



Time, Temporality, and Entanglement in the Face of Parallel Realities

by Cory Wright-Maley

Introduction

Time is a complicated phenomenon. While mathematicians and physicists can attest to the ways time makes impossible all kinds of calculations (see Gribbin 2005), anyone who has experienced flow (Csikszentmihalyi 1990) or boredom (Danckert and Allman 2005) can attest to the way accounting for time is made difficult by the nature of the activities. Still, our mainstream western understanding of time and our relationship to it, *temporality*, in other words, holds to the view that time is consistent, linear, and calculable (i.e., that each minute, hour, day, year, etc., is equally spaced apart from the next). Or, as Mark Rifkin (2017) called it, “settler time.” However, Mark Helmsing and Annie Witlock (2018) have called upon social studies teachers to rethink and expand how we teach with and about time.

Bretton Varga (2020) adds texture to this argument by identifying one of the central temporal failings of social studies teaching: the lack of concern “with exposing a fluid relationship between past, present, *and* future that extends beyond the traditional humanist trappings of the past” (5). The profession has relied heavily upon the certitudes provided by evidentiary historical epistemologies—the system of knowledge that separates fact and opinion, including what counts as valid evidence—at the expense of the haunting elements that challenge our historical mastery over the past. In so doing, it reifies epistemological dominance “instead of interrogating productive difference” where disagreements emerge (Varga and Monreal 2021, 96). Such differences are exacerbated by our temporal rigidity, which forecloses the possibility that the narrative self/ves are located elsewhere in time. Sadeq Rahimi and Byron J. Good (2019) describe how disciplinary understandings of self have been able to liberate the individual from space (i.e., who we are and what we experience can transcend the spatial boundaries of our physical location). At the same time, the discipline has failed to do the same for the subjectivities of self from time (i.e., who we are and what we experience “too often remain confined to a temporal *now*” (409). Indeed, they argue that this failure to recognize that “history is present in ways much more powerful than memory, psychological genealogy, or even traumatic impact seems increasingly inadequate” and leaves us vulnerable to “emergent patterns of social and political affect that are becoming not only increasingly observable but more and more concretely impactful on our political and social realities” (409).

In this article, I seek to challenge readers' presupposed notions of time as a temporal form of measurement with other temporal ontologies—the constellation of beliefs that govern how we understand the nature of reality itself—whose purposes seek instead to reveal how we come to derive insight about and create realities in common. In doing so, I will help to illuminate why historical and non-factive folk knowledge enter into conflict and why non-factive histories continue to haunt public renderings of history despite the social studies' best efforts to dispel non-factive realities with factive interventions. I define historical knowledge as epistemological beliefs that rely primarily on evidentiary records to articulate what has occurred (i.e., factive truths rooted in disciplinary procedures). In contrast, I define folk knowledge as epistemological beliefs that rely primarily on experiential reasoning, which can either be factive or non-factive truths rooted in socially approved narratives (Gerken 2017, den Heyer 2011, Gerken 2020, and Mercier 2010). I argue here that historical and folk epistemologies rely upon different temporal ontologies, in which truth lies in differing relationships in time between the past, present, and future. The former imposes linearity upon reality. The latter evokes relationships to time that are mediated by affective structures of feeling (i.e., viscerally experienced truth revealed by one's emotional reaction) in the present to co-locate the past and future within the present (see Rahimi and Good 2019). Memory, upon which folklore is predicated, works similarly. Bruce Perry and Maia Szalavitz (2017) wrote that memory "is the capacity to carry forward in time some element of an experience" to compose whom we are by constructing a sense of continuity between the past, through the present, and into the future. This occurs personally but also collectively. In his recently published account on national memory, James V. Wertsch (2021), drawing upon the work of Boyer (2018), points out that "even though 'groupism' and 'folk sociology' are misguided in strictly scientific terms, they retain a 'tenacious hold' on us in practice" (37). Indeed, he continues,

