

RESEARCH ARTICLE

Urgency at work: Trains, time and technology

Katrina Pritchard¹  | **Gillian Symon**²

¹School of Management, Swansea University, Swansea, UK

²Royal Holloway, University of London, Egham, UK

Correspondence

Katrina Pritchard, School of Management, Swansea University, Swansea, UK.

Email: k.l.pritchard@swansea.ac.uk

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Abstract

In contemporary workplaces, urgency is symbolic of workers' experience of time as accelerated, and often associated with use of digital technologies. Yet we know little about how urgency is constructed at work, including the agentic roles of technology and other materialities. Based on interviews with railway workers, we extend Rosa's conceptualisation of temporal junctures to explain how urgency as a temporal framing is sociomaterially constituted, sustained and challenged across and between workers and their managers, particularly through smartphone-use. Our analysis extends existing thinking on temporality at work by demonstrating how urgency narratives at sociomaterially complex configurations of temporal junctures shield workers, managers and the organisation against the temporal fragility of the rail infrastructure, such that each narration of urgency carries forward an illusion of temporal control.

KEYWORDS

narrative, railway workers, smartphone, sociomateriality, time, urgency

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INTRODUCTION

Time has generally been viewed ‘as a measurable and sequential commodity’ (Bailey & Madden, 2017; 5) in both workplace studies and in everyday work itself. However, research has questioned this taken-for-granted nature of temporality (Shipp & Jansen, 2021) and argued for more complex considerations (Feldman et al., 2020; Lehdonvirta, 2018; Orlikowski & Yates, 2002). These calls have led to the theorisation of cultural temporal frameworks (Hernes & Schultz, 2020; Rosa, 2017). From this theorisation, sociologists have proposed that workplace temporalities echo (and reinforce) related cultural temporal frameworks of the increased acceleration (Rosa, 2013), busyness (Wajcman, 2015) and immediacy (Kaun, 2015) of our contemporary, digital lives. We argue this broad conceptualisation needs further development and aim, in this paper, to capture how temporality is locally constructed in specific work activities. We focus on urgency as this is a temporality that reflects contemporary concerns with acceleration (Rosa, 2018), but is also situated in the local processes of prioritisation at work (Olson, 2015). We examine how UK railway workers construct, sustain and challenge a local temporal framing of urgency.

In pursuing this aim, we focus on Rosa’s (2013, 2017, 2018) conceptualisation of temporal junctures, as temporal interfaces across and within social, work and other systems. When these temporal interfaces are misaligned (e.g., one system is moving slower than the other) we get temporal desynchronisation (Rosa, 2017). In workplaces, these interfaces then need negotiation to reprioritise activity so that work can continue: as in ‘stop what you are doing, this is urgent’. The means of negotiating and reprioritising work includes the widespread use of digital technologies. Digital technologies are held to open possibilities for resynchronisation because they appear to speed up processes that need to be realigned at temporal junctures. However, they also increase expectations that such possibilities are speedily fulfilled and, as a result, we experience time as being squeezed (Rosa, 2017). Studies have yet to explore the role of such technologies in producing situated workplace temporalities (Thulin & Vilhelmson, 2022). Adopting a sociomaterial lens, a further aim therefore is to understand how the entanglement of workers and technologies is implicated in local workplace temporalities.

Additionally, studies of contemporary mobile technologies have mainly focused on management and office-based professionals rather than operational staff. However, Rosa (2017) argues that it is likely that employees ‘have very little time sovereignty’ while managers may have more authority over workplace ‘time budgets’ (p. 30). Our study of railway workers enables us to explore a range of roles from hands-on engineers to senior managers, set within a materially complex and temporally fragile (Ramakrishnan et al., 2021) environment in which the local urgent temporal framing is a constant challenge. An additional aim then is to consider role relationships, the tensions arising from these (Knights & Yakhlef, 2005) and how these are implicated in negotiating work as urgent.

We firstly discuss recent sociological theorising on temporality, how this informed our research and how our localised application of this wider theorising seeks to develop our understanding of urgency. We then outline sociomateriality as an important conceptualisation of human-material relations and how, through this study, we seek to integrate sociomateriality into an account of workplace temporality. We describe in detail the workplace context of our case organisation, Railway Engineering (RE, a pseudonym), and work activities within this, together with our narrative methodology and analysis strategy. Findings are presented in relation to how urgency is narrated; in other words how it is sociomaterially constituted, sustained and challenged. The findings demonstrate how urgency narratives at sociomaterially

complex configurations of temporal junctures shield workers, managers and the organisation against the temporal fragility of the rail infrastructure, such that each narration of urgency carries forward an illusion of temporal control.

TIME AND URGENCY AT WORK

Since 1840, when Greenwich Mean Time was adopted to coordinate UK train timetables (Hernes & Schultz, 2020), traditional temporal understandings have been based on clock-time's predictability of minutes, days and years. At work, this objective understanding enables progress monitoring via, for example, annual reporting and performance appraisals (Hernes & Schultz, 2020; Williams & Beck, 2018). Units of time are enshrined within work contracts and an assumed trajectory from past, through present to future is secured (Sandberg & Tsoukas, 2020; Simpson, 2014). In helping us keep track, clock-time frames how workers engage in their work, shaping how they account for their activities (Lehdonvirta, 2018; Snyder, 2013). Managers seek to ensure that workers prioritise the right activities (Shipp & Jansen, 2021), using time productively in 'virtuous activity through the constant application of focused energy' (Snyder, 2013; 245). Accordingly, workers may not control their own time use and must respond to management demands (Williams & Beck, 2018), such that temporality is a potential 'target for control, management and manipulation' (Knights & Yakhlef, 2005; 284). Within this general orientation to temporal effectiveness, urgency has been empirically examined as an objective, 'nonroutine' temporal exception (Kalman et al., 2021; 157). 'Time-urgency' has been categorised as an individual difference (Landy et al., 1991) and personal orientation to task deadlines (Ballard & Seibold, 2004). There have been further quantitative measures of workplace urgency norms in relation to digital communication (Ballard & Seibold, 2004), where temporality is assumed to be determined by the technology in use (Kalman et al., 2021). Temporal orientations in these studies are positioned as a generic, fixed quality of a person or communication medium rather than as an ongoing situated negotiation. In contrast, we argue for a localised understanding of urgency that also connects with cultural temporalities (Kaun, 2015; Rosa, 2013; Wajcman, 2015). In adopting this perspective, we develop Rosa's theorising on temporal frameworks.

