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## Doctoral writing as an assemblage in space and time

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### ABSTRACT

This article responds to the question, 'how do doctoral students experience writing within space and time?' Whilst existing studies have understood academic writing to be a social and embodied practice, few have considered the material and temporal assemblages that facilitate everyday experiences of academic writing. Working from a new materialist ontological approach, this article draws on photovoice interviews with 11 doctoral students. Using 'affect' as the unit of analysis, the article explores the capacity of space, materiality and time to affect, and be affected by, experiences of writing. People, things, environment, and emotion all play a role in this 'spacetime mattering' and mean that experiences of writing are not processual, nor homogenous, but rather are ever-shifting assemblages of intra-actions. The article concludes with recommendations that attempt to shift our conceptualisation of doctoral writing, with writing being ultimately critical to doctoral success. In addition, it adds to the emerging literature that applies new materialist theory to studies in higher education.

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PhD; academic writing; new materialisms; affect; photovoice; temporality

## Introduction

Writing comprises a substantial part of the doctoral student experience, not least because the thesis is the essential artefact on which the doctorate is conferred.<sup>1</sup> Doctoral writing in the neoliberal academy<sup>2</sup> 'has become a more intensified practice' (Burford 2017, 20) closely linked to perceptions of success and failure (Carter and Kumar 2016; Burford 2017) and with the potential to impact on student wellbeing (Aitchison et al. 2012; Beasy et al. 2020). Therefore, developing new methods to support doctoral writing has been a subject of research on the understanding that effective writing strategies support both timely completion and the positive reinforcement of students' academic identities (Aitchison & Lee 2006; Gearity and Mertz 2012; Tremblay-Wragg et al. 2020).

The extant literature on doctoral writing can be broadly categorised into two areas. The first conceptualises writing as a skills-based activity, focusing on pedagogic practice, skills development, and feedback processes (González-Ocampo and Castelló 2018; Gassman, Maher, and Timmerman 2015). The second category however, views writing as an embodied, social practice (Aitchison & Lee 2006; Beasy et al. 2020; Tanggaard and Wegener 2017; Fisher et al. 2020). It has been made evident that writing is socially and culturally situated, and impacted by a range of external factors (Russell-Pinson and Harris 2017; Wilmot and McKenna 2018; Inougue and McAlpine 2019). Yet, despite the growth in research on identity, emotion, and social spaces of writing, the role of space and time, as factors in the writing process, has been largely overlooked.

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A notable exception to this gap is the work of James Burford and colleagues. Burford's (2017) conceptualisation of doctoral writing as 'affective-political practice' provides a useful bridge to further research on the environmental and socio-political constructs of doctoral writing. Drawing on theories of emotion and affect, Burford and colleagues have explored spaces of doctoral writing at the university (Sakonnakron and Burford 2019) and in the home (Burford and Hook 2019) in order to address how experiences of being a doctoral student relate to experiences of space. In this article, I add to the aforementioned scholarship by exploring doctoral students' experiences of writing within space *and* time using a new materialist ontology, primarily drawing on the work of Karen Barad (2007). In doing so I argue that in order to support doctoral students' academic progress, institutions and individuals should regard writing as a materialist assemblage, as opposed to a linear and/or purely humanist process. This builds on the existing emerging scholarship that takes a post-human materialist approach to higher education (e.g. Carter and Gunn 2017; Gravett 2020) – a theoretical approach that has been said to unleash 'both vulnerability and response-ability' (Taylor and Bayley 2019, 23).

To explore writing as a materialist practice, the article presents findings from a qualitative study that adopted interview and photovoice methods. Eleven doctoral students<sup>3</sup> from two UK universities participated in interviews in the spring of 2020. Before reporting on the methodology and outcome of this study, I first outline the extant literature on the spaces and timescapes of doctoral writing and present the ontological framework in more depth. I end by discussing the implications of a materialist writing practice for both institutions and students themselves.