Specifically, narratives used as equipment for living provide a means for understanding the folk sociology that—however misguided and theoretically indefensible it may be from the perspective of a genuinely scientific account of human action—guides national memory in general and makes it possible for different national communities to be so strongly committed to different accounts of the past. (38-9)

Thus, the mechanisms for generating knowledge from the past to inform the present—or, as equipment for living, as Wertsch puts it—give rise to parallel experiences of reality. Here Wertsch is likely drawing from a long line of scholars building upon Kenneth Burke's (1938) thesis that literature serves this same purpose. Given the strength of these commitments, so strong as to be immune to disconfirmation, I would argue that they are, in fact, distinct and parallel realities.

To illustrate this claim, I draw from a recent, particularly extreme example. I begin with the conflicting interpretations of the U.S. Capitol Insurrection on January 6, 2021. I will illuminate how different temporal logics can give rise to parallel realities that are distinct both epistemologically vis-à-vis the information they draw from and ontologically vis-à-vis how their presents are mediated temporally. To explain the underlying mechanisms of these bifurcated realities and to identify avenues for integration, I borrow insights from quantum mechanics and Indigenous temporalities. From the former, I draw from the idea of entanglement to help the reader recognize the processes by which contradictory realities can come into existence. Concerning the

latter, I use Blackfoot and Apalech wisdom traditions as examples from which we may come to see pathways that can help us reconcile these two realities.¹

Finally, I close by offering readers direction for integrating these insights to mediate the space between the epistemologically sundered realities by making suggestions to teachers about how they may seek to redress these contradictory realities. To this end, I offer ways for teachers to teach in and through temporal entanglement.

Insurrection

During a now-infamous July 2020 interview with Fox News journalist Chris Wallace (2020), President Donald Trump refused to state that he would abide by the results of the fall presidential election. There was intense speculation that his refusal, even in the face of a potentially crushing defeat in November, could lead to a constitutional crisis, if not incite nationwide violence. Many viewers, both inside the United States and abroad, looked on in horror as gallows were raised, barricades protecting the Capitol Building were breached, and a crowd surged violently into the building where the results of a free election were being certified.

One interpretation of this event is that the Capitol insurrection threatened American democracy. This view is shared by a substantial majority of Americans (72 percent according to Shepherd 2022). In this view, then-President Donald Trump's supporters gathered at the Capitol Building's steps after spending months steeped in the President's delusions or lies about the election's outcome, which were echoed by a sympathetic right-wing media disinformation machine. Among these individuals were members of militant radical-right groups such as the Oath Keepers, Proud Boys, Three Percenters, and a range of other white supremacist organizations. Indictments issued from the U.S. House Select Committee on the January 6 Attack (<https://january6th.house.gov>) show that the attack represented a well-coordinated effort to undermine democracy and stop the peaceful transfer of power guaranteed by the Constitution of the United States (see *United States of America v. Nordean et al.* 2022).

Another interpretation was one promoted by the Trump Administration. Initiated months in advance of the election, Trump promulgated the idea that there was a vast government conspiracy to ensure that he would lose the election to Joe Biden because of vote rigging, ballot tampering, and ballot dumping. Soon after, these baseless accusations were joined by lies and conspiracies that should have strained the credulity of even the most fervent supporters, such as those purporting that the long-dead Hugo Chavez had tampered with voting machines. Individual Americans heard repeatedly from Administration officials, Sidney Powell and Rudy Giuliani most frequent among them, that these claims were true and would be verified in court. The ephemeral legitimacy of these arguments was further bolstered by prominent conservative talk shows such as *The Sean Hannity Show*, *Bannon's War Room*, and *The Rush Limbaugh Show*, not to mention parroted by Laura Ingram and Tucker Carlson on Fox News as well as various hosts on the One America Network (Wirtschaftler and Meserole 2022). More than half of all Republican voters derived their news from these sources (Mitchell, Jurkowitz, Oliphant, and Shearer 2021) and thus had little reason to doubt the veracity of these claims.

