

5. The Transtemporal Self: transmedia, self, and time.

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Each time I come to write a transmedia paper, I find myself facing the same initial problem of needing to establish what transmedia actually *is*. As a complex and continually evolving subject with a number of published interpretations, it requires a suitable and acceptable definition before any further discussion can take place, and yet this is challenging because transmedia has meant varying things at different times, to different people, and in different contexts, meaning that an updated definition might be required each time. In the case of this chapter my perennial problem of definition has tripled in scale, because in addition to transmedia we also need to discuss the other subject of this book: self - not exactly a simple subject with a widely accepted definition – and just to make things interesting, in this chapter I will also be attempting to introduce a third complex and hard-to-define aspect: time.

Last year (2021) I attempted to provide a round-up definition of transmedia, given that the term has been with us now for around twenty years, predating both social media and smartphones, and has evolved from its initial meanings and uses as a consequence. What I found, however, is that the essential principle of transmedia still applies; while technologies, platforms, trends, economies, uses, and interactions have changed, developed, and evolved, as Jenkins (2017) reminds us, fundamentally transmedia is – and remains - an adjective, and not a noun. ‘Transmedia needs to modify something’ (Pg. 220) he confirms. If we accept this – and I argued last year that we should, by providing an alternative definition of transmedia as a noun, which I approached as a form of media holarchy – then what I propose to do in this chapter is encourage the reader to see this process of modification from another perspective. While we normally think of transmedia as being concerned with the modification of media texts, these texts and their associated technologies are transitory, whereas due to the relationship that transmedia has with time and memory which I shall endeavour to illustrate, we will find that the consistent and lasting property of transmedia is this: that the *something* being modified is, in fact, ourselves.

As-discussed then, before we examine this proposition, we first need to establish the definitions that we will base it on. Transmedia, self, and even time, are what Daniel Kahneman might refer to as ‘heuristics’ or mental ‘short-cuts’; a method of referring quickly

and holistically to a complex system of elements, processes, and interrelationships. Because our discussions of transmedia and time will develop as we progress, let's firstly turn our attention to the big one: what do we mean by *ourselves*? What am I, in my *self*? To get as close as we can to a 'definitive' position – at least in terms of contemporary conceptions of self - we might want to open what Rovelli (2017, Pg. 154) calls 'this delicate discussion' with something tangible, some sort of *evidence of self*, if we can. In his seminal work *The Ego Tunnel* (2009), Thomas Metzinger begins by explicitly stating that there is no such *thing* as self. 'To the best of our current knowledge, there is no thing, no indivisible entity, that is *us*, neither in the brain nor in some metaphysical realm beyond this world' (Pg. 1) he explains. For Metzinger, this is where my notion of my self as an heuristic comes from; it's a useful mental short-cut to refer to a process of making sense of the world from a unique individual perspective, a process and perspective which are both 'mine'. This process, which Metzinger describes as 'the ingenious strategy of creating a unified and dynamic inner portrait of reality' (Pg. 6) involves my brain producing a detailed simulation of the world around me, and then an image of my inner self 'as a whole', which includes my experience as an organism, my psychological states, my relationship to other conscious beings, and my temporal experience (my self in time, my relationship to past and future). For Metzinger, this process produces consciousness, and by placing my inner image within my external world model, I create a 'centre', a first-person perspective which helps me to find that sense of personal ownership of my conscious experience so fundamental to my conception of self. Importantly though, self is not a separate thing-in-the-world, it is a shortcut reference for a complex process, and the elements of this process can be studied scientifically.

This notion of self as a form of heuristic is shared by the philosopher Daniel Dennett, who sees my self as a useful *abstract object*, not unlike the concept of centre of gravity, which is not a physical object and has no physical properties save for spatio-temporal location, and yet is useful in my understanding of the world. Just like centre of gravity, self is not a 'real thing in the universe' (1992, pg. 103); it is an abstract object, but still beneficial in helping me to interpret 'some [...] complicated things moving about in the world – humans and animals' (pg. 105), and importantly for Dennett, this view sees self as a 'fictional character' (Pg. 114) in an autobiographical narrative; the 'story' of my life produced by the totality of my experiences.