### *Spaces and timescapes of doctoral education*

There is a wealth of literature on doctoral student writing (and on academic writing in general). This scholarship tends to be attuned to writing strategies, supervision, and interventions (Inougue and McAlpine 2019; Tremblay-Wragg et al. 2020). In 2008, Kamler and Thomson published a critique of PhD advice books that presented writing as a formulaic, linear practice and expressed concern in how, all too often, doctoral writing is 'treated as a discrete set of technical skills that are essentially context free' (Kamler and Thomson 2008, 507). The conceptualisation of doctoral writing has developed since then and social spaces of writing have been a recent focus in the literature, with writing groups, retreats, and informal social networks, conceptualised as an antidote to the solitary angst of research candidature (Maher et al. 2008; Mewburn, Osborne, and Caldwell 2014; Vacek et al. 2021; Beasy et al. 2020; Tremblay-Wragg et al. 2020). Research on the social spaces of writing has far outstripped research on the environmental and spatial context of writing. Yet, it is the solitary experiences – sitting quietly at ones' desk – where the majority of writing still occurs (Dowling and Mantai 2017; Sakonnakron and Burford 2019).

Dowling and Mantai (2017, 201) argue that the spatial environment is critical to the 'performances of identities and the practices of the PhD', or what we might consider, the *being and doing* of doctoral education. Drawing on empirical data, the authors present a typology of five doctoral identities in relation to the spatial configuration of doctoral working practices. There is, for example, the 'PhD worker', who performs their academic identity through the institutional spaces they inhabit; or the 'isolated researcher', working alone but with a tendency to procrastinate. Dowling and Mantai (2017, 205) also acknowledge, however, that academic research is essentially 'placeless' and takes place in other environments such as the home, cafes, and trains. Such work must often also fit around domestic and employment duties, particularly for the 'other-than-researchers' for whom PhD student is not their primary identity.

Both Dowling and Mantai (2017) and Sakonnakron and Burford (2019) highlight an affective political discourse that influences experiences of space. For example, the students interviewed by Sakonnakron and Burford (2019, 176) were highly dissatisfied with the office spaces allocated to them, blaming 'neoliberal ideas of efficiency' for the uninspiring, dark, and cramped office spaces given to doctoral students at their institution. The office space was thus a site of contestation, leaving

doctoral students feeling undervalued and hostile towards the university, as well as presenting a push-factor to work at home. Juxtaposed with this, Dowling and Mantai (2017) highlight how positive experiences of space have the potential to empower and motivate doctoral students, and provide a differentiation to undergraduate students that doctoral students value as part of their researcher identity. Finally, in contrast to exploring institutional environments, Burford and Hook (2019) exclusively focus on experiences of working/writing at home. Both authors were, through different situations, required to write all or part of their PhD thesis at home whilst caring for family members. Therefore their autoethnographic account is framed by the literature on spaces of care and what this means for the institutional narrative of the PhD worker – an ideal standard to which they didn't fit.

(Not) having enough time is a stressful feature of the neoliberal academy for both students and staff (Bennett and Burke 2018), yet experiences of time in academia have received relatively little attention to date. Bennett and Burke (2018) attend to this lack by conceptualising higher education as a 'timescape' where participants manage the time of themselves and others according to hegemonic frameworks. Within the academy we can use the term timescape to describe the temporal conventions of being and doing in the academic field (Manathunga 2019). In this case, frameworks are institutionalised, with time structured by academic conventions, such as semester periods, set up for undergraduate education (Clegg 2010; Waight and Giordano 2018), and doctoral education shaped by progression markers, funding limitations, and completion targets (Zhou and Okahana 2016; Devos et al. 2017; Manathunga 2019). If students and staff do not adhere to these standard conceptions of time, they are seen to be lacking ability and commitment (Bennett and Burke 2018).

When doctoral time has been studied, the focus has been on the macro level timescapes. For example, Araújo (2005) explored the doctorate as a 'time experience', interviewing Portuguese lecturers who had taken time out of their teaching roles to conduct a PhD. The author found that participants recognised the PhD as a period of suspension, as they spoke clearly about time 'before' and 'after' the PhD. Furthermore, Aarnikoivu (2020) analysed the spatiotemporal dimension of doctoral education to consider the role of institutions, the state, social networks, timescapes and borders of various physical and metaphysical stripe in the construct of the doctoral student identity.

Time is significant because progression (or more accurately, of not feeling a sense of progression) is a key stressor for many doctoral students (Barry et al. 2018). Longfield, Romas, and Irwin (2006) found that doctoral students felt guilty for 'wasting time' on social activities that were seen to detract from academic progress. Furthermore, procrastination, which we might define as 'wasting time', is also listed in the literature as something that doctoral students experience, particularly in relation to stress and anxiety (Pearson 2012, Byers et al. 2014).