Rosa argues that (2017; 34), in Western society, the 'escalatory logic of modernity'—our understanding of progress—results in our experience of time as continually condensed. Progress depends on forward momentum and achievement of escalating measurable outcomes such that 'progress is intrinsically tied to the logic of increase' (Rosa, Dörre, & Lessenich, 2017; 54). Such cultural framing impacts workplace temporalities: there is mounting pressure on individuals and teams to deliver more, more quickly. Urgency is one form of temporality in which workers feel particularly squeezed, negotiating increasing workloads with additional pressing calls such that time must be continually reprioritised (Olson, 2015). Work therefore involves an ever-present threat of temporal desynchronisation (Rosa, 2018) disrupting the flow of work. This disruption can be felt by those who request urgent action from others who may not act in the timescales proposed. Alternatively, it might be felt by those receiving request and need to readjust their work to accommodate urgent activity (Olson, 2015). Rosa (2017) argues that urgency is thus situated at significant 'temporal juncture[s]' (p.36) within work activity. These junctures occur between two flows of work that may be temporally discontinuous. Consequently, the coordination of temporal understandings is required to achieve a (temporary) synchronicity or alignment of work (Rosa, 2017). Interestingly, a temporal framing of urgency may both create a desynchronisation (disrupting one flow of work) and be

the proposed solution to it (achieving synchronicity between two flows of work due to reprioritisation). This situation is complicated since some work activities can be easily sped up (e.g., communications), but others are harder to impact (e.g., safely moving cows from the railway track), so synchronicity in relation to activities such as those encountered by our railway workers can be difficult to achieve (Rosa, 2018).

Workers' experiences of these temporal junctures are shaped by the nature of the work activity but are also influenced by 'surrounding norms' (Rosengren, 2019; 620). Thus, urgency is not only situated in a specific instance but also 'reach[es] beyond' (Feldman et al., 2020; 600) to recursively reconstruct cultural temporal framings (Hernes & Schultz, 2020; Rosa, 2013; Wajcman, 2015). In other words, as we act in line with cultural expectations, we also reproduce them. Moreover, the immediacy of urgency is not solely experienced in relation to the present activity (Hernes & Schultz, 2020). Other temporal resources, such as accounts of past urgent activities and potential future events, are enroled to create the urgent present (Sandberg & Tsoukas, 2020). Simpson (2014; 50) usefully highlights the work of Mead (1929) as enabling us to see past and future 'as epistemological resources that are continuously reconstructed to inform the actions of the passing present'.

Our approach to investigating urgency is thus very different from that which sees it as a fixed quality, as outlined initially. We seek to extend understandings of urgency and Rosa's work (2013, 2017, 2018)—specifically his conceptualisation of temporal junctures—through arguing that urgency is not just culturally and locally situated, but also is variously sociomaterial.

TEMPORAL MATERIALITIES

Above, we argued that some studies see communication media as determining temporality (e.g., Kalman et al., 2021). That is to say, technology itself drives changes in temporal framings. However, Rosa (2017) claims a social shaping approach in which technology does not determine change, but it is implicated in our (human) solutions. Going further, in contemporary sociology, research has rejected the 'objectification' of matter as either wholly determining of outcomes or as passive (Fox & Alldred, 2019). Instead, the focus is on human and material relations; on their sociomaterial entangling. It is not coincidental that this relationality is also temporal, as authors emphasise flow, becoming and the need to continually reconfigure complex infrastructures, (Ramakrishnan et al., 2021), as we explore further below. Our exploration of localised temporality thus considers the active participation of various technologies, centrally the smartphone. Taking this sociomaterial perspective has the potential to offer novel insights into situated temporality at work.

Building on a long tradition (Ivory et al., 2020; Law, 1992), sociomaterial perspectives avoid assigning prominence to either material or human (Orlikowski & Scott, 2008). Taking a sociomaterial perspective recognises a mutual agency emerging through the mangling (Pickering, 1995) of both human and material as sociomaterial assemblage. Specifically, neither human nor technology dominates, each remains individually and interactively fragile such that agency is continually negotiated in a 'dance of agency' (Pickering, 1995; 21). We are particularly drawn to Pickering's work (1995, 2013) in exploring the entangled sociomateriality at RE. The mangle metaphor resonates with the complex rail network; whose sociomaterial history is evident in the physical manifestation of tracks, platforms and bridges coupled with a

complex organisational heritage. We utilise Pickering's (1995) presentation of the sociomaterial dance, which he conceives as encompassing an iterative (temporal) back and forth (Pickering, 2013). That is sociomaterial assemblages are continually in the making and never concretised in essential forms, therefore always in a state of temporal flux. This accords with how participants presented engineering activity and used digital technology, as a perpetual becoming of the railway, never finalised and requiring continual monitoring and coordination. Relatedly Ramakrishnan et al. (2021; 683) suggest that this 'speaks to the emergent and dynamic nature of infrastructural materiality', terming this 'temporal fragility' to highlight that these sociomaterial configurations are 'remade and reshaped in a continual fashion' (p. 677). This emphasises that despite an apparent solidity, materiality, such as the rail infrastructure, is always a work in progress. As Rosengren (2019) explains however, dances of sociomaterial agency (Pickering, 1995) become normalised and reach beyond a particular instance (Feldman et al., 2020); a recursivity also proposed for temporality. Indeed, we suggest that urgency is an important aspect of temporality in this respect. Needing to enact a particular sociomaterial assemblage within a squeezed temporal frame suggests a disruption to the usual 'cultural choreography' (Pickering, 1995; 17); highlighting something has gone wrong and urgent action is required to fix it.