Mainstream conservative media outlets gave credence to these erroneous claims giving air to the conspiratorial claims and actively stoking these conspiracies. At the same time, social media platforms enabled individuals and groups to bind “misleading and false claims and narratives” into a movement that “coalesced into the meta-narrative of a ‘stolen election,’ which later propelled the January 6 insurrection” (Election Integrity Partnership 2021). So, although it is baffling to some observers how 1776 could be invoked to justify the violent overthrow of the democratically elected government that was the progeny—not the target—of the American Revolution, it shouldn’t be. President Donald Trump’s rhetoric directly fed into the conceptualization of the past.² Insurrectionists and the full 25 percent of Americans who believe they were “supporting democracy” had formulated and integrated the folklore of the revolution, and bent to fit their present non-factive narrative—i.e., “when a long train of abuses and usurpations, pursuing invariably the same Object evinces a design to reduce them under absolute Despotism, it is their right, it is their duty, to throw off such Government, and to provide new Guards for their future security” (Jefferson 1997). In this way, American insurrectionist folklore, bereft of fact and immune to evidence, evinces a parallel reality that threatens one based upon the evidentiary standards that most people tend to associate with reality.

This abuse of revolutionary idealism is not, interestingly, the first time 1776 has been invoked to overturn democracy in America. As Franita Tolson (2021) demonstrated, the same invocations were used by white supremacists in Wilmington, North Carolina, in 1898, as they attempted to overthrow the seated multiracial state government there. How then, might we ask, can the processes that embrace liberty and popular representation and those that embrace illiberalism and antidemocratic sentiment emerge from and draw upon a historical line to the present from the same historical moment? These parallel realities serve two different ends. One as acts of perpetuation and renewal and one as acts of destruction against the values and institutions Americans purport to stand for. How can both exist in parallel while claiming both the same lineage and guardianship of it in the present? The dissonance between the presented and re-presented pasts poses challenges—but also opportunities—for history educators, challenges that we are unfortunately ill-equipped to address.

I propose that our understanding and harnessing of what Mark Rifkin (2017) calls “settler time” limits our ability as educators to address rifts in historical and folkloric narratives that either are or appear to be incommensurate with one another. Moreover, I argue that by expanding our ontological repertoires of temporality we can become more capable of addressing historical dissonance between epistemically distinct realities. In the next section, I will begin by critiquing settler time before introducing two temporal ontologies—quantum and Indigenous temporalities—that challenge the way western education frames time.

The Problem with Settler Time

In social studies, we do not so much teach about time as we do chronology. We present history as though it were past, etched in stone, dead. This is a mistake born of our often-myopic understandings of time—settler time. Typically, history instruction is rooted in a European temporal ontology. Settler time, as a concept, is located within a larger discussion of time within the western canon. And although it cannot hope to capture the full range of western ontological

notions of temporality, it helps to encapsulate certain enduring presuppositions about how temporality works in the everyday experience within western societies.

Settler time, then, can be understood as an “arrow of time” in which time flows from the past, through the present, toward the future. This framing is asymmetrical, meaning that “the cause must precede the effect” (i.e., the past can affect the present and future, but not the reverse). This asymmetry is consistent with how we perceive the normal passage of time (Eddington 2021[1927], 226). Like many western ontologies, settler time stakes its claim as the monolithic temporal orientation governing how we (should) understand the relationship between past, present, and future. This uniform conceptualization of time facilitates a certain kind of blindness to temporally divergent insights. So, while this may serve people well in the governance of their sense of historicity, it tends to hinder their ability to see value in—or learn anything from—folk histories. This is a mistake of course.

It is true that folklore, broadly construed, is predicated upon the individually accrued and collectively verified systems of knowledge often mediated by oral traditions. Further, these knowledge systems are generally not predicated on the artifices of the written record. Nevertheless, it is hubris to discount these traditions wholesale as lacking sufficient rigor to be accurate historical records. Folklore is too heterogeneous in nature to draw such a broad conclusion (Bendix 1997). Indeed, folkloric traditions can be and often are rigorously maintained, as in Indigenous teachings (e.g., Blenkinsop 2017) and in the preservation of cultural and family narratives of enslaved peoples in the Americas (e.g., dos Reis dos Santos 2018).