### ***Relational ontologies: the new materialisms***

The framework of the new materialisms is used in this study to explore the relationality of space, place, and time, as an assemblage. New materialisms,

Supplies a conception of agency not tied to human action, shifting the focus for social inquiry from an approach predicated upon humans and their bodies, examining instead how relational networks or assemblages of animate and inanimate affect and are affected (Fox and Alldred 2015, 399).

New materialisms sits within a broader pool of feminist and posthuman approaches that are emerging in higher education research with the aim of countering the view of students as individualistic, performative actors, independent to the environmental, technological, and material context in which they reside (Taylor and Bayley 2019). In contrast, scholars aligned with the new materialisms argue that *all matter* (human and non-human) is relational and it is these intra-actions that co-produce human and nonhuman matter, time, spaces, and their signification (Barad 2007; Coole and Frost 2010). Non-human is used in this way to depict any subject/object that is not human, but is considered through this

ontology to be an active agent, such as animal, nature, machine and matter (things) (Braidotti 2013). I apply this to writing in the sense that writing, as an artefact, cannot exist without human-non-human intra-actions, whether the apparatus is a machine (computer, phone etc), or an object (pen and paper), and it also does not occur in a vacuum (Ahmed 2010). The concept of the 'assemblage' works well as a means to unseat the centrality of human agency by drawing attention to the multiple forms of agentic forces involved in any action (Barad 2007). In an assemblage, there is no 'subject' and no 'object', rather an affect is a 'becoming' (Deleuze and Guattari 1988, 256). Time and temporality has been brought into the new materialist literature by drawing on Derrida's idea of time as non-linear and irregular (Hodge 2007). Barad (2007) names this process 'spacetime mattering' to emphasise the way components are produced together in one on-going and iterative phenomenon. Time can be folded into the concept of assemblage by acknowledging that different materialist assemblages may produce different temporal effects, and that the rhizomic character of an assemblage sits in conflict with social structures such as clock time (Buchanan 2008). By adopting a new materialist ontology I am not spotlighting the non-human over the human, but rather use it to bring the non-human equally and non-hierarchically into the conversation by shifting the focus of my analysis to *affect*.

## Methodological apparatus

### Photovoice interviews

The study set out to explore how doctoral students experience writing within space and time. Participant interviews were adopted; however, one problem with interviews is that they 'centralise people and their accounts and as such can make things absent' (Woodward 2020, 28). So, to bring 'things' into the study design, photovoice was added. Photovoice, also known as photo elicitation, is a visual participatory method that uses images taken by the participant to stimulate discussion in an interview. Photovoice has been underutilised in education research, leading to a call from Wass et al. (2019) for educational researchers to embrace its methodological vitality. In my case, I use it to capture moments in time related to doctoral students' experiences of writing and to illuminate and examine the material and temporal features of these moments that might otherwise be overlooked. Because the study period coincided with a dramatic change in working practices due to COVID-19 pandemic restrictions, participants were only able to work/write at home during the data collection period. Although this meant the study had to be adapted (i.e. moving from in-person interviews to remote interviews), I do not consider it a hindrance to the research aim which prioritised the exploration of writing assemblages in order to demonstrate *affect*, not to provide a comprehensive account of differing experiences.

There were two main parts to the interview, which typically lasted a little over an hour and were held remotely on Microsoft Teams or Zoom. In the first part of the interview, participants were asked a number of questions related to their current and past experiences of writing in time and space, as well as some background questions to provide context to their doctoral experience. The questions were formulated according to Patton's (1990) typology of interview questions, for example; experience or sensory questions. The list of interview questions is provided as an appendix, along with a rationale for each question. The second part of the interview focused on the photovoice study. Each participant was asked to speak about each of his or her 'photo-object' (Woodward 2020) in turn, prompted by the researcher when required. In the week prior to the interview, participants were instructed to take photographs of anything they considered relevant to their writing experience, whether the physical environments and tools, or the figurative. Participants took between five and fourteen images and these were emailed to the researcher before the interview. The images were used for the purpose of supporting the interview discussion and were not considered data for the researcher to analyse separately, as this would contradict the new materialist approach that attempts to tap into assemblages, not isolated features. The interviews were audio recorded and transcribed by myself.