The complex sociomaterial manifestation of the railway is an important context for our analysis of temporality and both the human and material play a role in negotiating urgency in this workplace. Within this general sociomaterial context, our research project focuses particularly on smartphone-use, an innovation held to be potentially significant for shaping temporal experience (Rosa, 2017). While smartphones are often positioned as demanding our time, they are also credited with offering ways of managing demands on time due to their specific affordances such as improved communication (Rosa, 2017). Of course, the smartphone cannot create an urgent situation or timely response on its own. On the other hand, attending solely to human actors downplays the smartphone's agency, expressed, for example, through flashing lights and alerts, making connections and transferring data across networks. Critically, the human is as dependent on the device, as the device is on the human.

Overall, our aim is to explore the localised construction of urgency which takes into account work and sociomaterial relations. In the following section, we outline the working practice and relations of our case organisation, RE, together with our methodology.

RESEARCH CONTEXT AND METHODOLOGY

Our case organisation, RE, is responsible for maintaining the rail infrastructure across the UK although our study focused on two regions in particular within the organisation's operational structure. RE employs a large and varied operational workforce, including manual workers, operational engineers, design engineers, IT experts, health and safety experts (see Table 1). Professional staff (e.g., human resource management, legal, finance) and senior management support their activity. Operational senior management and some professional staff are centrally based but across the regions, groups of operational, technical and support staff are located together to maintain the rail infrastructure in assigned geographic areas.

The rail infrastructure (tracks, signalling, power, level crossings etc.) is owned, managed and maintained by RE independently of train services. Trains are run and serviced by a variety of different companies. The train companies need RE to maintain the infrastructure so trains can run, but they also need to maintain their own trains to provide the service. RE's expressed

TABLE 1 Study participants and their roles.

Role description	Sample
Corporate managers (CM) Senior managers with either (1) functional management (e.g., HR; engineering control) or (2) operational responsibilities for geographical areas.	12 CMs were interviewed in RE HQ or regional offices.
Local operations managers (LOM) The LOMs are MOM's and signalling staff's line managers. They report to operational CMs. Their role includes day-to-day operation, maintenance and incident response. LOMs are responsible for a zone within the respective CM's area.	11 LOMs were interviewed in their offices which were usually located in trackside Rail Operating Centres. Several of these LOMs reported to CM participants.
Mobile operations managers (MOM) MOMs work in teams across shift to cover the zone allocated to their LOM. They monitor the geographical area, liaise with other services, and are first line responders to incidents.	12 MOMs were interviewed in various locations including railway stations, trackside offices and on the move. All participating MOMs reported to a participating LOM.
Technical specialists (TS) These work in a support capacity, specialising in a specific aspect of RE's work. Often, they work on projects (e.g., platform extensions, point replacements) although they attend incidents to provide specialist advice.	11 TS were interviewed in their offices in RE HQ.

concern is to keep trains running on time and to operate a non-stop (24/7) service. This supports passenger satisfaction but also aims to avoid financial penalties. Performance is measured in minutes of disruption and, according to contracts in place at the time, financial penalties incur after 3 minutes. Should any rail incident last more than 3 minutes, substantial fines are levied at either RE or the train companies. Consequently, keeping trains running is not just a reputational concern but a financial imperative and allocating responsibility for delays to the train companies or RE is critical. The importance of speedy communication, investigation and resolution of incidents was one reason RE issued staff with smartphones; including all our participants (see Table 1 above).

In Rosa's terms, this places the work of RE at an ongoing critical 'temporal juncture' (Rosa, 2017; 36); engineering efforts must be synchronised to maintain the smooth running of the network. However, many incidents conspire to undermine this goal of snag-free synchronisation; highlighting the infrastructure's temporal fragility (Ramakrishnan et al., 2021). For example, weather-related issues such as frozen or overheating points; objects on the track, including leaves, people and animals; engineering or system failures; equipment being hit by debris; track vandalism or theft of copper wiring; trains breaking down; the knock-on effects of delays elsewhere; and many others. Each of these incidents could involve many different aspects of the infrastructure, causing a breakdown in the necessary synchronisation for timely trains thus requiring urgent work by RE employees.

The nature of the incident determines the response, with many requiring trackside work. A mobile operations manager will be first on the scene to make an initial assessment, coordinate the operational staff sent to fix the problem and keep management updated. Meanwhile, signal workers reroute trains and other managers liaise with train companies to estimate delays.

Senior managers, local operations managers and mobile operations managers input to solutions and coordinate actions across different teams, including away from the site of the incident itself. Technical specialists will be contacted to provide expert engineering advice into the solution. Time critical decisions on implementing a fix are required so that passengers are not unduly delayed. However, resolutions and their implementation must also be health and safety compliant in this highly regulated environment. Even while the incident is being addressed, managers are also working on identifying the responsibility for the problem and counting the minutes as fines mount up. With any given incident, there are then multiple actors and aspects of work that need to be synchronised; a complex sociomaterial entanglement of people, smartphones and the rail network. Urgency thus involves many different stakeholders as they seek to understand what happened, who is responsible, and what needs to be done.

Our study was designed in collaboration with RE, as their specialist ergonomics team were interested in how smartphones impacted employees' work and were keen to have an expert, external view. Two researchers from this team advised on workplace context and provided the means to contact staff but did not themselves choose participants. One RE researcher also conducted 6 (of 46) interviews following the protocol developed by the authors. By agreement, neither RE employee was involved in data analysis or the development of this paper.

