Geographies of the event?
Rethinking time and power through digital interfaces

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Abstract
This paper examines work in cultural and human geography that theorises temporality in terms of events. Moving from humanist phenomenology, to non-representational and assemblage theories and current geographies of encounter, it suggests these accounts of events tend to analyse the past and future through the lens of the present. Building upon these literatures and the work of Tristan Garcia, the paper argues for an expanded notion of the event, where past and future events can be considered as both distinct from, and linked to, the present moment. Here, time comes to be defined as the ordering and stacking of events, where events are understood as sites of comprehension, in which entities are differentiated. The paper suggests this position is useful in order to trace temporal causality across and between entities and events. Tracing the causality of entities and their ordering and stacking across events enables a closer analysis of what the paper terms the temporal power of non-human things. To illustrate this argument, examples from an ESRC project on digital gaming and in-game purchasing are analysed.

Keywords
digital interfaces, events, power, temporality, time

Introduction
‘[T]here is a foundational and ontological proposition on which many contemporary Anglophone human geographers appear to agree. . .we should seek to study how social and cultural phenomena unfold in both space and time, with the processual enactments of events co-producing multiple, open space-times or time-spaces’.

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The question of time and temporality has long been key to human geographical debate. As Merriman summarises, for many human geographers, time is now understood as being produced in and through events. In turn the concept of event takes on explanatory power, providing a way to account for the emergence of change and difference and in doing so, enables a ground to analyse space, power and politics. For instance, Shaw argues ‘[w]e are all children of events, thrown into a world of revolution and change. Volcanoes bubble and boil, oceans heave and toil, nuclear bombs flatten cities, and protestors topple brutal dictators’. Marston et al. echo this prioritisation of events for thinking geographically when they forward a ‘site ontology’ in which ‘it is here, in the middle of the event – at the sites of singular composition rarely resembling discrete and unitary objects – that one finds the production of social space’. Or, as Dewsbury puts it: ‘events. . .constitute us’, which means that ‘[e]xactly how one is to articulate these moments is important for taking hold of the politics and possibilities rooted. . .in the very folds of existence’.6

This paper examines work in human geography that theorises temporality in terms of events. Moving from humanist phenomenology, to non-representational and assemblage theories and current geographies of encounter, it suggests these accounts of events tend to analyse the past and future through the lens of the present. Building upon these literatures and specifically the work of Tristan Garcia, the paper argues for an expanded notion of the event, where past and future events can be considered as both distinct from, and linked to, the present moment. Here, time comes to be defined as the ordering of events, where events are understood as sites of comprehension, in which entities are differentiated. In turn, past, present and future endure and are ordered within a stack of other presents.

Being able to account for events as existing within a temporal stack outside of the present moment contributes to existing geographies of the event in that it enables a further vocabulary for identifying temporal causality in relation to particular entities. As a result, it is possible to investigate how entities or things have a kind of temporal power. Here, temporal power refers to how entities’ capacity to act are given by the way they are organised in a stack of events, which go on to affect the way ‘past’ entities impinge upon and inform the ‘present’ and ‘future’ and vice-versa. Analysing the temporal power of entities is therefore a matter of analysing the ordering of events and the struggle by various humans and non-humans to order (or resist being ordered) by these events.

In this regard, the theory of time and event posited in the paper could be considered to work with, and build upon, post-phenomenological geographies. Post-phenomenological geographies are an emerging area of concern, with multiple definitions, theoretical approaches and points of emphasis. Not wishing to foreclose the multiple forms of post-phenomenology under development, or yet to be developed, in this paper we take post-phenomenology to be understood in at least two ways. First, for us, post-phenomenology is a mode of analysis that works to understand the power of non-human entities and how they can influence human practices, without necessarily appearing to consciousness, perception or sense. Second, building upon debates from speculative realism, our post-phenomenology recognises that there is an irreducibility to entities, which means they have a form that cannot be fully explained by their spatial or temporal relations with other things. Consequently, the account of time and event produced in this paper could be considered one form of post-phenomenology because it seeks to understand how time operates outside of the lens of the present for human perception while also recognising how entities exceed their relations with any particular event or moment.