The conception of self as a form of narrative – that, in a simplistic sense, my self is my conception of the ongoing ‘story’ of my life as I have experienced it - is a shared conclusion from thinkers across a wide range of disciplines. For psychologist and economist Daniel Kahneman, self can be found in the deliberate mode of thinking he refers to as System 2. While System 1 refers to the automatic thinking employed when I recognise the emotion in a human face for example, or when I turn instinctively toward a loud noise, System 2 is the deliberate and effortful thinking employed when I try to make sense of something, form a new belief, exhibit agency, or when I make an informed decision, and as-such my ‘System 2 [is] the conscious being [I] call “I”’ (2011, Pg. 27). Kahneman also illustrates how this “I” has two selves; the experiencing self and the remembering self, and he offers various examples to illustrate that the latter is the one I identify with, because the ‘experiencing self does not have a voice’ (Pg. 381), and the comparison with the remembering self - as Hughes comments in his transhumanist discussion of Kahneman - ‘shows that our memories of our lives are *fictional narratives* [my italics] that bear little relationship to our actual moment-to-moment experience’ (2013, Pg. 229).

From another discipline, quantum physicist Carlo Rovelli offers his own expression of narrative self when he suggests that my self has three parts; firstly a clear point of view, a perspective on the world which is uniquely my own; secondly a conception which mirrors my experience of other humans (ie. I understand selves when I ‘group into a unified image that collection of processes that constitutes those living organisms that are *other* human beings’ [2017, Pg. 152] and then find that this grouping applies to me as well, not through introspection but through experience); and thirdly the most fundamental part for Rovelli is – again - memory. ‘Our present swarms with traces of our past’ he writes, ‘we are *histories* of ourselves. Narratives.’ (Pg. 154).

Arguably we may also find similar parallels with neuroscientist Dean Buonomano’s explanation of consciousness as ‘a highly edited version of reality’ (2017, pg. 217), for which he provides various evidential examples, such as the measurable delay between an event occurring in the world external to me, and my conscious perception of it. An example would be the *temporal window of integration*; the period of time my unconscious mind takes to integrate ‘visual and auditory information into a single unified percept’ (pg. 218) before ‘delivering’ it to my consciousness. For instance, light and sound travel at vastly different speeds, and because light travels much faster than sound, I receive visual information of an

external event – if I am watching someone speaking for example – a measurable amount of time *before* I receive the auditory information of their speech, and yet the information is combined into a single simultaneity which is presented to – and understood by – my consciousness as being a complete, holistic experience. My consciousness, then, does not ‘tell me’ Dennett’s autobiographical narrative of my life; instead it is presented with the pre-edited version of my experiences from my unconscious – as Metzinger confirms, my ‘conscious model of reality is a low-dimensional projection of the inconceivably richer physical reality’ (Pg. 6) – and it is fundamentally located in time, in that my consciousness is always just slightly ‘behind’ events external to me.

At the same time, while the conception of self-as-narrative is commonly found in various disciplines, it is by no means universal, and it is important that we view self-as-memory and self-as-narrative as being distinctly separate. Strawson (2004) provides this distinction by offering a robust critique of what he sees as the ‘fashionable’ suggestion of self as narrative, arguing that this doesn’t account for people – such as himself – who conceive of themselves as clearly and distinctly *different* selves at different times. He makes a distinction between ‘considering oneself principally as a human being taken as a whole, and one’s experience of oneself when one is considering oneself principally as an inner mental entity or ‘self’ of some sort’ (Pg. 429), suggesting that in the second conception one might be either *diachronic* or *episodic*, with diachronic individuals conceiving of themselves – the inner mental entity - as ‘something that was there in the past, and will be there in the future’ (Pg. 430) while episodic individuals do not conceive of themselves as being ‘there’ in past or future. Strawson does not suggest that ‘episodics’ do not exist through time, but simply that the inner mental entity of oneself is different; ie. I might feel that the self writing this chapter in 2022 is different to the self who wrote my first transmedia paper in 2016. The important distinction is that an episodic self retains the memory aspect of Kahneman’s remembering self, but does not connect these memories in the form of a narrative.