We interviewed 46 employees in two regions where smartphones had recently been issued. Participants were recruited firstly by invitation through direct emailing, secondly additional interviewees were recruited via snowballing. Participants were assured of anonymity and pseudonyms are used throughout. Following the description above, Table 1 further explains interview participants' roles at RE.

As indicated in Table 1, interviews occurred at various sites with researchers often present during shift handovers and as engineering problems were live. For health and safety reasons, we were not permitted to attend incidents or go trackside. We nevertheless experienced something of this work as we ventured off platforms, sat in signal boxes and accompanied participants carrying kit from their vans. Since we travelled by train, we also sometimes experienced incidents as passengers. These experiences were recorded as research notes, and, while not directly analysed, provided contextual grounding. Our interviews took place over 6 months, lasted 1 hour on average, were recorded, subsequently professionally transcribed and the transcript carefully checked. Interviewees were encouraged to bring their smartphones along and often referred to them, showing us photos or the incident log. Indeed, interviews were occasionally disrupted by an incident. So, while we acknowledge the challenge in exploring this work within interviews, our reflexive approach was similar to Woodward's (2020; 34) 'object interviews' wherein we were 'critically engaging with the materiality of particular things as well as how people and objects interact in material, sensorial and embodied ways'. In presenting our findings, smartphone-use functions as an empirical thread. In our retelling we then follow various threads, sometimes separately, so that urgency narratives might be more easily read.

Narrative methodologies have been highlighted as useful in exploring temporality (Cunliffe et al., 2004). Narratives offer 'a past and a future' and construct 'temporal chains of interrelated actions' (Gabriel, 2018; 63). Thus, analysing narratives provides the means of unpacking temporal framing within workplace contexts (Boje, 2018; Jørgensen, 2022). There have been recent calls to include objects within narrative analysis (Woodward, 2020). Our sociomaterial perspective answers this call, such that we recognise the material as 'active and entangled components' (Woodward, 2020; 12) of the narrative. Overall, our approach reflects Cunliffe et al.'s (2004; 262) suggestion to view narrative as 'a collectively constructed process' which recognises the interactive situatedness of human and material within a context of broader

cultural norms (Jørgensen, 2022). In following Cunliffe et al.'s (2004) advice to attend to narrating, our analysis develops a reflexive understanding of the ways in which urgency is narrated; that is, how it is sociomaterially constituted, sustained and challenged in this work.

To this end, we utilised a thematic narrative approach (Maitlis, 2012), supported by the qualitative coding package, Nvivo. The authors coded 250 extracts across the interviews as relevant to our focus on urgency. The first author then worked through these extracts examining how smartphone-use (and other materialities) featured in accounts and unpacking commonalities and tensions across the narratives. This included attending to variations in narratives across and between different events, roles and functions within the organisation. We then jointly followed a systematic process of reviewing patterns within the narratives, grouping instances thematically and working back and forth between these themes and our research aims. Further iterations of closer textual analysis built up our substantive analysis as each author took the role of challenging conclusions identified by the other to develop and refine the findings. Presenting our initial findings to RE and at academic conferences provided a further prompt for refining our analytic conclusions presented below.

URGENCY NARRATIVES AT RE

We present our analysis in three parts. Part one examines how urgency narratives encompass the rail network, RE employees and customers in ‘the network that never shuts down’. Part two deals with how smartphone-use has become entangled with urgency at RE as a ‘slightly tricky thing’. In part three—‘well they could have waited’—we review how urgency is contested, unpicking both the inevitability of urgency and how this plays out across RE.

Part one: ‘The network that never shuts down’

RE is positioned by workers as:

a network which never shuts down...[and a] customer [who] never goes to sleep
(Saul, CM).

The ‘network’ is shorthand for the railway infrastructure (tracks, signals, points, platforms, etc.) and the perpetually alert customer refers to both the train companies and passengers. This positioning suggests there is no ‘off’ time, inculcating an expectation of constant availability to address incidents whenever they arise and urgency to resolve such incidents. This is an overarching temporal narrative that all our participants draw on and thereby reinforce. It is a narrative that interweaves a mutually reinforcing trio of justifications; engineering effectiveness, customer service and organisational reputation to justify urgent action as inevitable.

You do have to kind of be in contact with the operational railway at all times just to make sure there’s nothing that needs your attention (Ed, LOM).

There is a similar theme across all the interviews of endless time requiring constant (sociomaterial) monitoring just in case urgent action is required. Ed’s account is qualified (‘kind of be’) because there is no contractual requirement for workers never to sleep. However,

breaking contact and separating from the sociomaterial assemblage of the railway, incurs the risk of desynchronisation; so constant contact is necessary ‘just to make sure’. Ed thus positions himself as always within the sociomaterial network.

This need ‘just to make sure’ is further embedded in explanations that things go wrong quickly:

Something serious happens in a matter of minutes and you can go from being so, so quiet to having everything kicking off and it just goes mad out there (Celia, LOM).

Celia tells of a potentially fragile, disrupted network. ‘In a matter of minutes’ everything changes: the enmeshing and mangling of materialities required for trains to run on time has unravelled and the ‘network that never shuts down’ is revealed as temporally fragile (with the ever-present potential for desynchronisation). Then ‘it just goes mad out there’; there is frenetic, urgent activity to regain control, control of the network, but also of time. This frenetic temporality of work is positioned as normal: periods of mundane and repetitive operations, suddenly and unpredictably interrupted with intense activity with potentially serious consequences. This narrative justifies work as ‘always on’ and sets up the inevitability of urgency.