The key aim of the paper is to use such an understanding of time and events to focus on the entities, mechanisms and processes that are linked to particular problems and how these problems might be connected to the form of these entities, which make such problems more or less repeatable or likely to occur in different situations. In the case of the example developed in section four of the paper, such a problem is the utilization of progression systems in digital games that are
employed to encourage children and young people to spend money in these games. The examples used in this section are drawn from preliminary analysis of a pilot study of ten families that forms part of a larger ESRC funded project on digital gaming, in-game purchases and gambling. The growth of systems such as lootboxes and other random reward mechanisms within the digital games industry has sparked media interest and academic research, primarily in gambling studies.\textsuperscript{11} The geographical study drawn on this paper involved working with children and young people in the family home to conduct video ethnography of their engagement with progression systems in digital games, in the context of these wider debates. These families are based in the North East of England and participants recruited through opportunity sampling methods. The specific example used in this paper, as the event under study, is the purchasing of in-game currency to progress in a digital game.

As the paper seeks to demonstrate, understanding time as an ordering of events that can multiply intersect and inform one another offers a way of analysing how events are linked to particular entities and how the ordering of events is key to entities’ capacities to act and shape action. Practically, theorising time as an ordering of events is useful because it provides a way of understanding why children and young people purchase in-game currency to progress in digital games without reducing the outcome of purchasing events to either individual (e.g. biographical) or contextual (e.g. social) factors or to the emergent contingency of the purchasing events themselves. As such, the paper offers one possible way of developing a post-phenomenological, rather than phenomenological or relational account of temporality because it provides a theory of time that does not fully reduce time to human temporal consciousness, as in phenomenological geographies, or fully reduce time to the events that are produced through the relations between entities, as in geographies of the event.

To expand upon these points, the paper is divided in the following manner. Section two turns to phenomenological and relational geographies to understand the commonalities and differences in how they account for time. In doing so, we suggest they share a general logic of what could be termed presentism. Section three develops a post-phenomenological account of time, which is not organised around the present, but the ordering of events and entities. Section four demonstrates how a post-phenomenological approach can be used to understand what could be termed the temporal power of entities and how a post-phenomenological approach works in relation to the specific example of progression systems in digital games. To conclude, the paper reflects on how one possible post-phenomenological account of time contributes to existing phenomenological and relational accounts of time and offers an alternate way of analysing events, causality and change in human geography.

**Phenomenology, relationality, geography and time**

Phenomenological geographies, in either humanist or existential veins have tended to focus on how time appears to conscious awareness. In humanist phenomenological geographies, this is expressed in statements that suggest there are multiple individual subjective times and one objective time that underlies it. For instance, writers such as Relph\textsuperscript{12} make this claim when they suggest that ‘from a scientific perspective, time is unidirectional, a constant frame of reference. . .Phenomenologically time is part of our living; it is variable and multidirectional for we have memories and moments of prescience; there are days which hang heavily and weeks which fly past’. Here time is relative to experience, memory and perception. As such, from a phenomenological perspective, there are multiple overlapping subjective times that are specific to individual’s moods, feelings and biography.\textsuperscript{13,14} More recently, existential positions that draw upon phenomenology and critiques of phenomenology from writers such as Derrida\textsuperscript{15} have suggested time be analysed in terms of haunting, absence and loss.\textsuperscript{16} Here, spectral understandings of time suggest that time should not be
considered as a linear ordering of presents, but rather through a ‘spectral moment’, defined as ‘a moment that no longer belongs to time’.17 While such spectral accounts would appear to displace an account of time as ordered around human perception, these spectral accounts still tend to analyse time through the present of lived experience.18 In the work of Hill19 this is evident in her focus on ‘embodied acts of remembering’ and in Wylie,20 this is expressed in his first person account of experiencing memorial benches at Mullion Cove.

Despite the important differences between humanist and existential positions, what is common to both is that they tend to focus on the question of temporality in terms of how it is organised around the present. As Dodgshon summarises, ‘[h]uman geography’s engagement with phenomenological constructions of time has led to its growing interest in how time is grounded experientially and how we experience time directly only through each successive now, or present. All time – what is past or in the future no less than what is present – is experienced only through each now, an experience that leads us to tense time around the present’.21

A concern with temporality as organised around the present is not limited to phenomenological geographies. Indeed, a focus on the present is also key to geographical work that draws upon Actor Network Theory,22 Nonrepresentational Theory,23 Assemblage Theory,24 Affect Theory,25 and others. These positions tend to move away from understanding temporality through the consciousness of humans alone. They instead focus on temporality as an event of relation between a variety of humans and non-humans, in which the present becomes manifest and around which temporality is organised. This focus on the event takes several different forms. In Actor Network Theory, as Harman26 suggests:

‘Latour goes so far as to claim that time is produced by the labour of actors, and that only such actors create an asymmetry of before and after. For exactly the same reason, the links between one instant and another must also be produced through the labour of actants, for they are not pre-given in some sort of internal drive or conatus in the heart of things that would free them from the prison of single instants’.