Whether or not we accept such nuances as the conception of self-as-narrative seems almost to be rooted in personal preference, or rather in the way we perhaps conceptualise and verbalise lived experience. This may be a result of our wider conception of ourselves as being the totality of our experiences, and naturally we haven’t even scratched the surface of the broader debates around self, which may be influenced as much by factors such as culture and faith as anything else. I therefore fully acknowledge the very real limitations of the discussion

offered so far. At the same time, it is not the intention of this chapter to provide a detailed examination of theories of self, more than is necessary to establish a position from which to proceed (even if there was space to do so). The rationale behind the selection of each definition offered so far is that, firstly, they have all contributed to my own personal conception of self – and as-such it's perhaps unsurprising that they would tend to agree and complement one another - and secondly, they are all views from varied fields and disciplines (neuroscience, quantum physics, psychology etc.) in an attempt to find a broad, tangible definition of self, even if this may be extended further at a more personal level. Without being too specific and prescriptive then, let's proceed with the following definition so that we can make progress. From what we have seen, self is an abstract mental shortcut for a complex process; my consciousness stems from the construction of a world model – a detailed simulation of the world around me – and an inner model of myself as an organism *in time*, replete with psychological states, which has a unique perspective and sense of ownership (*myself*) from the centring of the inner self within the world model, and experiences other selves in-turn, allowing me to make that categorisation applicable to myself. The construction of this world model is continually updated, a measurable amount of time *after* events in the world take place, as edited 'highlights' are presented to my consciousness from my unconsciousness, and the deliberate ordering of these 'highlights' through process of *memory* is where I find that which I refer to as "I". I might conceive of that 'I' as operating contiguously in time as a form of continual narrative – a diachronic self - or I might conceive of it as being fundamentally different selves at different times – an episodic self – but what is important is that there is a temporal aspect to both readings. Indeed, if we examine each definition above, we will find that they all (and I've emphasised this in italics in my summary) fundamentally include time as being a necessary aspect of self. It is a common thread across a majority of interpretations; even in more faith-based definitions of self where discussions of a timeless soul may be present, the lived experience of the passage of time, of being a self in time, is normally considered crucial. Except that we are *not* selves in time; rather as we will see, time is found within ourselves.

If we have only provided a cursory glance at a definition of self, by necessity we will need to take the same approach for our discussion of time. Given that, as Buonomano muses, 'few questions are as perplexing and profound as those that relate to time' (2017, Pg. 4) the best we can do here – similarly to our discussions of self – is to attempt to find a broad and workable definition that will allow us to proceed. Firstly - tangibly - as Buonomano adds, we

might look to define time as ‘what clocks tell’ (Pg. 15). The problem with this is explained by Rovelli, who guides us through relativity by asking us to consider that ‘clock time’ is not unlike a river (2017, Pg. 18) which is continuously flowing, and that within this flow there will be currents operating at different speeds. Because measured time passes more slowly for moving objects than for stationary objects, and more slowly at sea level than at altitude (we will even find a differential in measured time between a clock on a table and another on the floor, if they are sufficiently precise), *that which ‘clocks tell’* doesn’t really give us a clear definition of time. In addition, as Rovelli also confirms, ‘clock time’ is a relatively contemporary form of time, artificially mechanised; prior to the need to synchronise measured time over significant distances, midday would simply be measured by sundials as being when the sun was at its apex, meaning that even measurable time was anchored to specific geographical locations (ie. two towns even just a few miles apart would not experience midday simultaneously). Finally, because measurable time is affected by mass and speed, where we find neither (in space, away from the gravitational field of any mass) it’s also possible to conceive of this space as being without time, and if we turn our attention inward rather than outward, at the Planck scale (the minimum scale of granularity) for the gravitational field, breaking time down into Planck time (10^{-44} seconds), the notion of time as we conceive of it is, again, no longer valid.

These rather complex (and possibly alarming) conclusions, while necessary to briefly examine the idea of a tangible *evidence of time* as we did earlier for self, don’t necessarily have to concern us however, because we are primarily interested in time in so far as it relates to our conception of self, and for this we must turn to the subjective ‘sense’ of perceived time, often referred to as chronoception. For this, like any good academic paper, we can begin by reaching back to antiquity to find a potential definition in Aristotle, and what Newton-Smith (1980, Pg. 14) refers to as ‘Aristotle’s principle’. This principle is that time is simply our conception of change, and without venturing into the objections to the modern ‘verification’ interpretation of Aristotle, which Coope (2001) offers, we can still find parallels between this view of time as, again, a form of heuristic to express our lived experience of change, and Rovelli when he explains that there are no ‘things’ in the world, there are only ‘events’ (Pg. 85). Things, he explains, persist in time, while events have a limited duration.

The hardest stone, in the light of what we have learned from chemistry, from physics, from mineralogy, from geology, from psychology, is in reality a complex vibration of

quantum fields, a momentary interaction of forces, a process that for a brief moment manages to keep its shape, to hold itself in equilibrium before disintegrating again into dust. (Pg. 87).

