explore the tacit, situated forms of knowledge, routine practices, and reasoning through which people make sense of their everyday experiences and construct social realities (Lynch, 2001). The specific techniques of data construction included semi-structured interviews conducted with 1) people who encountered crashes as part of their profession, such as police officers, lawyers, infrastructure specialists, insurance agents, and geographers and 2) individuals who had experienced crashes or near-crashes. The latter interviews were followed by go-alongs in which the crash sites were visited. In this article, it is the interviews and walk alongs with individuals with (near) crash experiences that we work with. These involved 26 participants divided according to the roles they had in the crash in question—drivers, pedestrians, cyclists, witnesses/bystanders, parents navigating high-traffic zones, and individuals who experienced near-crashes. While most incidents involved minor to moderate impacts, a psychologist was available to support participants during interviews if sensitive issues arose.

During these interviews and go-alongs, we delved into the embodied skills and sensory experiences involved in navigating the spatial dynamics of automobility. To engage with the interconnections between local environments and actors, our interviews concentrated on general experiences with the automobility infrastructure and interactions in everyday life and on the particular crashes that occurred, that is, on what happened and why, and on what was experienced and remembered by the participants. During the go-alongs, we combined verbal descriptions with visual and sensory data (Bates and Rhys-Taylor, 2018), using field notes, audio recordings, video recordings, and photographs. The participants guided researchers through their daily walking routes, random routes, or sites of past crashes, enhancing the initial in-depth interviews. By engaging more deeply with the senses, we expanded our understanding of the crash experience as well as the participant's everyday interactions with their environments as described during the interview preceding the go-along(Bates and Rhys-Taylor, 2018). Go-alongs, as a method of affective ethnography (Alegre Mouslim et al., 2025), enabled the emergence of an affective meeting place for echoes and reflections on past events, the negotiation of others' and their own bodily reactions and emotions, and the ambience of places, be it, in this case, heavy traffic, exhausts fumes, or car horns.

4. Individualized human-centric guilt

Despite the frequently articulated unpredictability of automobility, many of our research partners accounts reveal diverse ways in which guilt is enacted in everyday automobility interactions and their outcomes. This is often done in relation to potentialities, in which responsibility goes hand in hand with moral judgments of blame or self-attributed guilt. Crashes can trigger (imagined) bureaucratic and bodily rituals that territorialize guilt onto people in an interplay of blame, fault, and responsibility. Jason's reflection on his decision not to drive a car too often illustrates how guilt can emerge in this interplay, even in an absence of an actual crash:

> Anything can happen to the car, the steering can suddenly snap, and the car will suddenly shift all the way to the right. And it'll drive into a bus stop or something like that … it wouldn't be my fault because it was a coincidence, but again, I can be blamed because it's my car and the technical state and that sort of thing is my responsibility.

(Jason)

In Jason's eyes, no matter the technical reason or coincidental nature of a potential crash, fault, responsibility and blame co-emerge. Such amalgam can create context for guilt to enacted, not simply as an internalization of blame, but through ongoing interactions between normative expectations, the material conditions of automobility, and moral (self-)relations, all re-producing the system of automobility. As Aguiar et al. (2022) show, blame and guilt co-emerge in automobility and are enacted even in cases where it would not be expected to be (self-)ascribed. Understanding emotion as a practice and effect through which objects become sticky, i.e., saturated with affect (Ahmed, 2004) helps illuminate how responsibility, continuously prescribed through legal and discursive frameworks, becomes affectively charged with emotions such as blame and guilt. The combination of fault, responsibility and blame create a site through which guilt exists as a potentiality—one that can be brought into practice and performances. Moreover, circulating within the socio-material arrangements of automobility—even within its potentialities—guilt becomes attached not only to individuals but to individual human bodies more broadly as the assumed bearers of responsibility.

Automobility, in these terms, functions much like a totalitarian regime where "everyone is guilty of something" (Žižek, 2008:159). In such a regime, individuals are under constant pressure and held responsible for their actions, while guilt is enacted as always present in the background, ready to become. This systemic violence is invisible, often silenced (Žižek, 2008) manifesting in the neglect of road safety measures, poorly maintained infrastructure, and in practices of normalizing and accepting danger as an inherent part of automobility (Braun & Randel, 2022; Hosseini and Stefaniec, 2023). Enacting guilt as human and present in potentialities can then be understood as less about a fault and more about a mechanism for navigating the complexity of automobility while masking the structural violence it contains (Braun & Randel, 2022; Hosseini and Stefaniec, 2023).