In geography, the above claim is reflected by writers such as Murdoch,27 who argue: ‘each network traces its own particular space-time which reflects both the variety of the materials used in construction and the relations established between the combined elements’. This account of time informs a number of geographical studies that utilise an ANT approach, including Allen,28 Bosco29 and Ruming.30

For Deleuze and Guattarian31 inspired assemblage theory, a concern for the event takes on a different meaning. Rather than actual entities that come together to produce a sense of time as the present, events are considered as moments of actualisation of a virtual potential, which are not simply pre-existent.32 As Müller and Schurr33 argue, ‘[i]n more conceptual terms, the most significant gulf between ANT and assemblage thinking is thought to be ANT’s preoccupation with the actual vis-a-vis the preference for the virtual in assemblage thinking’. From this position, time is often considered as existing in two forms, a kind of pure time that is not captured or caught in any one moment and the particular moments that are actualised from this pure or ‘virtual’ time. For instance, McFarlane34 defines ‘the city as multiple assemblages of actual and virtual urbanisms located in emergent material practice, and which are not characterised by any necessary prepivin spatial or temporal templates’.

A focus on the dual nature of time is reflected in many non-representational and affective geographies. For instance, in non-representational geographies, Dewsbury argues ‘[s]omething does not exist without the future mode and a past genesis, but these dimensions do not exist with it, they are virtual. This results in a position whereby ‘only the present exists so that the future and the past are branded relative modalities of the one present’.

A similar understanding of time can be evidenced
in affective geographies. For example, while Anderson is careful to state that ‘there is not, first, an “event” and then, second, an affective “effect” of such an “event”, nonetheless, affect is tied to ‘specific encounters in which complex bodies take form – a process that is bound up with the indeterminate movement of spacing and timing – ties affect to the presence of virtualities that are folded into what has become actual’.

However, a turn to thinking space-times as events has not been without critique. Geographers including Tolia-Kelly, Jacobs and Nash and Sharp have argued that a focus on the contingency of events downplays the continuity of historical contexts and power relations that produce inequalities that constitute the present. More recent work on the event has been keen to emphasise that any event is always mediated by other events and cannot be thought alone. Nonetheless, while recognising the importance of the mediation of prior events, there is still a focus on the encounter as a present moment where these mediations become felt and lived, ‘played out on the body, and. . . with emotions’. In sum, the widespread use of ANT, assemblage, nonrepresentational and affect theories has resulted in a generalised turn towards an ‘evental geography’, where the claim that time and space are linked as ‘emergent properties’ (Wilson, 2017: 458) that are ‘actualized as a result of encounter’ (Wilson, 2017: 458) are now considered to be normal.

While an ontology of events is very different from an account of time as organised by human perception, both phenomenological geographies and geographies of the event share an important feature. That is to say both sets of perspectives give priority to the present as the key way of theorising, understanding and analysing time. This prioritisation of the present in theories of time has been termed presentism. For Jones, presentism refers to what he sees as a form of thinking in human geography, where the ‘event is taken as pure – in isolation from temporal trajectories’. Jones develops the idea of presentism to argue that focusing on the present moment risks ignoring the past by downplaying how the past influences the present and the role that memory plays in shaping the future. Distinct from this, Tristan Garcia offers another definition of presentism.

The writing of Garcia, a contemporary French philosopher working in the realm of speculative realism, has not received much attention in geography. In their key text ‘Form and Object’ Garcia seeks to develop a system to understand how entities appear in the world, without reducing them to the sum of their relations with other things, or explaining them through some broader contextual process that determines what they are or what they do. The limited interest in Garcia’s ideas in geography is perhaps due to his specific technical vocabulary or wider concerns about the usefulness of speculative realist approaches for cultural geography. This being said, we believe that Garcia has multiple ideas of interest. In the rest of the paper, we focus on two of these ideas. The first is Garcia’s critique of presentism and the second is his alternative theory of time, which he develops to navigate what he sees as the problems of presentism.