The key here is what Rovelli refers to as ‘blurring’; we cannot directly perceive the quantum fields, subatomic particles and so-on that form the stone at smaller levels of granularity. Instead, the blurring of our perception reveals to us the stone, in the way that we perceive a cloud, an ocean wave, or a clap of thunder. The only difference is that we cannot directly perceive the disintegration of the stone over time, in the way that we can with a cloud; we perceive the stone at that particular level of granularity due to our perception at a *human level* of scale, which ‘blurs’ the smaller structures of the stone together, and we perceive the stone as a ‘thing’ because of our conception of it at a *human level* of change and chronoception.

We, ourselves, are no different. When we consider our definition of self from earlier, my world model – my detailed simulation of the world around me – is continually updated, allowing me to perceive change external to me, while my inner model – the centre of my world model which provides me with the sense of ownership of my self experience - is the same. As an organism I change, just like the stone; I can perceive changes in my psychological states, models such as the Scalar Expectancy Theory (SET) (Gibbon, 1977) and Attentional Gate Model (Zakay & Block, 1996) have been developed to explain behaviours related to my ‘internal clock’ and temporal changes in my physical being, and my memories of events are continually being amended and updated as I access them through the lens of more recent experiences. Time, then, in this reading is found within ourselves, because it is an heuristic through which we refer to our perception and conception of change, at a human level of granularity and chronoception.

Before we return to our primary discussion of transmedia selves, one final note concerns another fundamental aspect of our lived experience of time, which is that it passes, and seemingly in a single direction. Time may be our experience of change, but it is also important for us to be able to interpret between previous and subsequent states within any change process, and to recognise that we remember the past, and not the future. As Buonomano confirms, ‘it is impossible to overstate the importance to cognition of the temporal relationship between the events we experience’ (2017, Pg. 25). Rovelli offers the classic principle of entropy - ‘the ubiquitous and familiar natural increase of disorder’ (2017,

Pg. 28) – to explain this directionality of time. When I put down my hot cup of coffee it will gradually cool, and if nothing else changes it will never become hot again; an example of the second principle of thermodynamics, which ‘is the only equation of fundamental physics which knows any difference between past and future’ (Pg. 25). Entropy is change, from order to disorder, but again the *ordering* occurs at a *human level*. If I take a pack of cards arranged in suits and shuffle them, perceived disorder will result and entropy will be higher, but it is only my (human) conception of the arbitrary ordering of the cards – an order I impose upon them, despite their design allowing them to be ordered in various ways - which creates the phenomenon of entropy.

Buonomano in-turn offers another explanation for time’s arrow in the form of spike-timing-dependent-plasticity; the sense of cause and effect potentially found in our neural pathways. Neurons are nerve cells which pass electrical signals to one-another through junction points called synapses, and if we have two neurons, A and B, which are recurrently connected (a synapse allows a signal to pass from A to B, and another from B to A), and A consistently fires before B, the A-to-B synapse will be strengthened while the less familiar B-to-A synapse weakened. Buonomano’s example is that neurons A and B are owned by someone called Zoe (2017, Pg. 29); neuron A is triggered by the sound *z* and neuron B by the sound *o* in the name *Zoe*, and because Zoe will hear her name correctly (A firing before B) far more often than hearing it backwards (where B would fire before A because the *o* sound would occur before the *z* sound) the A-to-B synapse becomes strengthened. We can experience this directionality of time through strengthened order-dependent synapses as it allows us conception of cause and effect – one neuron-triggering event occurring before another - and if we briefly consider Kurzweil’s ‘Pattern Recognition Theory of Mind’ (2012) in which he asks us to view the human neocortex as effectively an extremely sophisticated pattern-recogniser, when we discover temporal patterns in our world model we experience this strengthening of contiguous synapses, which may provide a broader conception of cause and effect over time. Pattern-recognition may also account for our perception of lower entropy, applying human-level perception to generate positions of perceived order. While time is found within ourselves then, as our conception and experience of change, that change occurs in a particular direction which we conceive as the flow of time, again at a *human level*, and is something that can – seemingly, and to an extent - be measured and quantified in different disciplines.