Ascribing guilt to self or someone as a way of navigating the messy nature of automobility interactions, including crashes, also occurs in situations in which guilt is not clearly sticking (Ahmed, 2004) to one individual person but is associated with multiple parties involved in a crash. This can be illustrated by Laura's experience: Laura was crossing the road, store-bought groceries in her bag, on her way home from a run, and was about to cross a two-lane road. A car in the nearest lane gave her the right of way, so she stepped into the road, headphones still in her ears from listening to music while running. Suddenly, she felt a bump and realized she had been hit by a car coming in the other lane. She was in mild shock, the driver too, and the passenger was handling the situation, being concerned about her physical condition. When reflecting on this experience, Laura said:

> I am 90 % victim, 10 % culprit. I would put the 10 % down to the fact that I was wearing headphones, which *is* some sort of factor that's really dangerous in the context of traffic. I felt sorry for the driver in retrospect. He just didn't see me. Maybe if I hadn't had my headphones on, I could have heard the car coming, right? The headphones limited me in terms of my senses.
>
> (Laura)

Laura's self-ascription of being a partial culprit—from the Latin *culpa* meaning guilt—that is, being someone who is deserving to be blamed, can be proven guilty or responsible for a problem—points out moments that allow the exclusivity of ascribing guilt onto a single individual person to be disrupted.[2] Laura's way of sharing guilt between the driver and herself as a pedestrian shows how quantification can on one hand decentralize guilt from a single individual, thereby contesting the individualization, and simultaneously re-produce a human-centric rationality, pragmatism and objectivity through which guilt is ascribed in automobility. While the headphones limited her (the pedestrian's) senses, and something else possibly limited the driver's view, these did not become part of the quantified guilt ascription. While it was 'Laura with headphones' who could have heard the sound of the car coming, in Laura's guilt attribution it is purely her as 'Laura' who is a partial culprit. In showing multiple individuals co-creating the situation, her description allows part of the complexity and uncertainty of automobility to emerge. However, by purifying (Latour, 1993) guilt of what is not human, the complexity is reduced, concentrating guilt on human actors alone.

Furthermore, although Laura claimed she made a mistake as a pedestrian, in her experience, the guilt became attached primarily to her role as a driver. As she further described, she has become significantly more cautious when driving since the crash, while her pedestrian practices, including wearing headphones, remained largely unchanged. The moral framework that constructs the driver as an autonomous decision-maker and primary risk manager, expected to exercise control, extends the seemingly neutral designation of a 'culprit'. Guilt and culpability overlap as guilt attribution becomes human-centred and norms of responsibility, in which the driver is positioned as the moral agent (Urry, 2006), are internalized. This points out the human-centric norms of guilt in automobility, even when nonhuman factors also contribute to the event, even by those occupying the role of a pedestrian and largely perceive self as victims.

Overall, Laura's experience points to the ambivalence of disrupting the clear-cut classification in which one party is or is not guilty, and importantly to the obduracy of the human-centrism of the 'rational' model of behaviour black-boxed in automobility (Sheller, 2004). Crashes are in this way depoliticized, transformed into quantifiable and individual (human) risks rather than structural failures and, as such, might be seen as reproducing systemic violence, including the quantified (i.e., objectified) process of assigning guilt that rationalizes Laura's feelings by breaking them down into measurable terms. Furthermore, the crash also functions as a site through which the moral framework of the driver (Urry, 2006) becomes embodied in the person who was a pedestrian during the crash, and largely self-identified as a victim.

Through silencing other-than-human factors in combination with perceived harmful behaviour of other people, concentrating the totality of guilt onto humans, the systemic, infrastructural or political aspects were largely hidden in descriptions of the crashes. This can be seen in the experience of Vanda, who was cycling along the road past the entrance to a car park when she was hit by a driver turning into it. She ascribed guilt to the driver for being careless and not paying attention:

> In my case, I think it's pretty obvious [who is guilty], because of the fact that it happened on a totally transparent stretch and it was a very clear situation, only the gentleman ignored me, somehow as he drove into me. I don't know if he was out of it.
>
> (Vanda)

While generally critical of the city's lack of cycling infrastructure, Vanda emphasized the clarity and transparency of both the traffic situation and the environment in which the crash occurred. In her perception, the driver was inattentive and had ignored her, making the distinction between guilty and not guilty as clear as the external conditions, which she experienced as transparent. This perceived transparency allowed Vanda to attribute the totality of guilt to the human driver, once again silencing the systemic violence entangled with automobility.