For now, it is enough to say that for Garcia, presentism is not a matter of focusing on the present at the expense of ignoring the past or future as in Jones definition of presentism. Rather, presentist thinking is a mode of analysis where the past and future are analysed through the lens of the present, where only the present is real and a past or future moment ‘exists only insofar as it is comprehended in the present’. In doing so, the present is prioritised in both how time is theorised and analysed, with the present being primary and past and future secondary and derivative to the present.

Applying Garcia’s definition of presentism to contemporary geographical thought, it is possible to recognise that a focus on the present can be incredibly productive in the sense that this is ‘where life happens’. But presentism can also lead to some limitations. For instance, in phenomenological geographies, presentism can result in strongly subjective accounts of space, which make it harder to draw broader claims about temporality or account for shared and social forms of time.
At the same time, geographies of the event offer powerful ways of conceptualising the contingent, relational nature of entities and social phenomena. This is very useful in that it emphasises the fragility of supposedly durable social forces and so offers tools to re-make things differently. However, a focus on the present can make it difficult to attribute causality to particular entities in events. For instance, Anderson et al. accept that thinking through events as an actualisation of a multiplicity of possibilities means ‘attaching to a single, coherent, possibility becomes fraught’. As a result, any linearity between cause and effect is often considered to be a kind of post-rationalisation that can only be imposed or ‘read into’ a situation after an event takes place. From this position, causality only ‘become[s] visible in shifts between moments of unchartered turbulence and the congealment of agencies that appear as traces’. If the logic of this argument is adhered to, being able to attribute causality to particular entities in events is very difficult. In other words, a focus on the present can weaken the predictive potential of theories of events, resulting in narratives that are better at offering post-rational analysis of events after they have occurred than they are at pointing to conditions that might lead to particular future events, or the particular role entities might play in future events. Recognising these issues, the following section works to develop an account of time that could be termed post-phenomenological. Here, time is not made sense of primarily through the present, either in relation to human perception, or purely as a result of relations between human and non-human entities. Rather, time comes to be understood as linked to the ordering of events and how events exist in relation to a temporal stack of other events.

A post-phenomenological account of time

Recognising that there are multiple possible ways of theorising post-phenomenology and time, one possible approach would begin by thinking through how events are ordered in ways that do not overly prioritise the present. To do this, we could link Garcia’s theory of time to expand upon geographer’s concern with events. As highlighted in the previous section, Garcia’s ideas have for the most part been underutilised in cultural geography and human geographies more broadly. In Garcia’s philosophy, the past, present and future are tied to entities. For Garcia an entity is always double, being both an object that exists in relation to other objects, and a thing that exists alone in a formal, empty world. As an object, an entity is not a substantial thing, but the difference or tension between what comprehends that object (e.g. what it is contained by) and what it comprehends (e.g. what it contains). For instance, water in a bottle would be the difference between what contains that water (the bottle) and what the water contains (hydrogen and hydroxyl ions). Here, the water is not reducible to either the bottle or hydrogen and hydroxyl ions because as an entity, it also has a form, which is everything the water is not.

With this understanding of entities in mind, time comes to be defined in relation to the presence of an entity. Here, presence is not absolute, with an entity being either present or absent. Rather, presence is defined as a ‘continuous property’, where there are only relative degrees of presence of an entity as the being and comprehension of entities changes. From this relative view of presence, as entities arise, endure and dissipate they do not disappear into total absence. Rather, the ‘universe continually grows in presence, like a perpetually expanding block’, which results in a position where, the ‘universe can only expand with presence; everything happens and nothing ever disappears’. Put in simple terms, all things that have ever existed, such as individual people, bacteria, technical objects, trees and viruses do not simply disappear once they have died or been broken down or destroyed. While an entity’s physical or material structure might have dissipated or changed into some other entity (such as animal remains becoming nutrients to feed soil, or an aluminium can being recycled into a new can), the event of an entity’s existence (as it specifically comprehends and was comprehended by something else) remains, but is less present than more
recent, more present events. Garcia argues that the event of an entity (defined as how an entity comprehends and is comprehended by another entity) must remain, otherwise, logically, it would be difficult to differentiate past events from one another and from a present event. Garcia makes this point using the example of snapping his fingers.

‘I snap my fingers. Now my snapping has ended. Let us imagine that my snapping, become past, continues to pass. Since some new present becomes every past time, it increasingly slips into the past and moves away from presence. I snap my fingers again. What distinguishes my first snapping from the second? If both were from then on equally non-existent...then neither would be. .. However, I can surely consider them as two objects, when I subjectively and retroactively refer to their occurring...In other words, I can rely on an order of the past; everything that passes is not equally past...If all pasts were equally non-present, then everything that is no longer would be the same age’.