Still, at other times, folk knowledge is deployed in the service of the present and manifested through emotion (Ben-Amos 1971) in ways that lack historical rigor and play with the accuracy of the past to serve the purposes of the present. Stated another way, there is a distinction to be made between folklore as a practice of cultural perpetuity and folklore deployed and promulgated in the service of the present moment. It is this latter form of presentist folklore that the deployment of folkloric entanglement is of concern here. The presentist folklore of the insurrectionists that has deployed the rhetoric of the American independence movement is one example. This movement uses the past to validate the discordant presentist feelings of a disgruntled group of Americans. It is ideologically rather than culturally driven, particularly in multicultural national and transnational contexts in which a culture cannot readily be identified with the nation-state (Bendix 1997). In these contexts, the presentist deployment of folk knowledge is unconcerned, or at least not primarily concerned, with folklore as a means of cultural preservation. On the contrary, it serves as a kind of nostalgic grabbing at the past to assuage the cognitive dissonance of its adherents in the present. Put another way, historicity is functionally irrelevant to this kind of folklore. American insurrectionists’ understandings and representations of the spirit of 1776 do not depend upon and will remain untroubled by their unfaithful accounting of history.

As such, the two realities—one factive and historical and one non-factive and presentist—interact as parallel processes, existing alongside each other without intersection (Lindstrom 2022). From a certain point of view, the past is dead and gone, leaving behind the legacies and structures manifest in the present. From another point of view, the past is recurrent and recombinant. The spirit of 1776 as a *zeitgeist* has not drifted into the past but lives on in the present. Indeed, it is

created by the present. And although this spiritedness can be harnessed for good, we have seen how it may be used for ill. The past is complex and emerges unfettered by context or provenance; it haunts us in the present.

The apparent formlessness of this framing makes what occurs in presentist, insurrectionist folklore distinct from other counter-narrations of history. Whether you want to consider critical race theory, feminism, Marxist materialism, postmodernism, or modern progressivist re-narrations of the past, they rely upon the same ontological constructions of temporality that accede to an arrow-of-time construction. Where they differ is not temporality, but the interpretive lens they deploy to make sense of the past, present, and future. When one takes as a given the interpretive orientations of these histories, they can be—and are—held to the same factive standards claimed by modernist historians. Their various tellings of the past may be reconciled by considering multiple perspectives and the various positionings of self in relation to the subject of inquiry. This is not so with insurrectionist, that is, presentist, folklore.

The temporal structures of these ontologically distinct conceptions of the past work in parallel yet remain irreconcilable. Through the lens of settler time, the lore of 1776 as construed by insurrectionist sympathizers is but a gross and intentional misrepresentation of history in the service of nefarious right-wing political aims. Don't get me wrong, I agree with this position. However, the ontological tools settler time provides educators leave us unable to “see” the spectral relevance of re-presented histories, and thus unable to engage them. Instead, teachers, steeped in settler time, are limited to dismissing or disparaging insurrectionists' inchoate constructions of the past to undermine the unfaithful re-presentation of the past. By doing so we hope futilely to align these parallel processes.

This insistence that these histories be engaged with the same standards of inquiry is understandable because of how we have been socialized to experience the passage of time and to conceive of history's role across an asymmetrical temporal plane. History, one might argue, ought to be used to explain the present and provide insight into future possibilities. What is a teacher left to do when the present carries no discernable form with which to shape either history or the future?