In the crash experiences as reflected by our research partners guilt emerges as operating as something which is individualized and exclusively human. The very idea of a crash happening and the need to attribute guilt can be understood as an outcome of complex relations within automobility, where guilt is enacted as sticking (Ahmed, 2004) to

[2] In Laura's language, the word *culprit* and *guilt* also share the same root (*exact words retrieved for review purposes),* showing the above-described entanglement of guilt in language.

the entire system: a sociotechnical network of drivers, vehicles, infrastructure, legal norms, affective expectations, and cultural narratives, which can be understood as already saturated with guilt before a crash. In the process of navigating guilt in automobility, structural forces are hidden – not only through the process of individualization and human-centrism, in which we attribute guilt to ourselves or someone (or both) while silencing the socio-material aspects of the situation, but also, as we show in the next section, through the embodiment of guilt.

5. Embodying guilt

When Hellen was driving her sister to a pub after watching a movie together, she collided with another car, which she probably missed while crossing the lane. The driver of the car with whom Hellen collided called the police and, in Hellen's view, questioned her morality when he accused her of intending to leave the scene of the crash. During the interview, Hellen reflected that she did not cry out of stress or fear, or because of the potential seriousness of the crash, but rather out of guilt:

> At that point I started crying and saying that obviously I'm NOT an asshole who would just drive off. I cried a lot, so the guys started comforting me, and from then on, the driver behaved much nicer. The guilt plays a part in it – you have to tell the cops that it was your fault, and the guilt becomes part of the protocol. I was crying there afterwards again, alone in the car. It wasn't even the stress of the crash, but the fact that you just made some mistake leading to a crash. Everybody makes mistakes sometimes but this is BIGGER. You can't just take that as some sort of lesson, you have to explain it afterwards to your parents, and it was a car for everyone in the family to use. Thinking about it now the guilt was what made me cry.
>
> (Hellen)

Hellen's tears highlight guilt emerging as an entanglement of interaction with an angry driver; police and their protocols; parents with whom the experience as well as the damaged car is shared. Scholars such as Ahmed (2004) and Sheller (2004) highlight how emotions are deeply intertwined with material environments. According to the authors (ibid.), emotional responses emerge not in isolation but through ongoing interactions between human bodies, vehicles, infrastructures, and social contexts. In Hellen's experience, the guilt embodiment, manifested in her tears, was emerging from both material and nonmaterial aspects such as the police protocol materializing the (bureaucratic) system of morality, the crumpled sheet of metal on the cars materializing the collision as a result of her perceived fault; the human 'others', i.e., the driver who accused her of not taking responsibility, the police officer, and her parents to whom Hellen had to share the experience; the mistake leading to an crash. These entangled socio-material relations then created a context in which Hellen's own embodiment of guilt came out in the form of tears as a somatic manifestation. When describing what preceded the crash, Hellen talked about unfamiliarity with the city and the road she was driving on, rush she was in, and the final mistake of overlooking the other car she eventually crashed with. All this could be also described as an unfortunate incident, as an outcome of badly positioned side mirror, as a consequence of inappropriate speed regulations, and much more reasons highlighting the automobility as a structural, governed, system. Instead, Hellen's experience touches upon a significant process when embodying guilt: how a (perceived) person's fault enlarges into guilt when it leads to an actual crash, through its materialization into physical damage to a vehicle and police protocols.

Another way of embodying guilt is highlighted in Sandra's experience of colliding with a car when driving a scooter for the first time and reflecting the possibility of causing a fatality. Sandra offered an introspective and a self-critical perspective on (her) guilt:

> I think it was my fault. I just underestimated the situation. The light was green, and then it just flashed orange, and I was slowing down because I was just at the intersection, then I hit the brake really fast. It wasn't anybody else's fault. I just didn't handle the situation. I don't want to blame anybody else. Those are the kinds of situations that just *stick* in my mind because I know that I'd made a mistake. I'm like, 'hey, you fucked this up, this could have been fatal,' and that's why I remember it.
>
> (Sandra)

Although no fatality occurred and Sandra ended up 'only' with twisted ankle and some bruises, the experience triggered an imaginary of potential scenarios in her mind and body. In Sandra's case, emerging potentialities contribute to the intensity of embodied guilt: it was not only the direct material and bodily consequences of the mistake that was made (being an individual's responsibility) that caused emotional and physical harm to Sandra. The guilt here 'stuck' to the realization of what might have happened.