How events are differentiated from one another is thus productive of the difference between past, present and future. As Garcia suggests in the above example of snapping fingers, events are not randomly arranged but form an order and it is how events are ordered that generate the difference between past, present and future. To understand how events are ordered Garcia turns to a model of temporality as a stack of events in which entities are involved. Garcia (2014: 186) uses the metaphor of a pile of sheets of paper lying on top of one another to explain this stack model of temporality. In his words:

‘one ought to think about every present event as being at the top of an infinite stack of sheets of paper. The future is the foundation, the ground on which the stack of paper rests. The present is the sheet at the top. Each time a new sheet covers up the previous sheet, any particular sheet in the middle of the pile, a past sheet, moves further from the top, which becomes situated higher and higher. But the distance that separates our ‘past sheet’ from the foundation...never changes’.

We can return to the example of an aluminium can being recycled into a new aluminium can to illustrate this model. For example, in the present moment (the top of the stack) the can is sitting on a shelf (event one). The can is then opened and the contents are drunk (event two). In doing so, what that entity is changes (it is no longer a full can, but an empty can). The full can and the empty can are thus two different events, in which the entity itself has changed. The can might then be crushed and thrown into a recycling bin (event three, in which the entity has changed again into a crushed can from an uncrushed can). Here, the can (event one), moved down the stack of events as new present events are added on top of that event (event two and three). Crucially, while each event moves ‘down’ the stack as new present events take place, each past event remains the same relative distance from one another no matter how long ago they happened or how many new events take place.

Understanding time as an ordering of events confounds common sense notions of linear time, where the past is often considered the ground of the present, providing the scaffolding of previous moments upon which the present is built. Instead, in this model, it is the future that is at the base of things. This is because the future is a completely undetermined event (it must remain necessarily open to particular entities comprehending one another and generating particular events otherwise this would result in a deterministic model of temporality, where future and present events are predetermined by what has come before in the past). At the same time, Garcia’s theory of temporality is significantly different from presentist theories of time, which emphasise events as primarily present moments, where entities exist primarily in and through the present. As we argued in section two, in many current accounts of the event in cultural and human geography, the event is seen as primary and the past as secondary, either as a prior event, or as an undifferentiated flattened virtual pool, which may inform the present moment. However, as we discussed in the introduction, these theories of events as ‘contingent’ often don’t provide a way of being able to identify the relative importance of a past particular event to influencing a particular present or future event.
Garcia’s model of temporality as a stack of events provides one possible opportunity to increase the analytical precision of geographies of the event by being able to attribute temporal causality to particular entities in analysis of different social problems in ways that other forms of evental geography may hesitate to do so. This is because theorising events in terms of stacks enables us to analyse both a) each events relative position to one another in a stack of events, as well as b) each events relative position to a present event. In doing so, it becomes possible to more easily trace how power operates and travels between and across different events and between past, present and future.

**Power as an ordering of temporal events**

Understanding how entities and events are linked and ordered into stacks provides a way of analysing what could be termed the temporal power of events. Here, temporal power refers to the way that events are stacked and ordered in an attempt to produce particular outcomes that might impact some other human or non-human.

There are a myriad number of ways that the stacking of events can influence humans and non-humans. To provide an example of how one mechanism of temporal power operates, we now turn to the example of engaging with paid items in the online multiplayer game Fortnite. This account is one specific example within the wider research project introduced earlier, drawing on detailed video ethnography fieldwork with children and young people on gambling style systems in digital games. Although focused on one participant and specific game, the following example illustrates our argumentation around how events can be stacked to powerfully shape and influence human action and decision making, which, as we demonstrate later in the discussion, has wider relevance.

A 12-year-old sits in front of an LCD television. The curtains are drawn and the light from the screen fills the room, reflecting off of their face and into the controller resting in their hands on their lap. They are showing the researcher the Tier system in Fortnite and the items they own in the game. Within Fortnite, players can buy items such as weapon skins (differently designed and coloured coverings for the various weapons in the game), player skins (different costumes that the player’s character can wear in the game) and emotes (animated dances or postures that the player can activate during gameplay), amongst other things. These items are purchased with V-Bucks, an in-game currency that is purchased with non-game currency (e.g. pounds sterling or dollars). At the time of writing, 1000 V-Bucks can be purchased for £7.99, with a green (uncommon) player skin costing 800 V-Bucks and a legendary (rare) skin costing 2000 V-Bucks. At the same time, players can unlock items through purchasing a battle pass (950 V-Bucks for the basic version), a Tier system, where gaining experience in-game results in levelling up the character from level 1–100, with items such as player skins and emotes being earned as rewards at different levels. These battle passes are split into different ‘seasons’ (lengths of time when the items from the battle pass can be earned), with many items being exclusive to particular seasons. As such, while players pay to access the battle pass, they still have to play the game to earn the experience to gain the items, and if they do not reach the maximum Tier before the season ends, they lose the ability to earn these items.