The Need for Temporal Diversity in the Presentation of the Past

A growing body of scholarship centred on quantum and Indigenous temporalities troubles the classical western assumption that settler time's claims to reality are unassailable. Further, it challenges the notion that the way we experience the passage of time reveals accurately how time functions (Dainton 2017). Indeed, quantum temporality can reveal that the past is never truly behind us and is therefore subject to re-presentation and revision. This helps to explain why nations and groups within nations continue to be haunted by their pasts. In the U.S. these hauntings are often temporally located in the events surrounding the American Revolution, the Civil War, anticommunism and antisocialism, ideas about the frontier, and the vicious racial violence that is at once a product of enslavers and engine of resurgent white nationalism, which de Tocqueville (1969) identified as a “nightmare constantly haunting the American imagination” (358). The ghosts of American history are inescapable, but they are not immutable. They persist and morph because they are at once ingrained in the foundation of the American psyche and reflections of the cultural present (see Wexler 2017).

Importantly, these revisions are not the kind that occur because of revelations brought forth by new evidence previously missing from the historical record; they shift by way of our orientations in the present to past and future times. When those orientations change, so does one's sense-making about how events from the past slot together coherently to explain the present and future (see Wexler 2017). Consequently, the historical narrative we come to present is reflective of that temporal reorientation and revision.

It is important for the sake of clarity to belabour this point. I do not mean to suggest that the interpretation of the past needn't be faithful to the historical record. On the contrary, the enterprise of history requires a fastidious dedication to its evidentiary underpinnings. Nevertheless, historical salience, or how people make sense of their history, is very much up for grabs by different groups, communities, and peoples who communicate it to one another in ways that are meaningfully received by others who identify with that community (see Levstik and Barton 1996). Thus, from a folkloric standpoint, 1776 represents an emotionally salient story, a haunting if you will, that gives rise to the collective consciousness of a community that envelopes past, present, and future as one. The past is subject to revision by the tellers of the story and known by those who hear it and who can accept as true the story for which emotional salience trumps accuracy. As such, the past is ever available in the present to all who will harness it to pursue their aims so long as it remains resonant with the people for whom these re-presentations are produced. In quantum physics, the interplay between the observer and observed—or in this case teller and receiver—is known as *entanglement* (Barad 2007, Cavalcanti 2020). It is to this temporality I now turn.

Quantum Mechanical Temporality

Drawing from QBism (Fuchs, Mermin, and Schack 2014), one of several quantum-theoretical frames, I argue that reality as we perceive it is neither objectively out in the world nor internally manifested in thought. On the contrary, *reality* is the relational connection between information—we can think of information as anything that can be observed—and the observer, or recipient, of the information, neither of which precedes the other (Geftter 2015). In other words, reality requires both what is occurring in the external world to happen and for a participant to observe its happening for us to say that it has become real. Bereft of these two simultaneous conditions, we cannot say with any certainty that something is true or real, only potential, and possible.

Thus, the present is made manifest only by and for the observer, mediated by both prevailing contemporary conditions and the observer's epistemological framing of the past: Individuals' sense-making results from the context of their prior knowledge and their experiences in the present. This weaving of world-happening and world-observing is what quantum physicists refer to as entanglement (Barad 2007, Cavalcanti 2020). From a quantum perspective, an unobserved past, present, and future all remain in flux; they are not real, only possible. In this unobserved state, the past, present, and future are equally unknowable and remain so until an observer becomes entangled with a moment through observation.

The work of Karen Barad (2007) helps to elaborate on the social processes of entanglement. She goes to great pains to disabuse her readers that reality is either objectively out in the world available for observers to come across or is fully manufactured in the minds of individuals fully removed from the material world. Rather, as agents who are part of the material world we act as interlocutors

who both observe the world around us and engage in sharing our perceptions of it with other interlocutors. In this way, we are both actors in and of the world and interpreters of our experience within it, a phenomenon she refers to as “agential realism” (332). Reality, as it were, is not made manifest through the particularistic relationship between a phenomenon and a singular observer. On the contrary, it emerges from the “agential intra-actions” (333)—the multiple and ongoing interactions between different human beings, their environments, and their ideas in an iterative and ever-changing process of entanglement.