We have our working definition of self then, and an approximation of time which is suitable for our purposes. We are long overdue the introduction of transmedia after all, and a final example will help us to bring things back on course. At the Transmedia Earth Conference in Medellin, Colombia in 2017, Vincente Gosciola offered what has become one of my favourite definitions of transmedia, which is that ‘music is the intervals between the notes, not the notes themselves, and transmedia is the same’. This elegant summary accords well with Jenkins’ reminder of transmedia as an adjective; individual notes do not make a piece of music, it is their relationships and the way their juxtapositions modify one-another that creates the piece, and in transmedia we don’t think of individual media texts or touchpoints, but rather the way that those touchpoints combine to become something that is more than the sum of its parts. It is here that we find our first parallel with our discussions of self and time; music is *our* conception of the notes played, not the notes themselves, and this is *fundamentally* located in time which, as we have seen, is found within ourselves. Both Buonomano and Rovelli offer music as an example to illustrate this, Buonomano likening our listening to music as similar to ‘our ability to see a face in the relationship between the dots of a Seurat painting’ (2017, Pg. 32) while Rovelli discusses St. Augustine’s discovery of consciousness in the ‘memory and anticipation’ of listening to a hymn (2017, Pg. 158). The point is this; if we can only hear one moment of a piece of music at any given time (our experience is that we cannot listen to the entire piece simultaneously), what is it that facilitates the relationship between the notes, which gives the piece its identity over time? Because time is found within us the answer, of course, is *ourselves*. We are the glue which holds the piece together; our memory of the notes played and our anticipation of the notes to come *in time*, the experience of a note or chord modifying and being modified by that which precedes or succeeds it *in time*, the awareness of change and its directionality, which is such a fundamental part of our selves, our lived experience, is at the very heart of our experience of music. As we find parallels between transmedia and music, it also accords that we find ourselves in transmedia too; if transmedia is an adjective, then *we* are the constant factor that holds it all together. We are the ones doing the *transmediating* over the duration (time) of the experience.

This is where Gosciola’s analogy of transmedia and music doesn’t quite map accurately however, because transmedia and music are fundamentally dissimilar as well. Music is part of the category of media forms – such as films and theatre performances - which have a temporal aspect to their experience, and because as we have seen, time is found within

ourselves (we provide music with its temporal identity by connecting the relationships between notes etc. over time) we accordingly find ourselves within each of these forms. When watching a movie, our experience is that we cannot watch the whole thing simultaneously at the same point-in-time, and while we may not be able to accurately remember the various edits which have led up to the moment we are currently watching (or refer back to those edits in the way we might do with a graphic novel) it is still our memory and anticipation of the film which allows each edit to modify, and be modified by, the next. In this process however, we are passengers; the decisions about the order of edits in an authored film, or notes in a piece of authored music, have been made for us, and consequently we are *audience* members. Transmedia does not operate this way; as I have argued many times (2016, 2017, 2021) transmedia requires *participants*, and it's hard to conceive of transmedia *audiences* because within transmedia we have choices (and more crucially we make decisions) which, in addition to preventing suspension of disbelief as I have discussed before, means that transmedia experiences are always unique in some way, each time they are experienced. In this reading, transmedia experiences are more like games than music or films, and as Brown notes, games require players, 'and this is one of the ways they are differentiated from the majority of other media experiences which require only audiences' (2012, Pg. 8). The bits-in-a-box of a board game, or the file downloaded onto the console are not *the game*, they are the elements which facilitate the game experience, but it is the player who gives that game its identity each time it is played. Similarly, transmedia requires participants to engage with the process (akin to the rules of the game perhaps) in order to create the experience. As a final example, Buonomano also includes speech as well as music in his discussion of conception over time, and again we find parallels; we cannot experience the whole of a conversation in the same instant; our memory and anticipation provides the 'glue' which holds the conversation together. If we are listening to a conversation, we might conceive of ourselves as an audience member, however if we are involved in the conversation, we are making decisions, and as a result we become not unlike the player of a game; conception of transmedia without participants is like conception of a conversation without interlocutors.