The significance of ‘something serious’ is unspecified by Celia; however other stories included extreme examples of derailments or death. These accounts, although alarming to us as passengers, were often presented in rather matter-of-fact terms. Some participants invoked dark humour; one telling us how previous jobs as a tree-surgeon and butcher provided transferable skills when called to remove something or someone from the track. While many told of personal experiences ranging from the mundane tree branch to the tragic suicide, others referenced previous rail accidents to illustrate the possible catastrophe always lurking in a potential future. Participants shared local stories of network vulnerability such as ‘the bicycle flinger’. Told by several interviewees, this involved an investigation into bicycles being repeatedly thrown onto the track, disrupting electrical supply and risking a derailment. Illustrating the challenge of problematic objects and unruly people; ‘the bicycle flinger’ was a disruptive sociomaterial assemblage requiring urgent action. These retellings of past incidents and narratives of potential disaster work together to normalise urgency as a temporal narrative.

Bridge hanging off the edge of a train, or train hanging off the edge of a bridge - whichever way you want to look at it - over or under (Bob, MOM).

Here a catastrophic scenario, in which the network is literally mangled is told matter-of-factly, presenting urgency as everyday rather than exceptional. While, as in Celia’s account, these events disrupt normal operations (through desynchronisation), here they are themselves normalised. They are presented as part of the general temporal context of RE and, crucially, liable to happen at any time. Potentially severe outcomes become embedded within everyday accounts of work; providing for urgency to also be positioned as ‘everyday’.

Wyn illustrates how this ‘everyday urgency’ is enacted in incident response but goes on to highlight the underpinning sociomaterial ‘dance’:

I mean I suppose everything we go to is urgent to a certain degree...as I say, if it's something you can't deal with on your own then to me that's kind of urgent really because you're then delaying trains by waiting for other people to get there...people

come down to fix things ‘oh I haven’t got the tools for that, I need to go back and get them, it’s going to take me another hour’ (Wyn, MOM).

Wyn initially reproduces the ever-present urgency narrative (‘everything we go to is urgent’). However, he also highlights the challenge of enrolling others into this sociomaterial narrative of a legitimate need for reprioritisation of work. For Wyn, it is the slowing down of time (‘delaying trains’) creating a critical temporal juncture that defines the situation as urgent and requires a concomitant speeding up of work. However, other employees and tools might not engage appropriately. Work does not speed up sufficiently and urgency’s fragility is exposed. We explore contesting narratives later, but here note how this illustrates that urgency needs continual sociomaterial reenactment through the synchronised entanglement of tools, bodies and human skill. Urgency is embedded in a sometimes uncooperative sociomaterial network.

Our exploration of localised urgency narratives so far has highlighted that the desire for a smooth-running network (‘a network that never shuts down’) is repeatedly disrupted by contrary sociomaterial relations: a bicycle flung on the track, trains hanging off bridges, workers with the incorrect tools. Urgency is a potential temporal solution to resynchronise the network, but it too requires synchronous activities that, as Wyn reports, are not always easy to align. Nevertheless, urgency is positioned as a necessary present response to avoid repeating past disasters and prevent potential future disasters. Urgency is thus both constant and exceptional.

Part two: ‘The only slightly tricky thing’

At RE, smartphones are sometimes materialised in narratives as subservient objects, as beholden to human agency, but elsewhere take over, disrupting the narrative of a network that never shuts down. In this section, we examine the role of smartphones in the production of urgency.

You are now very much more aware that you can’t get away with not having seen [a message], and that’s the only slightly tricky thing. Whereas a bit back, prior to [smartphones], you were dependent on somebody actually seeing that e-mail on your laptop if you were out of the office. It does mean you’re a lot more available (Evan, CM).

Across RE, smartphone-use features in accounts about urgent work. Here, Evan contrasts a pre-smartphone era with a present in which people cannot easily disengage to avoid communication. Thus, the sociomaterial entanglement of human and smartphone has produced constant presence and unavoidable urgency; everyone becomes aware, and urgency is always unfolding. For Evan (and others) this is experienced as ‘slightly tricky’ because in the present smartphone-era urgency is more demanding.

I mean there’s not a day goes by that there’s an important e-mail comes out that requires fairly urgent action ... (Andy, LOM).

Here, urgency is not just confined to the notification of engineering incidents; daily emails also trigger urgent activity. Through the smartphone-user assemblage, urgency has spread and is now experienced more widely. Consequently, Andy uses a qualifier (‘fairly urgent’) to differentiate. It seemed that ‘urgent’ could be a question of degree: ‘fairly’, ‘kind of’, ‘super’ or ‘really urgent’, were

variants used by interviewees. In RE, the pervasiveness and normalisation of the urgency narrative, as a product of sociomaterial relations, has triggered more nuanced narratives (part of the ‘dance of agency’). We see here an emerging negotiation of the reprioritisation desired by urgency narratives, so that workers can manage their demanding workloads.

I’ve told him [Mike’s boss], ‘if it’s urgent and it’s really important, give me a call even if it’s 8 o’clock at night because I’d rather we closed it out’. (Mike, CM).

As above, we see that smartphone-use has allowed narratives of engineering urgency to permeate other areas of work. Mike works in Human Resources but enrolls pseudo-engineering narratives in which urgency is associated with keeping the trains running (‘closed it out’). Mike’s narrative constructs working in the evening in line with the ‘network that never shuts down’ to produce an urgency framing even in activities far removed from incident handling. Now office work can be ‘closed out’ straightaway, at any time, as Mike also highlighted: ‘It’s much more instant, ‘this is an issue now’’. Smartphone-use is essential to communicative success, since the sociomaterial smartphone-user assemblage acts to both facilitate the urgent request and provide the opportunity for its resolution.

If my boss had e-mailed me, I’d be like ‘oh, what does he want’ I’d look at that straightaway to see if it was anything urgent, and if it was, I’d just reply there and thensort of the urgency probably or the importantness comes from the person who is sending it (Rajiv, TS).