## Sample

Two pilot participants were recruited through a doctoral community Facebook page linked to a large Post-92/modern university in the UK. The main study participants were recruited through a research-intensive Russell Group institution, using the doctoral college as a gatekeeper. Specifically, participants were recruited through the college's social media accounts (Facebook and Twitter) and doctoral student newsletter, and in two cases, through snowballing from existing participants. Although an attempt was made to attract a diverse range of participants, the sampling process was a convenience one based on volunteers who came forward. Participants were required to be at least 12 months into their doctoral research programme, in any discipline. As the list of participants demonstrates (see Table 1), reasonable diversity was achieved in terms of year of enrolment, nationality and subject. That said, no participant from a lab-based discipline volunteered, and women outnumbered men. Post-viva participants were working on thesis corrections. Institutional ethics approval was granted for the project.

## Data analysis

Kolb (2008) lists four phases that are important for the adoption of photovoice. First, after receiving the participant information sheet, each participant was briefed over email and/or phone call in order to reassure them on the photovoice task. Participants were asked to take photographs of anything they considered relevant to their experiences of writing over a one-week period. According to Kolb (2008) this starts a cognitive process as participants reflect on the meaning of the task. In the second phase participants implemented these reflections through the photographs they chose to take, becoming co-creators of the final knowledge generated. The third or 'decoding' phase required participants to present their photographs and verbalise their thinking about them in the online interview. This ran after the traditional, semi-structured interview, which was conducted in the same video call. The final phase involved a data analysis process using NVivo software to help manage the data. Codes were identified inductively by myself. Although NVivo was used to process formal codes for the purposes of data management, data analysis was an on-going and diffractive<sup>4</sup> process drawing on both my own and the participants' reading of the writing assemblages. The codes themselves were therefore descriptive and fairly broad (e.g. 'curating spaces', 'technology'), with analysis focused through physical note-taking and NVivo annotations. Furthermore, codes were non-hierarchical, i.e. there were no 'parent' or 'child' codes. Once key codes and quotes had been identified using NVivo, I went back to the full transcripts in order to accurately represent the participants' stories in writing this article.

**Table 1.** List of interview participants.

Participant number	Sponsorship status	English as first language	Gender	Discipline	Study mode	Year of study
Pilot 1	International	No	Female	Sociology	Part-time	2
Pilot 2	Home	Yes	Male	Sociology	Full-time	4
P1	Home	No	Female	Computer science	Part-time	9 (post-viva)
P2	International	No	Female	Linguistics	Full-time	3
P3	Home	Yes	Male	Physical geography	Full-time	2
P4	Home	Yes	Female	Physical geography	Full-time	3
P5	Home	Yes	Female	Human geography	Full-time	2
P6	Home	Yes	Male	Art (practice-based)	Part-time	5 (post-viva)
P7	Home	Yes	Female	History	Full-time	2
P8	Home	Yes	Male	Design	Part-time	6 (post-viva)
P9	Home	Yes	Female	Sociology	Full-time	2

Like Barad, I consider these interviews ‘enactments’, or ‘material articulations’ of the world (Barad 2007, 139). I follow Juelskjaer’s (2013) assessment here, that human accounts cannot be accorded validity on the basis of their authenticity, but as evidence of how respondents are situated within assemblages. I have structured the findings according to experiences of space and experiences of time, but acknowledge that all of these experiences sit within a holistic ‘spacetime mattering’.

## Findings

### *Experiences of space*

Participants described and discussed the different places in which they typically wrote. The vast majority of writing was conducted in offices at the university or at the participant’s home, but other spaces were the library (public and university), other people’s homes, on public transport, and in cafes. As such, the COVID-19 lockdown restrictions did disrupt their writing experiences, as P1 said, ‘what’s hardest is that, you don’t escape, you know you are in the same space – same physical space – and it’s frustrating’. It was frustrating for P1 because, although writing is a solitary and still activity, the writing experiences described by participants were to the contrary, quite mobile, and entangled with other activities such as travel, exercise, socialisation, and eating. For example, P3 describes how, if he was at the university, he would ‘pop into the office next door’ or play squash or go bouldering in the afternoon, and that ‘would be like a break from writing’.

P2, P4, P5, and P8 all described how physical movement was linked to writing. P4 said:

When I get bored, if I move, then I can concentrate again. Strange, but it’s true. Like so, if I go into the library it will be because I have sat down in the morning, not got a lot done. I will eat lunch and then pack my things, walk into town and then the walk clears my head. I can think through what I want to write . . . and then I find it a lot easier to write it.