The child speaks enthusiastically to the researcher about the items they own, which are their favourites, what Tier they are on and what items they can potentially receive if they earn enough experience to move through the Tier levels of the battle pass. The Tier levels are presented on a menu as a horizontal blue line at the bottom of the screen, with each level labelled as a numbered block equally spaced along the line. Above each block is a coloured square with an image of the reward that is obtained at that level. The colour of the square denotes the rarity of the item (blue for common, green for uncommon, purple for rare, and orange for legendary). Above the line, the item
is denoted in three-dimensional form. If the player clicks the ‘view reward’ button on screen, they can inspect the item in more detail, and spin it round to view it from different angles. As they speak, the child negotiates the Tier menu, holding left and right on the analogue stick on the Xbox control pad, causing the Tier line to move rapidly up and down. Stopping on an item of interest, they inspect it by spinning it round using the analogue stick and then move back to the main Tier list screen to continue scrolling. This continues for a minute or so and at great speed, with the child spending no more than a few seconds inspecting each item. Tap, spin, tap, spin, left, right, tap, tap, spin. On first inspection this simple set of engagements with a series of digital entities is banal and unremarkable. Indeed, such actions were very common across the pilot sample and likely happen millions of time every day across millions of players worldwide (at the time of writing, there are over 250 million registered Fortnite players).

From the post-phenomenological perspective on time we wish to develop, these engagements are far from unremarkable. Rather, how these entities are displayed and ordered are central to how the value of items in Fortnite is created by the games’ developers. Giving in-game items value is crucial to the economic viability of the game, because it is only when player’s consider items in the game valuable that they are willing to purchase V-Bucks to buy the Battle Pass in order to gain access to these items. In this regard, the interface is designed to give these items value through ordering events in relation to the present moment, as well as through the relative ordering of prior events in relation to one another. For instance, the most basic way the designers order events to generate value for the items linked to those events, is through distributing the digital items across 100 levels, which must be unlocked through gaining the required experience in gameplay. This is achieved through the way each item is located on the menu, which becomes defined by the difference between what that item comprehends (the coloured box in which it sits) and what it is comprehended by (the timeline which differentiates that item from the other boxes and levels on the screen). Remembering that any entity (in this case a digital item) is the difference between what it comprehends and what comprehends it, each item cannot be thought alone. Rather, each item is relative to other items on screen and as such, we can say that the Tier list is a system that generates a temporal order and stack through the way it positions entities in relation to each other. The first item is the most intensively present because it exists closest to the top of the stack of passing presents (it will be received first by the player), whereas the Tier 100 item remains the least intensively present existing close to the ground of the stack (it will be received far further into the future and only if the player earns enough experience points during the season). To be clear, the ordering of events in these systems is not just perceptual, or a matter of the player’s consciousness of time. Rather, the relative ordering of entities is cemented within the digital system itself. It is real. In the case of the Fortnite Battle Pass, the ordering of events that are necessary to access entities is determined by the amount of experience needed to level up, which is determined by the game’s designers, which will require time to complete and must be completed sequentially.

As the child continues to play with the Tier system menu, they repeatedly point out how much of an effort it is to level up their character to level 100 within the time span of a season. In this moment it becomes clear how effectively the ordering of entities in the Tier system produces value in the items that are attached to these levels. To gain Tier 100 in a Battle Pass usually means to unlock a legendary character skin. In turn, using this skin in game will mark out the player as highly skilled, or at least not a ‘noob’ (slang term for new player). As such, gaining Tier 100 is important to many players. Discussing this point with the researcher, the player let slip that they ‘may’ have paid to unlock some Tiers after they bought the Battle Pass. On top of the fee to purchase the Battle Pass, players can pay extra V-Bucks to jump up through the levels in order to avoid putting as much time into the game. Interestingly, this admission came after the player repeatedly emphasised the importance of earning Tiers and that it was ‘lazy’ to buy too many Tiers, which
meant players were ‘not working hard’ and resulted in an ‘unfair’ situation for those who did not purchase extra Tiers. Despite this admission, it appears that the ordering of the Tier 100 skin relative to other items in the Tier system created so much value for the player that they were willing to pay money to ensure they received it, even if it meant crossing their own boundaries regarding what they considered ‘fair’ play to be. Later in the same session, the player flicked from the Tier system to a friend leader board menu. This menu contained an ordered list of his Xbox friends who played Fortnite, with the player at the highest Tier taking the top spot. As he pushed the analogue stick up to select his name with the cursor, highlighting that he was number one, he whispered ‘I feel like a king’.