Earlier, Mike referred to his line manager, highlighting management’s instant and constant access to staff. Here, Rajiv reflects on how the sociomaterial production of urgency is linked to the sender’s organisational position. Time is produced as moving more quickly or being more precious as one becomes more senior, highlighting a structural temporal juncture, even though senior managers are typically more distanced from engineering activity.

I mean what I find is I’m invariably...if I’m on a meeting or anything, well you see everybody doing it to be honest, just picking up and checking (Ed, LOM).

Many participants told how the smartphone signalled an urgent event—indeed embodied urgency—and therefore needed constant attention. Above, Ed describes how this is physically enacted by touching the smartphone. Ed presents this as an inevitable aspect of work, part of the overall sociomaterial mangle of a 24/7 organisation. This physical ‘being in touch’ reinforces sociomaterial connection but also acknowledges concern that smartphones require ‘checking’ in case they fail. Again, we highlight how the sociomaterial entanglement that is the railway network is potentially fragile, and consequently our participants were constantly alert to urgency. We heard much about the smartphone’s fragility especially when wet or dropped. Therefore, not only is the smartphone entangled in the sociomaterial production of urgency, but it also needs to be constantly monitored in case it fails to act ‘appropriately’ and becomes another ‘tricky’ part of the network.

I woke up and I think I had 36 emails and a voicemail. And [my smartphone] hadn’t rung. I don’t know why because before I went to bed I said to my other half ‘can you just ring’ just to make sure that it’s going to ring...lo and behold I woke up and I had a voicemail, and we’d had a signalling failure and I hadn’t picked up the

call. For whatever reason it didn't ring while I was asleep. And I spoke to Control, I said, 'I'm really sorry my phone just didn't ring' and they were like 'it's alright, it's not a problem, it's all fine now' (Celia, LOM).

Enrolling her 'other half', Celia's story illustrates this fragility of the smartphone-use entanglement, narrating two failures: of signalling and of the smartphone. Celia's failing smartphone connection allows her to confirm the expected narrative of urgency while explaining an apparent breakdown: she did not respond. Indeed, the smartphone narrates its own failure (via missed calls and messages). Here, Celia first claims agency for ensuring sociomaterial success then disentangles herself and shifts agency to blame the phone. This results in the complex positioning of smartphones that were held to be both essential in effecting urgency and, simultaneously, a possible stumbling block. They become 'tricky things' when rather than enabling synchronisation, they become disruptive and create desynchronisation at critical temporal junctures. In other words, urgency also must be materially negotiated.

This section examined how smartphones and their users are entangled in narratives of urgency across the workplace, even at some distance from the operational frontline. Smartphones are held to both produce and undermine urgency. Brought in with the objective of giving notice of critical temporal junctures, they overplayed this role, creating apparent requirements for urgency beyond operational necessity. Other times, they failed to give notice remaining unenrolled in the expected and necessary sociomaterial assemblage which would have produced urgency. In the next section, we examine how urgency is contested and the mangled human-smartphone assemblage held as not just sometimes unreliable but more fundamentally problematic.

Part three: 'Well they could have waited'

In this section, we examine how workers contested sociomaterial narratives of urgency by positioning them as 'false' and disruptive, setting up a tension between necessary and problematic urgency narratives.

Andy (LOM): I think unless you are careful it can take some of the priority away from what they should be [sic], and you end up prioritising on something you've been sent... [if] my line manager or [a colleague's] line manager wants information quickly; they don't like hanging around to be honest.

Int: Do you often think that the information isn't required quickly?

Andy: Not all the time. Obviously, I'd never question, if they need it urgently then I'm not going to question why they need it, but there are times when you think 'well they could have waited'.

Andy examines these tensions, highlighting how 'urgent' requests produced through the user-smartphone assemblage can themselves be disruptive. He speculates that urgency is being exploited and managers 'could have waited'. Contesting the narrative of delay as unacceptable, delay here is set against Andy's overall workload and the trade-offs that are inevitable if he responds urgently. We see a narrative tension between responding quickly and the concern that

this ‘can take some of the priority away’ from other work. Andy argues that he has a clear understanding of urgency in the context of his own work but must manage his position in relation to others. In other words, a reprioritisation at this temporal juncture will only lead to additional desynchronisation elsewhere, simply moving the problem to another temporal juncture. However, Andy seems somewhat conflicted; how could he not be given the way urgency is embedded in RE’s temporality? So, he concludes (to us) that he’d ‘never question’ directly but acknowledges a tension in managing these requests (be ‘careful’). For Andy, this tension is in managing his present, mindful of various potential futures that may materialise. Consequently, an alternative narrative emerges about managers’ demands for urgent attention and reprioritisation of work which are unnecessary and potentially even risky in disrupting other, and future, work.

The actions of senior managers, enrolling smartphone agency, were further discussed as potentially disruptive by others. Reflecting Celia’s account of things ‘going mad’ out on the track, this is retold in a different setting:

You’ve got some people who I guess in effect are the ‘yes men’, and they immediately ‘e-mail from [Director], you’ve got to panic, panic, panic’ and [my colleague] was like that ...the [Director] will send out an e-mail and I might get copied in on it and I look at it and think ‘yeah, fine, deal with that later’ and then [my colleague starts] ‘have you looked at it yet?, have you looked at it yet?, have you looked at it?’, [and I say] ‘I’ll do it later’. And then when you talk to [the Director] and say to him ‘actually I’m doing this today... is it OK if I do this for you tomorrow?’ [he says] ‘yeah, fine’. But [my colleague’s] panicking (Helen, TS).

From Helen, we see that it is not only managers’ requests that might be problematic. Whereas on the track, frenetic activity might be required to achieve resynchronisation, here this operational narrative is subverted into a tale of panicking ‘yes men’. Helen constructs an alternative as the voice of reason, in which she can easily renegotiate work as not urgent, with the support of the Director. Through this contestation, urgency becomes one narrative rather than the dominant workplace imperative. This counter narrative suggests ‘false urgency’ is problematic for RE. An alternative imperative becomes possible, one in which not responding to an urgent issue is the ‘right’ thing to do.