The act of walking clears the participant’s mind and the quote above suggests that her experience (motivation) for writing is different as she moves to a different time and space. This suggests that the environment produces an affective state in the participant, but can shift over time, e.g. without changing the environment, the space can go from a productive space to a space that incites boredom. It also demonstrates how writing transcends space, as there is a sense that the practice of writing stays on the participants’ mind and moves with her as she moves through space from home to the library.

P2 describes a similar experience but within the microspace of the home. She suggests that the formality of sitting in front of her laptop creates a pressure to write, and that this pressure can hinder her productivity:

Sometimes I use my phone [to write], which is strange. It’s because sometimes when I sit at my desk and start writing, I don’t feel that I have the ideas and I feel that because I’m pressed or stressed and I have to write, I don’t write. But when I go to that space [the sofa] and I feel that there is less stress and pressure or kind of obligation to write, the ideas come into my mind, so in order not to forget them I would start writing them into my phone.

As well as demonstrating how assemblages shift within the micro space of the home, this quote highlights the role of technology, as a post-human actor, within this particular assemblage. The affective state of sitting in front of her laptop is almost paralysing; whereas outside that space, ideas start to flow. The photographs taken by P2 show her working at the table, in bed, on the sofa, on the floor in her bedroom and on the floor outside her house. Although the above quote presents an unproductive picture of a formal workspace, at another point in the interview P2 presents a contrasting image of this space (Figure 1):

It’s in the living room, so it’s just not to distract my boyfriend when he’s sleeping in the home, so I could come here to write. Yeah, I think is a good place because you feel a bit social when you’re in the dining room. Even if there is nobody.

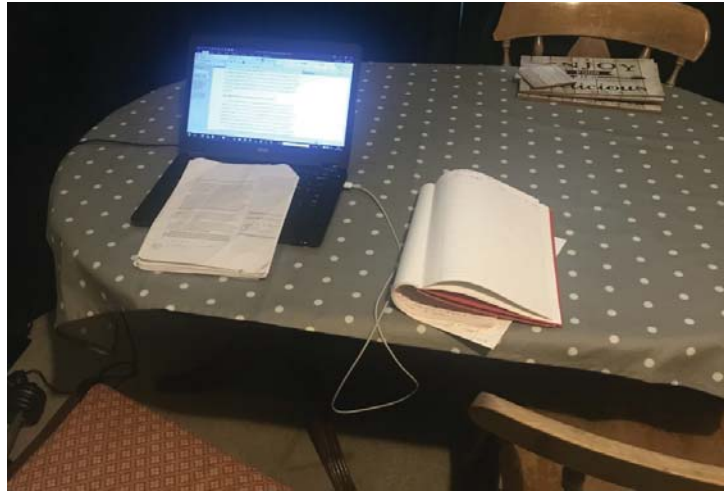


Figure 1. Writing at the dining table [P2].

By equating the dining room with a social space, as opposed to the private space of the bedroom, P2's affective state shifts. She *feels* it as a social space even if nobody is there. Although, she also comments on how she likes to work in the dark (with curtains drawn), which suggests more of a need to shut out the outside world: 'it's dark because the curtain is quite dark as well so that's why I like to study in the living room'.

Participants spoke at length about how they organised their desks, and particularly how they had created new workspaces at home since the national lockdown. P5 spoke about how she liked 'colourful places' that reflected her personality and how, since working at her boyfriend's house during the lockdown she had repurposed an old headboard from a bed to create a foundation for her to curate her new workspace (Figure 2). She says:

So I went back to my flat and I got some of my decorations, like my Russian dolls and dream-catcher, to stick up so that it felt more inviting. At least I can decorate it to make it feel a bit more like mine ... a card that my boyfriend got me for publishing, a picture of my boyfriend. Yeah, I definitely feel like is more inviting because of that.

The image of the whole desk demonstrates how different things come together as an assemblage to achieve writing and improve her writing *experience* (not necessarily her writing). Practical objects that enabled writing, such as the laptop, sit alongside personal items such as cards from her



Figure 2. Desk assemblage [P5].