I have mentioned that Gosciola's 'music' definition of transmedia is one of my favourites, and I have also demonstrated how it doesn't quite line-up accurately as a like-for-like analogy, but there is no contradiction here. This is because we can conceive of transmedia in two modes; as a *process* and as an *experience*. The process of transmedia is like music; a

temporal process of memory and anticipation in which we, ourselves, as the conceivers of time, become the ‘glue’ which creates the relationships of modification between notes in music, or touchpoints in transmedia, over time. Meanwhile the experience of transmedia is more akin to a game or a conversation, in which players or interlocutors provide the unique identity and become necessary participants, whereas in a piece of music – where decisions lie with the author and not the listener – we find audiences. Consequently, while I agree with Jenkins’ reminder that transmedia is an adjective, as I have also discussed (2021) I disagree with his assertion in the same paper that transmedia ‘is not necessarily [...] participatory’ (2017, Pg. 220), and we can see the reasoning in both modes (process and experience) mentioned. If transmedia (as a process) is like music, we can see from the St. Augustine example that the listener is fundamental to the process, because without a self providing temporal contiguity across the duration of the piece, there will be nothing to provide the memory and anticipation needed to facilitate the relationships of modification (between musical notes or media touchpoints) we’ve discussed. Meanwhile, if (as an experience) transmedia is more akin to game, we have seen that games need players to make decisions and provide the unique identity to the experience (which, again, is located in time) and transmedia requires participants for the same reason.

Transmedia, then, relies on us, ourselves, because without our participation there is no transmedia. To suggest otherwise is to conceive of transmedia as something in-and-of itself: Transmedia the noun - which as I suggested last year should be conceived of separately as a form of media holarchy - rather than transmedia the adjective. We make decisions about the form a transmedia experience will take, and we give it identity over time through memory and anticipation, because time is found within ourselves. This relationship is also recursively connected, because while it might be a stretch to suggest that we *rely* upon transmedia in the way transmedia relies upon us, it is still easy to see ourselves *as* transmedia experiences - transmedia selves - in a sense. This is by no means a ‘new’ idea either, as Elwell notably commented in 2013:

[...] In our age of constant connectivity and ubiquitous computing, self-identity is increasingly fashioned according to the aesthetics of transmedia production. I thus propose that the transmedia paradigm, taken as a model for interpreting self-identity in the liminal space between the virtual and the real, reveals a transmediated self

constituted as a browsable story-world that is integrated, dispersed, interactive, and episodic.

As an immediate example of this, for most of my friends and colleagues, their experience of me is as likely to be words or images on a screen as it is my physical self in the world, and in many cases their experience of me will be almost entirely - and perhaps even exclusively - mediated in some way, particularly in a post Covid-19 'lockdown' world. The experience of *me* to others is therefore varied; distributed across different platforms and touchpoints, just like a more conventional transmedia experience, and *participants* in the transmedia experience of *me* also have agency and make decisions about which aspect(s) of my transmedia self they access, when, and in what order. If we are the 'glue' that holds transmedia experiences together due to the combination of memory and anticipation, then others' experience of my transmedia self happens on their own terms; they are the ones transmediating me.

I may also find this process occurring internally to myself as well. If we recall our definition of self, it includes both a world model - which now includes virtual elements, and a blurring of the traditional 'physical' world with the non-physical, because my world externally to me is increasingly virtual - and it also includes the recognition of other selves, allowing me to apply that recognition back onto myself, and again I increasingly encounter these selves in virtual contexts. As I experience more interactions with other transmedia selves, and as I *outsource* more of myself to technology - as I meet people romantically on dating apps, as I *become* various stats and 'personal bests' for others to see on exercise platforms, as I spend time in virtual worlds, perhaps in games, extended reality constructs, or in the developing metaverse - I modify my experience of self. In a process similar to that of Strawson, I might conceive of myself as being 'diachronic' or I might conceive of myself 'episodically', not across time but across the touchpoints of my transmedia self. Am I a different self online for example? My own experience is yes: I am quite a different person in my online interactions compared to those in the flesh-and-blood world, and I therefore experience a not-dissimilar conception of self to that of Strawson, when he compartmentalises his inner entity across time, except that my compartmentalisation occurs across transmedia technologies and platforms, which I might conceive of as different *selves*.