Ahmed (2004) shows how emotions and their continuous circulation through movement and practices saturate an object with affect. The object then becomes a "site of personal and social tension" (2004: 11). Here, the object is the individual human body which incorporates guilt not only through direct experience but also through imagined potentialities. Through the interplay between individualized people *and* automobility as a world of normalized accidents, guilt circulates and sticks. In Jason's case, quoted at the very beginning of this article, the mere potentiality of guilt shaped his mobility mode preferences. Sandra's account exemplifies how guilt becomes attached through the individual mind long after the event has passed and the bodily damage, the twisted ligaments and bruises, are gone. Sandra's recollection demonstrates how guilt can become a persistent presence, influencing not only how she remembers the event but also how she views herself in relation to it. The traffic light's flashing orange becomes an affective landmark, its rhythm encoding her embodiment of the experience, including her guilt.

The experiences of Hellen and Sandra reveal how guilt, while deeply personal, is shaped as a relational process, enacted with tears, paperwork, damaged vehicle bodywork, police officers, parents, traffic lights, (human) bodies, and imaginaries of potentialities. Hellen and Sandra's experiences show how guilt becomes embodied through entangled socio-material relations, reflecting and reproducing societal norms around the individual human responsibility and accountability entangled with automobility. While both situations were complex interactions between (unfamiliar) infrastructure, fast-changing lights, other people and their cars, breaks and much more, neither Hellen nor Sandra ascribed guilt to anyone or anything else but themselves.

These narratives reflect Martin's (2001) argument that bodily experiences are intertwined with cultural narratives, particularly gendered ones. It might not be a coincidence that these intense embodiments of guilt were experienced by women. For Hellen and Sandra, guilt appears shaped by gendered expectations of emotional labour and self-scrutiny, where mistakes are internalized as personal and moral failure, potentially intensified by gendered assumptions about women's driving abilities (Sheller and Urry, 2000). Social scripts influence not only the enactment of guilt but also its intensity and endurance, distributing guilt in ways that reflect and reinforce gendered hierarchies. In this way, automobility produces guilt as a disciplinary mechanism and perpetuates broader social inequalities, through embodied individual experiences.

6. Contesting guilt

While guilt in the context of road crashes is enacted as exclusively human within automobility, individualized, and rationally assignable, there are moments in which this logic of guilt attribution and its embodiment is contested. Emphasizing contributory factors does not only shift attention towards a greater complexity of crash situations than the simple (self)attribution of the guilt allows for, but also lessens the totality of being proclaimed guilty, which is present within automobility as a form of systemic violence (Braun & Randel, 2022; Hosseini and

Stefaniec, 2023).

The case of Aslak, who contests and rejects attributions of guilt, provides an ample example of how the complexity of guilt and the uncontrollability of automobility interactions can be highlighted through socio-material relations that are external to one's own mind and body and precede one's immediate control. These, in Aslak's experience, contributed to the crash situation when driving from a cabin back to the city with his sister. Aslak drove into the oncoming lane while entering a highway. The crash with oncoming truck was avoided because Aslak was able to get back into the right lane quickly, but—due to the shock—he has later overlooked another car further down the road while changing lanes, resulting in a minor collision. Here is how he described the situation:

> The fact that it was my first time at that location played a role. I didn't recognize it at all, so from that point of view, it should be judged differently to when it happens to, let's say, a person who's been in [the city] for a long time. And a situation arose where I was trying to get somewhere by following the navigation but my sister was talking to me. I was warning her to stay out of it. And I basically turned into the oncoming lane.
>
> (Aslak)

Aslak's reasoning goes beyond a consideration of who intentionally or unintentionally made a mistake and turns to the a knowledge of infrastructure, driving history, the intervention of a passenger, the unprecise navigation, unclear sign, and so on. It is relational, socio-material factors such as these in which guilt an emerge (Sheller, 2004) but which can also contest what was in previous sections described as a dominant form of guilt. Aslak describes a complex, slightly messy situation he found himself in that led him to drive into a wrong lane and almost crash with oncoming truck. And it is this complex, messy situation, full of human and nonhuman factors, that in Aslak's practice reduces guilt to a minimum hidden behind an assumption that someone is *judging the situation.* Especially considering his unfamiliarity with the place and its infrastructure, it is not even Aslak who should be judged differently: it is the whole complex situation leading to the collision, in which guilt can circulate but is not sticking well (Sheller, 2004).