**Figure 3.** Photoframe of grandparents on desk [P7].

boyfriend that provide motivation and make the space more ‘inviting’, in addition to giving the participant ownership over the space. Cards and notes keep achievements in the present (i.e. the congratulations card for publishing her research) and have a positive affect on the participant’s sense of worth. She also says, ‘A lot of my concentration or feelings is related to the environments around me’.

Photographs were a popular way to personalise ones’ workspace. P7 had an old photograph of her grandparents on her desk at home (Figure 3). Not only are they her grandparents however, but it was also their story that inspired her PhD:

That is my grandma and my grandad . . . So yeah, I mean the kind of the whole way that I got into the PhD and into what I research is because I’d kind of grown up listening to these stories that my grandma told me about my grandad’s time watching nuclear tests and that was kind of what prompted the whole interest in this area of history. So yeah, I just like to have that photo . . . I can always see it . . . Yeah, I guess to remind myself why I do it.

This material haunting, or absence-presence (Maddrell 2013), creates an affective state in the participant, bringing the past into the present and the future (she has another purpose for completing her PhD). This can be very powerful and other participants described and took photographs of similar affective emotional phenomena, e.g. photographs, postcards and children’s drawings.

P1, who was working on a thesis re-write after initially failing her voice viva, took a photograph of her bookshelf:

This is me trying to create a kind of space that was motivation for me to finish the work so everything that’s on this shelf is with that purpose, of me writing. So the books for the PhD are here, everything I might need writing . . . And yeah, the pictures [of family] are very motivating and say that I can do it!

This was more than a bookshelf for the participant however. Her diffractive reading of the space was affected by her experience of the PhD to date, which was a gruelling process lasting nearly a decade of part-time study. P1 described an ‘emotionally demanding . . . long, long path’, which she had to ‘get over so I can close this chapter in my life’. Her carefully curated shelf was a purposeful project both affected by her past and present experiences, and with the capacity to affect her current and future experiences. The assemblages present in both P1 and P7’s accounts, described above, acutely align with the concept of ‘spacetime mattering’ as the affective phenomena described only exists within those specific relational and performative spaces.

## Experiences of time

The key point I wish to raise here is how experiences of time (temporality) differ to readings of clock time, and the influence this has on participants' experiences of writing. Returning to P1, the participant working on a re-write of her thesis, night-time is her preferred writing time:

I write late at night. I find that kind of stillness is very conducive to write well, even though I'm very tired at the end of it. But then during the day I can do the editing bits, remove the typos, and I feel like I go better at night. You don't have to interrupt yourself, you don't have to cook, just have to write, which is nice.

The second pilot participant also liked writing late at night. He said he felt 'less pressure' when writing at night (after 10:30pm and into the early morning) because 'I know everyone else is resting/sleeping'. The distractions influencing P1 and the pilot participant seemed to be both real and perceived, i.e. there were chores to do in the day that got in the way of writing, but there was also a perceived 'busy-ness' of the world going on outside that affected them in a different manner.

Manathunga (2019) illustrates how neoliberal doctoral timescapes encourage 'assimilationist pedagogies that have been shown to be especially detrimental for Indigenous, migrant, refugee and international doctoral candidates'. An example of this is demonstrated by P2 who was fasting for Ramadan during the data collection phase. This changed her experience of time and influenced her ability to write:

Interviewer: So how do you find that? Is it a challenge?

It's a challenge because back home we wouldn't study during Ramadan. It usually is holiday, but like here because I have to study all the time and fasting for Ramadan is not avoidable ... I have a lack of energy, especially like I wake up not too early and then I study for two/ three hours, sometimes five hours, then when it's five I stopped doing anything. Because I don't have energy, I feel really hungry so I cannot write. But after Iftar, which is at 10:00 PM, I have a cup of coffee then I do quite like a lot of work until 2:00 in the morning.

This example demonstrates how a range of more-than-human factors come together as an assemblage to influence the writing process in a very specific way. Hunger and lack of food affects P2's energy levels, but her dedication to her culture and religion (God being another non-human actor) means that it is 'unavoidable'. During Ramadan her experience of time altered but she had to find mechanisms that enabled her to continue being productive because she believed she had no other choice than to 'study all the time'.