Barad’s (2007) explication helps to explain why no two observers left to their faculties alone will interpret or experience the phenomenon we call reality in precisely the same way but can nevertheless agree with a high degree of certainty on what constitutes reality. That is why, for example, two observers can watch the same thing occur in the world from virtually the same vantage point and later recount markedly different happenings but can typically reconcile their accounts when they share their experiences. The experience of the first individual is entangled with the phenomenon they observed and will remain idiosyncratic and distinct from the entangled state of the other individual. That is, unless and until they share information about their reality. This sharing of information—making it common knowledge between individuals—represents yet another instance of entanglement, so-called because the individuals’ interpretations of reality have become a single shared reality that cannot again be disentangled. This process of sharing and receiving information is the process of ever-expanding entanglement. As more individuals send and receive—or tell and accept—a particular story about reality; that reality becomes increasingly salient to the community for which this story is told.

What that means is that history and all its hauntings or traces, whether mediated through the rigours of historical analysis or the emotional salience of folklore, remain in flux until it is shared and accepted, integrated, and even co-created by the recipient, whether historian or layperson. But once it has been received and accepted, that presentation of history takes on its own reality. What is more, this reality is stable only temporarily, subject to further intra-activity (Barad 2007) in which innumerable agents play a role. This may help to explain why the past tends to continue to haunt us. People tend to continue bumping up against the past in its historical or folkloric particulars, and in doing so continue to shape the present’s relationship to the past. Through this process, ontologically delimited temporalities are brought into being—realities that function differentially in time materialize and dematerialize in response to the ongoing processes of intra-activity which bring them into being. As Barad (2007) puts it, “becoming is not an unfolding in time but the inexhaustible dynamism of the enfolding of mattering” (180). How humans construct temporal realities has much to do with what matters to those who are doing the matter-ing. The extent to which these materialized temporalities are salient to other agents matters for their emergence—through the process of entanglement—as an onto-temporal reality.

These two conceptions of reality, settler time conceptualized as linear, and quantum temporality as emergent from and receding into a state of flux, are of critical importance here. The settler-colonial understanding of time makes it difficult for teachers trained in a settler time ontology of history to consider alternative notions of temporality. This necessarily limits how sense-making about the past, present, and future can happen in the U.S. at present. It is a narrow and unwelcoming entanglement if you will. Instead of acting in the service of entangling individuals

in a singular reality, it serves to reinforce a state of discord between parallel realities that defy further entanglement because it cannot accommodate folk histories. They, therefore, become epistemologically impenetrable to the other. One is bereft of historicity and the other devoid of emotional salience. As a result, each remains to haunt the other.

In the next section, I draw from examples of Indigenous temporal ontologies to address notions of temporal dissonance that emerge from the confrontation between settler time and quantum temporality.

Temporal Dissonance and Indigenous Temporality

How are we to make sense of the present if we do not share a common sense of reality? Neither quantum temporality nor settler time provides much insight into this problem. Without further mediation, social studies teachers will continue to fall into the trap of teachings that fail to disrupt “the specter [sic] (of institutional mastery over narratives)...and, in turn, safe-guards an iteration of history that is problematic, irresponsible, and dangerous” (Varga and Monreal 2021, 96). Settler temporality may allow us to recognize that there is a parallel insurrectionist reality out there in the world, even while it denies its validity. Quantum temporality, then, takes us a step further to explain how these two incommensurate realities have come into existence, and why they appear to be irreconcilable. Neither, however, offers us much insight into what is to be done. But we may be able to draw insight from Indigenous scholars whose notions of temporality are found within longstanding wisdom traditions. In what follows, I draw from Niitsitapi (Blackfoot) and Apalech wisdom traditions to help readers grasp how temporal flux—from which the past-present-future emerges—offers insight toward the reconciliation of temporal realities.