Similarly, Shaung challenges how others prioritise their work:

I think nowadays people...fail to know how to prioritise and really understand. Because, let’s face it, at the end of the day none of us are actually that important... trains will still run long after every single one of us is gone... people have cried wolf too many times and now I just don’t succumb to it because even though that person is saying ‘I want it yesterday’ I actually think that ‘actually they don’t need it yesterday so they can wait for it’ (Shaung, TS).

Shaung positions current issues within a broader temporal framing, since ‘the trains will still run...’. This offers an alternative temporal narrative to the fearful future invoked by others as any incident is merely a blip in the overarching temporal narrative of rail travel. She makes a strong claim for her own agency in defining urgency, set against a fabled boy who cries wolf (constructs a false sense of urgency). Indeed ‘that person’ is ridiculed for inappropriate attempts to manage time and the temporal impossibility of wanting ‘it yesterday’.

However, others tell how this position is difficult to maintain:

Once or twice, I did get caught out by the likes of say [Director] or [Senior Manager] ringing up first thing in the morning and going ‘what’s happening about such-and-such’ and it would be the first I’d know that such-and-such had happened. But again, for a head of profession, in a strategic role, why should I need to know that instant what’s going on? If...it becomes clear that there are issues around standards or compliance or whatever that are involved in an incident, then somebody should be ringing me up and saying, ‘you need to get involved with this’. I shouldn’t be trying to be some sort of pseudo-operational person, it wouldn’t be appropriate (Jim, CM).

Here Jim, considering himself in a strategic role, has not been paying attention to the digital broadcast of incidents accessible via his smartphone. He laments that others seek to enrol him inappropriately in this pervasive sociomaterial narrative of urgency, although his initial construction is of being ‘caught out’ in this inattention. Here we see that the urgency narrative is difficult to resist. Just as (in part one) we explored the risk of being out of sync with the network as urgent work might be missed, so that risk reoccurs in attempts to challenge urgent requests, in case one is positioned as not in touch with the operational railway. However, Jim concludes that it is both a false role and reaction: he should not be a ‘pseudo-operational person’ (or indeed one of Helen’s ‘yes men’). Rather, working through these tensions, he constructs a counter-narrative, in which his role is to address potentially important safety ramifications that will then become accepted as urgent. Urgency becomes postponed, a narrative to be told later.

In this section we have demonstrated how urgency is contested through delegitimising claims that one should reprioritise current work processes for synchronisation purposes. The role of the smartphone in broadcasting urgency to stimulate immediate action is redrawn through highlighting that this was not a direct contact (copied into an email, not personally telephoned). One’s value to the organisation is not defined by (feigned) closeness to the operational railway or through being a managerial flunkey. Overall, this unpicks the normalisation of the urgency narrative: urgency is not necessary all the time for everyone.

Through our findings we have demonstrated how urgency is constituted, sustained and challenged through sociomaterial relations at RE. Below we examine the implications of our analysis and outline our contributions.

DISCUSSION AND CONCLUSION

We extend understandings of contemporary temporality through explicating urgency narratives at work and providing insight into the agentic roles of technology and other materialities. In this discussion we detail how our work offers three specific contributions. Firstly, we develop Rosa’s notion of temporal junctures and progress understandings of relations between broader cultural and local workplace temporal framings; particularly offering further explanation of the situated, sociomaterial complexity of the latter. Secondly, we extend previous understandings of urgency itself. We highlight the need to move beyond understanding urgency as driven by individual aptitude or as a response to objectively urgent events (Kalman et al., 2021; Landy et al., 1991). Rather, and as expanded below, we show that urgency is produced as an outcome

of complex sociomaterial relations. We demonstrate how present, past and future are brought to bear both in the urgent instance and to weave an ongoing story. This leads us to reposition urgency as both ‘demanding and in demand’. Thirdly, our research offers a workplace-based analysis through unpacking urgency narratives across different roles from the operational frontline to senior managers. This empirically extends understanding of urgency’s situated and sociomaterial production beyond office work—the main focus of previous analyses (Kalman et al., 2021)—to provide an explanation of how both mobile technologies and workplace relations shape, and are recursively shaped by, understandings of temporality. We conclude by reflecting on the challenges of this context and offer suggestions for further research.

Explaining temporal junctures at work through the urgency narrative

Despite much citation, Rosa’s temporal theorising (2013, 2017, 2018) has yet to be fully incorporated into studies of work and technology. Rosa (2017) proposed that differential acceleration across temporal junctures is embedded culturally, and that cultural and workplace temporal frames interact, but does not specify the implications of this for detailed workplace activities; implications which have yet to be considered empirically. Therefore we extend Rosa’s thinking by developing the concept of temporal junctures in relation to workplace temporalities and providing detailed empirical explication.

Our research highlights how workers at RE are under constant threat of desynchronisation, as the rail infrastructure is temporally fragile and materially vulnerable (Ramakrishnan et al., 2021). We explain how broader temporal frameworks confirm the need for ‘a network that never shuts down’ and frame urgency narratives as essential (Rosa, 2017). However, while this framing supports the urgency narrative, our research provides detailed explanation of how this is encountered locally as desynchronisation at temporal junctures is experienced. Our work indicates that temporal junctures are never straightforward, rather they are experienced as knotty configurations of multiple interrelated junctures. Here we highlight sociomaterial complexity, Pickering’s ‘dance of agency’ (1995; 21), as significant, and we offer detailed accounts of smartphone-use to illustrate this.