Thinking about this moment in evental terms, choosing to pay for extra V-Bucks to purchase the Tiers necessary to reach Tier 100 before the season ended was clearly linked to the ordering of the items in the Tier system. In other words, the decision to purchase tiers was not only emergent in a single present event between the player and Tier system. Rather, the stacking of items in the Tier system into their particular order were absolutely necessary and causal in producing the Tier purchasing event. Put in another way, the cause of the player wanting to purchase V-Bucks, and the consequent event of them doing so, can be directly traced to how multiple events were ordered in relation to one another, in both the past and the present in the Tier system itself. For instance, the Tier system menu provided the player with an ability to look forward and anticipate an event in which they received, and could play with, a Tier 100 ‘Legendary’ skin. The anticipation of this event by the player was shaped by the relative position of prior events, as they remained in the past of the Tier system stack. For the Fortnite player, these prior events were the previous levels they had completed and the items they had obtained for completing these levels, which remained visible on the Tier system interface menu. At the same time, the player could see their position in the Tier system for the current season and how much time remained in the season (after which the Tier system would reset, the opportunity to unlock the current items in the season would disappear and players would begin again from Level 1 and work to unlock a different set of items). Here, the relative stacking and ordering of past events reminded the player of the effort required to complete prior levels (the amount of experience points required to level up and the time required to gain these experience points).

The relative stacking of past events by the Tier system in Fortnite thus influenced how the present event influenced future events. For example, the player looked ahead into the Tier system (a present event) and anticipated the future, considering how many levels were required to get to Tier 100, and the amount of time it had taken to get to where they were in the Battle Pass. Through the intentional ordering and stacking of events in relation to one another by the Tier System designers of Fortnite, the player became located and positioned through multiple intersecting events. These intersecting events were between relative past events (prior levels earned and items unlocked), the present event (the player’s current position in the Tier system) and the relative ordering of past events in relation to the present event (how much effort was required for the player to get to their current position in the Tier system). The effect of this double evental movement was to influence how the player anticipated a future event (reaching Tier 100) and in turn, to encourage them to purchase V-Bucks to reach Tier 100.

Put in more formal terms, the event of purchasing Tiers was not only a present actualisation of prior conditions with the force of the past pushing into an emergent present. Rather, the event drew together previous events and evental relations in a double movement. In one direction, the present moment linked backwards to the stacked and ordered sequence of past events and their relation to one another in the past. In another direction, this ordered sequence of past events, as they remained in the past, linked forwards into the present and informed the subsequent present (the future). Or, in another way, there was not simply one event in the present. Rather there were multiple events,
affecting one another both backwards and forwards across time. In the Fortnite interface design, the way these events were related to one another in the past and how they affected the present and future were not random, but actively designed through the Tier and Battle pass system to precisely produce a V-Buck (and thus) Tier purchasing effect. In other words, the temporal stacking and ordering of events is a key form of power in interface design. Developers actively work to design and create stacks of events and order them in such a way as to influence and inform player action.

While only one short vignette, this example has demonstrated that understanding entities as ordered into evental stacks that are relative to the ordering of other events and entities provides a means to be more confident in attributing causality to particular entities in relation to particular events. In doing so, it is possible to trace the temporal power of this ordering to particular actors, human or otherwise. In this case, Epic Games, the designers of Fortnite were central to the temporal power involved in these events and successfully utilised such power to encourage a player to spend money in the game and so increase its profits. The fact that Fortnite earns around $100 million a month on a single platform demonstrates that the player in the example above is not alone and that the temporal power of the Tier system is both highly effective and produces repeatable results. Indeed, the vast reach and scope of these platforms highlights how important it is to understand these dynamics and related dilemmas on regulating children’s engagements with gambling style systems in digital games. These timely debates demonstrate the wider relevance of this specific example, as well as contributing to scholarship on digital geographies and children’s digital rights. For cultural geographers, the potential of focusing on the temporal power of non-human things extends far beyond this one specific example and reveals avenues for future research and conceptual development. Indeed, cultural geographers have a key role to play in vital debates on the complex legal framing and positioning of children and young people, their health and well-being, and understanding the geographies of their imaginative digital worlds.