Niitsitapi scholar Leroy Little Bear writing with Ryan Heavy Head (2004) pointed out that the Blackfoot conception of reality “produce[s] experiences of fluid event manifestation, arising from and returning into a holistic state of constant flux” (23). Past, present, and future interact like temporal dancers, reacting and responding to each other, sometimes in unexpected ways. Similarly, Apalech scholar Tyson Yunkaporta (2020) explained that the Aboriginal peoples of Australia view time as a stable system always in flux. They view temporality like the laws of thermodynamics, in which “nothing is created or destroyed; it just moves and changes” (39). Yunkaporta invokes the term *Dreaming*—which he explains is a “mistranslation and misinterpretation” of a much more complicated ontology—to refer to the process of revelation of temporality as pattern formation and interpretation of the three ever-moving “ages of deep time” (39). The observer cannot so much decipher a linear relationship, but instead “can... ‘gaze’ and take it in” to reveal patterns of creation, stability, and destruction (19). In the next section, I elaborate upon what these insights offer social studies as avenues for reconciliation of incommensurate realities.

Taken together, Little Bear’s (2012) and Yunkaporta’s explications of temporal flux, emergence and recession, pattern formation and destruction offer a clear invitation to social studies teachers to challenge our understandings of time. They offer us the opportunity to view the competing insurrectionist reality as a source of revelation located variously in time, rather than as a literal construction of a linear past; as I’ve said before, the evidentiary fidelity in this telling of history is irrelevant to insurrectionist ideology. The spectre of this reality that exists in parallel to the one

inhabited by most Americans, one in which evidentiary standards are in many ways anathema to the emotionally driven non-factive truths, is nevertheless an emergent reality in a quantum sense. Taken as a source of revelation to “challenge the closedness of temporal and ontological certainties” (Varga and Monreal 2021, 96) social studies teachers may be able to discern avenues of inspiration to return to an increasingly entangled present.

These realities reveal for us, if we are wise enough to see them, possibilities for the future that may still be reconciled. How might this be? The past, conceived of through the lens of hauntology, constructs the past as a structure that is always already (e.g., van der Tuin 2011)—it is both actualized in narrative and ever waiting to be constructed in the present; ever contested; visible and yet ephemeral—but not yet—in fact never truly—ossified (Varga and Monreal 2021). As political theorists like DeLanda, Laclau, and Mouffe have argued, it is necessary to recognize the ways social formations have always been “relatively incoherent...because it is only on the basis of such an understanding that effective strategies can be enacted for democratic social change” (Gilbert 2010, 17). Currently, the social studies discipline fails to account for the ways in which the past’s hold on our present is always gossamer thin. It is fixed only temporarily, and that fixedness is tenuous in the face of a present that subject to constant flux.

The perception about the past’s fixedness that is part and parcel of settler time makes it difficult for social studies teachers to make sense of the kind of authorial divergence in the making of history that we are experiencing presently, much less give it any credence. Social studies teachers’ inclinations, then, may be to bombard this epistemological bubble with factive truths, whether oriented by critical or hegemonic frames. But facts, as we have repeatedly observed, cannot sway those who have become entangled in a non-factive narrative (e.g., Crowley 2021, Larson and Broniatowski 2021). Indeed, using the tools of factivity, such as historical analysis, to challenge non-factive narratives is both ineffective and counterproductive. The two narratives are played on different frequencies: The validity of the insurrectionist narrative is mediated by its non-factive, as opposed to factive, salience. When teachers engage in factive modes for discussing phenomena that are fundamentally emotional, they further distance themselves from the other (Gottman and DeClaire 2001). They instead reify the epistemological distance between these realities and make impossible the kind of epistemic rupture that is ultimately necessary to reconcile the two.