In contrast to suggestions that urgency is a relatively straightforward, technologically-facilitated means of realigning synchronicity at temporal junctures, we offer a more complex conceptualisation of urgency as an ongoing and unfolding entanglement. Therefore, while the notion of ‘a’ temporal juncture might be a useful conceptual device, our research highlights that such junctures are rarely singular or straightforward; indeed, we propose that they are complex and ‘mangled’ (Pickering, 1995, 2013). This leads us to consider how temporal fragility is an inherent feature of work at temporal junctures (Ramakrishnan et al., 2021).

From this we propose that urgency is not simply an answer to a particular desynchronisation, at a single temporal juncture, but operates across a complex configuration of multiple temporal junctures which must be continually sociomaterially aligned and require ongoing negotiation. Consequently, we develop the understanding of temporal junctures at work by explaining how these are both of ‘the moment’ (a particular engineering incident) and also continually in the making (an ongoing narrative of engineering incidents and rail travel more broadly). Importantly, this enables us to explain the recursive connection through which specific work activities, here focusing on those in which the smartphone is a key technological component, continually reinforce broader cultural temporal frameworks. This supports Rosa’s (2017) emphasis of the interrelationship between different temporalities but highlights the

complexity of this in workplaces. The ongoing negotiation of such junctures is unpacked further below as we set out the ‘demanding’ and ‘in demand’ narrative of urgency.

Urgency as demanding and in demand

Our second contribution extends conceptualisations of urgency by offering a nuanced explication of temporal complexity (Jørgensen, 2022). Our analytic work shows how urgency narratives seek synchronisation (timely trains) and resilience (robust rails) but are never-ending and seemingly unachievable since these narratives also construct the constant possibility of future disruption. That is to say, to establish urgency in the present, this potential future (of disruption) is constantly recreated. Therefore, rather than conceptualising urgency as an instance of temporal exception occurring in the present (Kalman et al., 2021; Landy et al., 1991), we offer an alternative theorisation of urgency as an ongoing narrative, constantly remade and continually retold. Moreover, we identify how vigilance is inherent and significant to urgency narratives (Hernes & Schultz, 2020; Rosengren, 2019). We are offering an alternative to the notion of urgency as (not only) ‘demanding’ but also as emerging through vigilance and ‘in demand’ as a shield against future disruption: urgency narratives offer a temporarily secure present in relation to dangerous pasts and uncertain futures. At RE urgency narratives offer the possibility of a present in which materiality is dominated and provide an illusion of control over the temporally fragile rail infrastructure.

Moreover, while smartphone-use might be held as offering a means of stabilisation, we highlight how people, tools, smartphones and so forth can become problematically entangled. We suggest that the sociomaterial choreography of connections and coordination is ‘in demand’ because this provides evidence that urgent action is taking place. In this way we show how the smartphone is now as firmly entangled in the sociomaterial production of the rail network as the rails, tracks, bridges, fences and tools. However, this sociomaterial choreography can also be ‘demanding’ because humans are not as in control of material agency as they may think, and materials may not act in the way we expect. There is frenetic activity to make up for incorrect worker-tool or failing worker-smartphone assemblages, as ‘tricky’ and ongoing sociomaterial negotiations.

Contrasting management and operational narratives of urgency

Through our analysis we explain how urgency narratives are produced across the organisation, both functionally and hierarchically, particularly via the user-smartphone assemblage. Thus, we contribute to the literature on mobile technologies by explaining how workplace relations are themselves entangled in urgency narratives and offer insight beyond the typical bounds of office work explored in many empirical studies (Thulin & Vilhelmson, 2022). For those in less senior positions there is little means of escaping the sociomaterial production of urgency and ‘less tolerance for timescales’ since they are always available through the smartphone (Knights & Yakhlef, 2005). We show how, despite positioning some as ‘crying wolf’, challenging urgency is problematic since it requires a convincing counter-narrative (Rosengren, 2019). This is risky given the temporal fragility of work. A counter-narrative necessitates accepting the risk of being held to account in the future, when the future is constructed as potentially disastrous if urgency is not produced in the present (Jørgensen, 2022). Indeed, materiality joins in this allocation of

responsibility as the smartphone can narrate communication failures. Therefore, urgency narratives produced by senior management are not contested directly. This highlights the challenge of establishing local 'post-growth' narratives, which Rosa (2017; 34) sees as necessary to contest the 'escalatory logic of modernity'.

However, the seductive combination of managerial and material persuasion also offers a fleeting glimpse of an alternative subject: the dispassionate arbiter of real urgency (Olson, 2015) who attempts to pause urgency by emphasising contemplation and carefulness and seeks to reorient the sociomaterial towards these ends. Thus, to contest urgency is not simply a human endeavour but is a complex sociomaterial outcome (Wajcman, 2015). We see this as Helen renegotiates her work with the Director, and as Shaung offers an alternative view of the vulnerable network. These alternative tellings reposition and redirect urgency, redefining temporal junctures and rejecting attempts at imposed synchronicity; demonstrating that seeds of post-growth narratives might be found even in such challenging workplaces.

We acknowledge the empirical challenges of our study, particularly in this highly regulated context that prevented us from direct engagement with engineering practice. For those able to access such practice directly, we recognise the potential to further connect the theoretical framework used here to work on, for example, high reliability organisations (Steigenberger & Lübcke, 2022; Weick, 1987). While we draw on recent developments in relation to temporal narratives emerging from this field (Sandberg & Tsoukas, 2020) there is clearly scope for further investigation. Exploring the impact of COVID-19 on both local and societal temporal cultures is a further area ripe for investigation (Hodder, 2020). We also note the importance of reflecting on assumptions about temporality and sociomateriality in our own research practice. For example, Rosa's (2017) notion of temporal junctures could be applied to prompt consideration of how our academic sociomaterial research practices temporally butt up against the workplaces we seek to understand. Such exploration might usefully provide means of unpacking notions of impact, that have become so central to contemporary academic life.

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ORCID

Katrina Pritchard  <http://orcid.org/0000-0003-1938-1272>

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