Conclusions

This paper has drawn upon the work of Garcia to develop a model of time as a stacking and ordering of events. In doing so, we have suggested that geographies of the event can be expanded to think through the ordering of events into stacks and that thinking in terms of stacks enables additional conceptual vocabularies for understanding temporal power. We defined temporal power as the ordering of events to influence action and decision making and produce repeatable outcomes for those who create temporal stacks. In relation to digital interfaces in digital games, these stacks were intentionally created by games designers to generate value in digital items that children and young people would go on to pay money to try and own. In turn, how items were temporally stacked in relation to one another was, in some cases, as important to children and young people as what those items were.

In making this argument, the paper has generated space for further research in several areas of cultural geography. In relation to geographies of the event, our approach offers a way of thinking that looks to attribute temporal causality to entities in ways that some geographies of the event might not be willing to do. Of course, the account of time developed here is not the only way to theorise time, nor is it the only way post-phenomenology might be theorised or practiced. Nonetheless, the paper has sought to offer the beginnings of a way of understanding temporal causality that avoids a presumption about any definite cause of an event that Anderson et al warn against, without limiting investigation into the cause (or multiple causes) of an event to post-rationalisation. As we have demonstrated through the example of progression systems in digital games, attributing causality to events is possible because events are linked to entities and these events and their associated entities can multiply intersect and influence one another ‘across’ time. Such a reading of temporality allows geographers to examine how an entity is present and begin to make inferences as to how its coming
into being in an event is linked to previous events, which may have served as the catalysts for the entity in question. Furthermore, it becomes possible to anticipate what certain entities might do in the future, based upon how an entity or event is related to the present and its location in relation to other events in a stack of events. In turn, analysing temporal power is a matter of understanding who or what is creating stacks and ordering events and why.

Alongside a further concern with attributing temporal causality to entities, the paper suggests that more work is needed to investigate non-human entities and their associated temporalities. Much geographical work on events tend to concentrate on subject-object, subject-subject or body-object relations, where effects of events are sedimented in human bodies.\textsuperscript{66} Focusing on the stacking and ordering of non-human entities offers an additional way of expanding geographies of events to think about the myriad non-human entities that are involved in all manner of events that constitute and enable human life. As we demonstrated in section four of the paper, these non-human entities include things as simple as menus on a screen, which nonetheless can have powerful effects on influencing how people spend their time, resources and effort. Here there is no conceptual or empirical opposition or prioritisation of humans or non-humans in the analysis. Rather it is matter of understanding how different entities contribute to the causes of particular problems or issues and following these entities, wherever they lead.

Finally, the paper has contributed to emerging digital geographies of interfaces, screens and games. These geographies have been keen to point to the importance of studying the spatiality of digital interfaces in and of themselves, rather than only focusing on the content presented on these interfaces.\textsuperscript{67} Expanding this work, we have suggested that the temporality of interfaces is also key to understanding the geography of interfaces. How interfaces are ordered temporally can have important effects on what people do with interfaces and the decisions they make using them. In future, it would be useful to understand how the spatiality and temporality of interfaces and interface design intersect to form complex mechanisms of power in a range of settings and activities.

To conclude, the perspective offered in the paper provides one way of thinking about time where events and the entities involved in them are distinct, while also linked to one another. Tracing how these distinctions and links come about is fruitful because it provides a way of more closely analysing the temporal causality of events and in doing so the power of entities involved in these events. This is important as it enables a way of tracing how temporal inequalities come into being and so beginning to develop ways to combat these inequalities and their effects on all manner of humans and non-humans.

**Ethics Statement**

The project was carried out according to Newcastle and Loughborough University research ethics guidelines, with particular care taken to complying with both Universities policies regarding informed participant consent, confidentiality and data management and received full ethical clearance from both institutions. The ethical considerations of working with children and young people under the age of eighteen were fully considered. Guidelines for working with those under the age of eighteen was followed rigorously and both the PI, Co-I and RA received enhanced DBS clearance before beginning fieldwork. We would like to offer our sincere thanks to everyone who took part in the research.

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