A strong theme from the data is the idea that writing *takes up* time. For example, P1 demonstrates through her quote below, that she considers writing to be an activity that takes time, and therefore, if she has little time then it is not worth starting:

Sometimes I tell myself, I mean, if it's 11am, I'm about to start the task, okay? .. It's now too late to start it because at 12 I've got to get up to do lunch so I cannot get into it. But that's really almost, as you say, psychological, because you could do a task and put a pause on it.

Others agreed that it wasn't worth starting a new task if they only had an hour even though P1 acknowledges that 'an hour is a good amount of time really'. As P4 says, 'I need a long run up to really get in the zone of writing'.

P6 took a photograph of his tomato plant (Figure 4), stating that it made him reflect on the idea of time passing:

It's just something that makes you aware of how time is going. As I was saying, the writing is happening a bit slower than I was expecting. So it's like a race against the tomato.

The 'race against the tomato', whilst playful, suggests a kind of tension as the passing days are outside of the participant's control; indeed, nature is outside of the participant's control. The belief that writing takes longer than expected was a common one. Furthermore, some spoke about conflicting expectations from supervisors in regards to the time it takes to complete tasks. P2, who had regular writing deadlines set by her supervisor, said:



**Figure 4.** Tomato plant represents time passing [P6].

[my supervisor] didn't know that I was not actually sleeping to get him the work done, and I because I didn't know the culture a lot, of academia in the UK, I was afraid to ask for an extension.

In addition, many participants talked about a different experience of time when deeply involved in writing. P9 describes this below:

Interviewer: How do you experience time when you're writing?

Participant: Ohh it just disappears. It doesn't really exist on the sort of level there. I don't know where it goes. So, for example, if I'd be at my house it would get freezing, really cold, but I didn't notice because I'd just be sort of immersed in the writing and then get up for a reason and be like the house is freezing.

P6 says something similar:

I think it was just the sense that time seems to run out whenever I'm writing. Writing just seems to suck up time in the most amazing way and always before I realise, it's like, dinner time already.

The idea that writing 'sucks up time' and that time 'runs out' when writing, suggests that the participant loses the sense of clock-time when writing. P4 corroborates this further:

I just I kind of get in the zone [when immersed in writing] and just won't speak to anybody and I like forget to eat lunch ... Basically, I turn into his zombie. Yeah, but it takes quite a long time for me to get to that point.

Again, P4 loses sense of clock-time and becomes so immersed in the experience that she forgets to eat. Lapping (2016) called this 'suspended time'. Each of these quotes suggests that participants become immersed in the 'flow' of writing (P9), or in 'the zone' (P4). This is in contrast with times participants describe an inability to 'get going' and the frustrations this causes.

## Discussion

The article began with the question, how do doctoral students experience writing within space and time? Mainstream educational models of textual practice come from a fundamentally humanist vantage point, which 'posits the author as a free-flowing subject, renders the artefacts and devices of inscription as "tools", and space and time as inert backdrops' (Gourlay 2019, 252). In contrast, this article seeks to provide evidence of a different reality; a reality in which experiences of writing are relational to experiences of time, space and matter. And where, to an extent, doctoral students are able to discuss how they attempt to negotiate time, space and matter in order to achieve specific affects. Where Burford (2017) explores the 'affective-political' practice of doctoral writing, I further this intellectualisation by adopting a new materialist lens that folds in the collaborative agency of the material and the non-human. I draw on the idea of 'assemblage' to attend to the way agentic forces (intra-actions) come together to achieve something (Barad 2007). To illustrate this concept, Deleuze and Guattari (1988) offer examples including the way orchids and wasps collaborate to pollinate plants. Through this lens I demonstrate how spaces, materialities, technologies, the human and non-human, come together in the achievement of writing. Furthermore, I demonstrate how 'phenomenon are material entanglements enfolded and threaded through the spacetime-mattering of the universe' (Barad 2012, 44) as participants' quotes evidence the way in which their past, present and future selves and experiences fold into one another to produce particular enactments in time. The affective haunting, or absence-presence (Maddrell 2013), derived through certain objects and spaces adds a metaphysical dimension that may only exist for one person, yet can have a profound impact on their experience (e.g. P7's historic family photograph). The photovoice study strengthened the ability to access these material enactments as participants described and evaluated their everyday spaces of writing using the images as prompts (Waight 2020).