There has been much written about this process, and often in relation to the various harmful effects of transmedia self. One of the most interesting for me recently is the book *Unfit for Purpose* by my University of Gloucestershire colleague Professor Adam Hart, in which he finds challenges in social networking by comparing it with the ‘Dunbar number’ (2020, Pg. 211), and the limit to the number of effective social interactions based on the human neocortex, arguing that part of the problem of social media is that we simply don’t have the cognitive capacity to be able to cope with it effectively. The specific (potential) problem with transmedia self that I wish to focus on for the remainder of this chapter, however, is the notion of transmediating oneself in relation to our ongoing discussions of self and time, and particularly that of memory. We will recall that our definitions of self have all included a fundamental temporal aspect – self and time cannot be separated – and within that, memory is naturally crucial; indeed for Rovelli, Kahneman, and others, memory and the remembering self is the fundamental aspect of that which I conceive of as “I”. Whether or not we conceive of our memories as providing a diachronic or episodic experience of self, whether or not we identify with the idea of memory as a narrative, making us Rovelli’s ‘histories of ourselves’, memory is inseparable from our experience of change, which as we have seen is our conception of time; a time that ‘flows’ in a particular direction. Except, what if it didn’t? What if, as a transmedia self, I have somehow *modified* time’s arrow?

I have fond and formative memories of myself in virtual contexts; gaming, social media interactions, immersive constructs such as VRChat, collaborative work and creative projects, and so-on. I have also experienced other transmedia selves in those contexts too of course. Increasingly, as I transmediate myself, I develop more and more memories from virtual contexts, and if I myself am the sum total of my experiences, if I am a history of myself, then increasingly that self is virtual because a growing percentage of my memories are from virtual sources. This might seem like a conceptual cul-de-sac; after all isn’t there always a flesh-and-blood ‘me’ which is the consistent factor across all of my virtual interactions? Whether or not I conceive of my self as being different in virtual contexts, it *is* dissimilar to Strawson’s ‘episodic’ idea, because flesh-and-blood me doesn’t vanish when virtual me is operating (whereas in Strawson’s conception, it is not as though my contemporary self existed when my 2016 self wrote my first transmedia paper). Even in virtual reality experiences with long-form users – such as those featured in University of Gloucestershire graduate Joe Hunting’s film *We Met In Virtual Reality* (2022) where extraordinary relationships are developed and meaningful life-affirming events take place in VRChat – we

can argue that there is still a human organism ‘behind’ the experiences. Conversely, if we accept that many users of virtual contexts – such as those in Joe’s documentary – consider their ‘virtual selves’ as being *more* than their flesh-and-blood selves, allowing them the opportunity to *be themselves* in ways that they cannot in non-virtual contexts (and indeed it would be churlish to suggest that the participants in *WMIVR* are, in fact, primarily the flesh-and-blood selves wearing HMDs, rather than the virtual selves having meaningful and formative experiences within the platform) then we still find ourselves in the same position of ‘so what’? So what, if I have memories from virtual contexts?

Virtual-context memories are not *virtual memories* (ie. simulations of memories), they are legitimate and authentic memories, but they do have one peculiar property, which is their temporality. If time is our awareness of change, virtual contexts can have distorted or inconsistent aspects ‘in time’ due to the rate and development of change, and/or our conception of it. A social media post, such as a tweet or a conversation in a comments section, is a snapshot of the self posting it at a specific time, but that post may remain for years or decades, a conversational moment ‘frozen in time’, dissimilar to a letter or other written correspondence which may also last over time, due to its intended and perceived immediacy. Social media use can affect time-perception (Gonidis and Sharma, 2017), as can gaming (Nuyens, 2019), perhaps due to ‘flow states’, cognitive load, or developments in working memory due to gameplay, and we are only beginning to scratch the surface of a phenomenon that those of us involved with virtual reality have known for many years; its extraordinary capacity for time-compression (Mullen and Davidenko, 2021). A working theory seems to be that a reduced or modified perception of one’s own body in virtual reality may be a contributory factor.

There are a number of ways in which our hybridised transmedia selves – increasingly composed of memories from virtual contexts, replete with temporal distortions – might modify us as selves; a simple example is the distinction between prospective and retrospective timing. If I am asked to do something in five minutes time – prospective timing - for my brain this is a timing task, because I have a point in time ($t = 0$) from which to begin my estimation. But, as Buonomano explains, if I am asked to estimate *how much time has passed* since an event – retrospective timing - because I have no specific start point, this becomes ‘an attempt to infer the passage of time by reconstructing events stored in memory’ (2017, Pg. 60). Over the course of five minutes we might not find much distortion of course,