Yet, in some cases, individual guilt perseveres alongside reflections on the complex situation the person found themselves in. Particularly interesting are those cases that could be enactments of crashes as coincidences where no (human-centred) guilt is perceived. Mary was driving on a winding road in rain, which caused her car to skid and led her to conclude that no human was to be held responsible for the resulting crash in a straightforward way:

> I started to aquaplane, which is like skidding on water. That is an uncontrollable thing and unfortunately a big van was coming towards me, but somehow, we [me and the van driver] avoided each other. But behind the van there was a motorcyclist, and that was worse. It's *uncontrollable* for *any human being.*
>
> (Mary)

The cause of the crash was experienced by Mary as fully outside her or the other driver's control, as the rain and slipping car on a wet road was to blame. Moreover, she frames the situation as a collective or at least general matter, highlighting the crash as a situation in which multiple actors were involved and which emerged from complex relations within automobility. Mary's use of plural pronouns ("we avoided each other") disrupts the individuated logic of guilt, echoing processes in which many parties in automobility have agency in creating situations, including crashes, that become a collective socio-material failures. Consequently, potential guilt is redistributed across socio-material networks (wet roads, vehicular design, drivers, etc.) rather than isolated in humans.

At the time of the interview, Mary was waiting for the medical assessment of the injury in order to determine the penalty she was going to face. Legally, Mary was treated as the guilty party—just as assumed by Jason in the very first analytical chapter of this paper, who reflected on the principles of individualized responsibility and blame—guilt ascription. Regardless of the complexity of the interaction, the nonhumans in play, the stressed uncontrollability, or Mary's own intentions, the consequences of the crash in hurting a motorcyclist produced guilt intertwined with self-pity, this emerging as a consequence of the institutionalized processes and a relation between an injured person and Mary not as an isolated driver-human, but as a driver-cyborg with a *car out of control.*

> That's probably the worst thing that can happen to a person—when they hurt another person. Unintentionally, but whatever, okay? It's just the way it is.
>
> (Mary)

Even though the majority of mechanisms contesting the attribution of guilt were associated with those who were attributed guilt by themselves or someone else, there were also moments in which crash can emerge as unintentional incident and outcome of interactions within automobility infrastructure. Jason was riding a bike downhill on a long narrow street when a car coming from a side street hit him. He crashed into the car, broke his leg, and had tiny parts of the windshield lodged in his thigh months after. In this context, he states:

> If she [the car driver] had started accusing me, then I would definitely have thought about filing a criminal complaint. But when she took it as an accident, she apologized – I remember that she said she hadn't see me – I totally understand. The street there is badly made, there are cars, parking spots and people everywhere, so just one cyclist going down, you just miss them.
>
> (Jason)

According to Jason, the practice of attributing guilt to others depends both on the 'external setting', i.e., the infrastructure and the complex socio-material interactions and relations subsumed within the interaction between those involved in the crash. Jason found himself open to taking the systemic factors at play in the crash into account (such as badly made streets, limited visibility); he contested the guilt as inevitably present, the whole system of automobility saturated and sticking (Ahmed, 2004). At the same time, the guilt is still in the background of the experience, manifested as the need to assign blame. That need thus compelled the car driver to defend herself by presenting arguments to assuage the culpability (potentially) placed on her. However, the guilt can be diminished when mutual understanding is achieved, helping not only to ease the burden of personal responsibility but also to resist the systemic violence inscribing guilt "by default" (Žižek, 2008) to a participant in any crash.

7. Discussion and conclusion

Experiencing automobility and road crashes cannot be disentangled from experiencing emotions and affects that are tightly connected to the socio-materialities constituting the system of automobility. One of the many emotions that is constitutive of automobility, not only as a psychological, subjective experience but also as a relational network involving both humans and nonhumans, is guilt. In this article, we explored guilt as it is emerging in experiences of people who have been involved in road crash or near-miss.