Finally I focused on how doctoral students experience time as part of this writing assemblage. Existing literature on timescapes of doctoral education has focused on long-term experiences of time, with regard to milestones and research progress (Araújo 2005; Manathunga 2019). Most significantly perhaps, my findings suggest that time can be experienced differently when engaged in the act of writing, as writing 'sucks up time' or time 'disappears'. This could be a period of what Hayles (2007) calls 'deep attention' or what Csikszentmihalyi (2008) identifies as 'flow' state, and it comes to be through the *affect* of particular intra-actions. There was an ease to this writing experience that was often juxtaposed with the struggle to 'get going' and often, although not always, a sense that an exterior 'stillness' was required to facilitate flows of writing.

These findings lead me to put forth some recommendations. First, and critically, if we (institutions, supervisors, students) consider writing as purely process driven and formulaic then we are presenting doctoral students with an impossible standard. Impossible because experiences of writing are diffractive and uniquely 'affective'. Barad (2007) posits that agency is not inherent within people and things but is achieved as a dynamism of forces. Therefore, we cannot predict or project writing achievements onto doctoral students, it is something only they can experience and navigate holistically, with the support of others.

What institutions can do is provide students with the means to flex and adapt spaces and timescapes. The literature review evaluates the way in which experiences of time and place can have negative repercussions on the capability of doctoral students to work effectively. Although students are frequently offered flexibility in where they work, the institutional environment is still important to doctoral identities (Dowling and Mantai 2017; Sakonnakron and Burford 2019). Institutions should therefore consider the availability of space when taking on new research students, should engage students in discussions about spaces (which can enable them to feel

valued), and, where possible, enable students to personalise and curate those spaces. Complaints about workspace should be taken seriously as there are a range of personal, psychological, and physiological reasons why workspaces make not be suitable for an individual.

Second, doctoral students may experience time differently to how their supervisors experience time, and how other students experience time; tasks may take more or less time than expected. Institutional policies that can take a more student-centred approach to managing milestones could enable a shift away from hegemonic doctoral timescapes to an understanding of time that prioritises doctoral progress at the individual level. Supervision practice should also incorporate supervisor-student discussions to agree reasonable expectations around research time and foster understandings around how time is holistically, and yet unpredictably, experienced. Writing support, including both supervisory support and training led by academic developers, should acknowledge that productive writing often requires the shift to a 'flow' state and encourage students to reflect on how they might productively harness this state by reflecting on assemblages of writing.

Finally, we should consider what posthuman and new materialist perspectives can do for doctoral education more broadly at a time when literature on doctoral student mental health (Levecque et al. 2017), support services (Waight and Giordano 2018), and attrition (Devos et al. 2017), paints a picture of doctoral education at crisis point.

## Conclusion

Previous studies have looked at the social spaces of doctoral writing but not often commented on the materiality and temporality of these spaces. This article attends to this lack by adopting empirical interview and photovoice methods to explore doctoral writing as a relational and materialist assemblage within the doctoral 'timescape' (Manathunga 2019). Working from a new materialist ontology, and using 'affect' as the unit of analysis, the article explores the capacity of space, materiality and time to affect, and be affected by, experiences of writing. In doing so, the article concludes that space, time, and matter intra-act (Barad 2007) to facilitate, and hinder, writing processes through assemblages of writing. An understanding of the ever-shifting state of these intra-actions is important, as it gives doctoral students (and their supervisors) permission to explore different ways of working and to acknowledge that writing agency and affect go beyond the individual, embodied state. As such, I call for further posthuman and new materialist explorations of doctoral education at a time when many are reporting a crisis in doctoral student experience.

## Notes

1. Even a practice-based PhD requires a thesis, albeit of a shorter length (approx. 40,000 words in the UK).
2. I use 'neoliberal academy' here as a descriptive term commonly used to articulate the contemporary marketised and massified higher education system existing in the UK. For both early career and established academics, the repercussion of this is an intensified focus on individual performance and impact metrics (Macfarlane 2021; Olssen and Peters 2005).
3. I acknowledge that, in many institutions, postgraduate researchers (PGR) or candidates is the preferred term in order to recognise the value such group bring to the professional research community. 'Doctoral student' is used in this article however, to avoid any ambiguity.
4. 'Diffraction' has been employed figuratively in feminist scholarship to refer to iterative, non-dualistic readings of text, that, rather than putting different theories against one another instead enables them to be read through one another in order to find new, creative meanings.

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No potential conflict of interest was reported by the author(s).

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