but over weeks, months, and years, as we build our stock of virtual, temporally inconsistent memories, we can see how our retrospective timing might become skewed. Of course, time dilation and compression have been part of the lived human experience long before transmedia technologies came along; we are all familiar with time ‘dragging’ during a disagreeable experience, and ‘flying’ during a positive one, and we are also familiar with the subsequent memory of that positive experience seeming longer than the memory of the disagreeable one. But here again we find the complication, because even with time compression and dilation, under normal circumstances we can still conceive of memories occurring contiguously, one after another with the usual arrow-of-time connection, whereas memories occurring in virtual contexts may not be contiguous, and even if they are, we may struggle to accurately conceive of them as-such. During the day, my lived experience as an organism with circadian rhythms, physiological changes and behaviours such as those expressed models such as SET, and aware of time’s ‘flow’, allows me to conceptualise the passage of the day – I remember making a pot of coffee this morning for example, and even though I might not be able to say precisely when I did this, I am able to locate the memory temporally – but I may struggle to conceptualise the same process in virtual contexts. If I comment on social media, or if I play a few turns of an online game on my phone, these are hard to locate temporally because they don’t fit into the *joined-up* conception of my non-virtual memories. My conception of time as my awareness of change finds a gradual and consistent process through the day, punctuated by virtual memories which seem, somehow, *out of time*. I might be able to check the time of the social media post, or I might know I played my game while on the train, but this will only provide me with ‘clock time’ and not my sense of chronoception, of self-time as a form of change. Given how fundamental time is to our sense of self from all of our definitions, it stands to reason that modification of our conception of time will likely *modify* ourselves, and if that modification is ultimately shown to be deleterious then the consequences could potentially be significant.

I am - as sometimes happens when discussing technology – in the unusual position of writing this chapter at the commencement of my research journey into this field, rather than at its conclusion. Similarly to Tegmark’s sentiments in his seminal work *Life 3.0* (2017), where he explains that the discussions raised need to occur before artificial general intelligence progresses past a certain point, so I feel that discussions about temporality and transmedia technologies may need to be more immediately visible and present as part of the ongoing narrative of the subject, due to the potential consequences for ourselves which I have touched

on here, rather than after a consistent body of research into the subject has developed. As-such, I will not conclude this chapter with a finalised ‘take-home’, but instead food-for-thought for ongoing discussions. Perhaps – as a growing picture of research illustrates - one aspect of the temporal inconsistencies of virtual memories may lie in their disembodiment, to some extent. If, at an extreme end of the scale, we find limited awareness of our bodies in virtual reality, which may affect our conception of change (and time as a result) then it may be that the varied degrees of (conceptual or physical) disembodiment found in other virtual contexts may also have proportional effects. We may return to Kahneman at this stage, and his discussion of the differences between the experiencing self and the remembering self. He offers an unusual experiment (2011, Pg. 381) in which participants must first hold their hand in very cold water for 60 seconds, and then later in very cold water for 90 seconds, with the difference that the water would warm slightly (by 1 degree) for the final 30 seconds in the longer task. When subsequently asked which task they preferred, the participants selected the longer task, despite the fact that it was a longer period of discomfort for their experiencing selves, because their remembering selves were concerned only by what Kahneman calls the ‘peak-end rule’: the peak discomfort of the experience, and the end of it (which had been perceived as offering marginally less discomfort in the second, longer, task) rather than the accumulated amount of discomfort in total. We might find parallels between Kahneman’s experiment, and recorded instances of virtual reality time compression providing perceived relief during medical procedures (Chirico et al., 2016) (Indovina, Barone, Chirico, De Pietro, & Giordano, 2018). In both instances, the remembering self provided an inaccurate – albeit potentially useful – conception of what the experiencing self had experienced over the elapsed time. It is not difficult to draw parallels here to other forms of ‘disembodied’ memory, such as perhaps dreams during REM sleep, in which again our conception of elapsed time is significantly skewed after the fact. Given that during experiences such as REM sleep, we may not conceive of ourselves as being (at least conventionally) conscious, perhaps an hypothesis may be that virtual memories, replete with temporal distortions and elements of disembodiment, may also operate at a level of reduced self-awareness, and potentially even at a level of reduced or impaired consciousness.

During this necessarily brief canter through the complex topics of transmedia, self, and time, we have seen that both self and time are heuristics for complex human processes, and that transmedia technologies fundamentally rely on those processes, and may also have a consequential effect upon them. As I increasingly make use of transmedia technologies

within my complex process of self, as I am transmediated by others, and encounter similar selves in return, and as I form self-defining memories in transmedia contexts, thus I become more of a transmedia self, replete with the potential and possibly serious consequences found, uniquely, within transmedia selves.

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