Building on understandings of automobility as a complex relational system involving emotions (Sheller and Urry, 2000), and as a site through which systemic violence is reproduced (Braun & Randel, 2022), we further explored the relationship between guilt and systemic violence. Through walking and talking with our research participants, we showed how guilt is predominantly emerging in relation to responsibility and fault—in context of automobility constructed in individualistic terms through laws, bureaucracy (Graeber, 2015), statistics

(Vardi, 2014; Braun and Randell, 2020) or media (Fevyer and Aldred, 2022) and survivor's narratives (Kwakman et al., 2025), where much of the systemic responsibility addressing larger automobility issues such as road design (Ralph et al., 2019) or unequal distribution of vulnerability (Culver, 2018) are obscured.

As much as crashes are normalized in automobility (Vardi, 2014), guilt as moralized responsibility is normalized in crashes—someone is always (potentially) guilty. This way of navigating the messy system of automobility is often articulated in an individualized and rationalized logic and embedded in human bodies through more-than-human relations. The very idea of a crash happening and the need to attribute guilt can be understood as an outcome of complex relations within automobility (Sheller, 2004), where guilt is enacted as 'sticking (Ahmed, 2004) to the whole socio-material system of automobility which creates situations already saturated with guilt before any crash has happened. In this context, the guilt is always ready to emerge in crash situation, circulate and can stick to individual human bodies as it is eventually ascribed to (ir)responsible individuals.

The obduracy of the human-centric stickiness paradoxically also allows the exclusivity of placing guilt onto *a single* individual person to be disrupted. While the totality of individualized guilt of a single person is contested, the guilt emerges as human-centred, purified from sound, headphones, and other nonuhmans, as well as from systemic constituents of the crash, such as badly made cycling infrastructure. This purification is another mechanism of silencing systemic violence of automobility. Furthermore, the rational, quantified logic by which the guilt is shared among humans is re-producing the rationality and objectivity of attributing guilt in automobility, as well as the moral norms of a responsible drivers.

In line with Sheller (2004) and Ahmed (2004), we captured moments in which guilt emerges from the material, social, and systemic contexts and circulates and sticks through police and crash reports, the damage to vehicles, human others, and individualized morality norms, eventually saturating human bodies as somatic residue. Such embodiment and individualization, we argue, is also entangled with gendered (self-)expectations that co-create the intensity with which guilt is felt and retained (Sheller and Urry, 2000). Here, guilt as something produced by and productive of systemic violence and inequalities within, emerges.

As we explored the enactments of guilt, we also argued that while participants navigate the individual and rationalized logic of guilt as something hegemonically present in automobility, there are also practices of contesting the totality of guilt as present within automobility as systemic violence (Braun & Randel 2022; Hosseini and Stefaniec, 2023). This is mostly done through highlighting the complexity of socio-material factors that constitute a crash, be it a lack of knowledge of the infrastructure, interactions with other humans (drivers or passengers), weather conditions, technologies such as navigation or vehicular design, or the design of roads and infrastructure in general. Such contextualization allows for a multiplicity of not-always-human factors to emerge and for contesting the automobility as a system entangled with systemic violence (Žižek, 2008), sticking with guilt (Ahmed, 2004).Our research partners rarely implicated road designers or decision-makers in their reflections on crashes. The individual human-centred guilt often remained in the background of the experience, manifested as ever-present possibility, all this despite of the current discursive shift towards recognizing systemic responsibility, be it in growing cycling infrastructures or in larger systems such as Vision Zero and the Safe System Approach.

CRediT authorship contribution statement

Eva Kotašková: Writing – review & editing, Writing – original draft, Investigation, Formal analysis, Conceptualization. **Katarína Azzamová:** Writing – review & editing, Writing – original draft, Formal analysis, Conceptualization. **Tomáš Paul:** Writing – review & editing, Writing – original draft, Formal analysis, Conceptualization. **Johannes Starkbaum:** Writing – review & editing, Writing – original draft, Formal analysis, Conceptualization. **Karel Němeček:** Writing – review & editing, Writing – original draft, Investigation, Formal analysis, Conceptualization. **Kateřina Nedbálková:** Writing – review & editing, Writing – original draft, Formal analysis, Conceptualization.

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.

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