Further, when history educators castigate folk knowledge of this kind, we ensure that it will continue to haunt us. Derrida warns, “ghosts haunt places that exist without them; they return to where they have been excluded from” (Derrida and Dufourmantelle 2000, 152). To return briefly to the moment of insurrection and the lore that has come to surround it for some, teachers must tread carefully. It is perhaps understandable that social studies teachers would wish to dismiss students who share the claims of insurrectionists as misinformed or even to try to be corrective agents. This reasonable action is likely to be no more effective than putting an end to a haunting by denying the existence of ghosts. If social studies professionals are to draw from the insights that Yunkaporta (2020) and Little Bear and Heavy Head (2004) offer, then they must recognize that a historical pattern is emerging from the flux that remains to be exorcised from a future reality. This parallel non-factive reality will continue to haunt the factive one until what it is trying to communicate is recognized and understood such that a further, convergent entangling can begin in earnest.

The question before us remains, how might we draw insight, indeed a revelation, from that which haunts us such that we may make manifest newly emergent entanglements in the present? In the next section, I offer insight to teachers seeking avenues to reconcile these parallel, and seemingly incompatible, realities.

Temporal Entanglement for Teachers

Our observations of the past become entangled when we share our observations, momentarily fixing them in place. The temporal fixedness of these entanglements depends upon our (un)willingness to challenge authoritative versions of history. When we question and interrogate histories, we cast past, present, and future back into flux, allowing us to “look again” to “re-search...and re-story ourselves” (Absolon and Dion 2017, 82-3) in the face of new and old challenges and re-envisioned futures. In his book *Our History Is Our Future*, Sioux scholar Nick Estes (2019) explained that in “Indigenous notions of time...there is no separation between past and present, meaning that an alternative future is also determined by our understanding of the past. Our history is the future” (14). By observing temporal relationships in this way together, we become entangled with our collective projection of the future and the histories that help inform our actions in the present.

Temporal ontologies provide unique sets of tools that educators may make use of to help students to make “diagnoses of the times in which we live” which in turn provide them with a vision “of what must be done to get free” (Estes 2019, 14). In my view, ‘to get free’ here has multiple implications and possible understandings. When we cannot share within our classrooms the very nature of reality, we are unable to work toward a common future, thus becoming imprisoned in the present. Our classrooms become sites of conflict, illiberal morasses, like a kind of intellectual trench warfare that becomes stagnant and fetid rather than generative and fecund. Temporal freedom is born of the ability to navigate these different notions of temporality to pull together the common threads of experience, factive and non-factive alike, to weave together a common tapestry for the future

Put another way, if social studies teachers can recognize that some students are entangled with history told as a linear factive story leading from the past and into the present while others are entangled with a history shaped more by how they feel about the present and their prospects in the future, then they can more effectively work toward integrating the contradictions that exist between the two. In so doing teachers will be in a better position to integrate the two realities. This weaving requires teachers to meaningfully facilitate integrating the demands of historical accuracy with varied affective calls for redress. Moreover, this integration is an act of temporal alignment and, simply stated, is yet another instance of entanglement; it initiates the process of entangling two previously unbounded realities in a newly entangled common reality.

Attending to Non-Factive Reality in the Classroom

Teachers could be forgiven for feeling unsure about how to approach these conflicting realities, especially when one reality is bereft of evidence that would satisfy either historian or investigator. Even if they recognize the futility of confronting students with facts or the burden of providing

verifiable evidence, teachers are likely to be out of tools. What I propose instead is that teachers ask students to set aside the facts of the matter temporarily. In the void left behind when evidence is set aside, teachers must ask their students to wade into the affective realm—which I will admit, research indicates that people generally are also woefully underprepared to undertake (e.g., Brown 2021), and that the discipline itself may yet lack the nimbleness to support this work (Varga and van Kessel 2021). Nevertheless, this work represents an important first step.

I would encourage teachers to show images of the insurrectionists before asking students to imagine how those individuals must feel to be in that position because critically considering subject position and context offers tools for accessing this affective realm. The conversations from here could go in many directions, but let me offer possible questions to begin directing the discussion:

- What feelings about history would motivate a person to drive across (sometimes several) state lines to engage in these actions?
- What would it feel like to be convinced that an election was stolen, regardless of your political affiliation? How might that connect to real or imagined feelings about the role of representation in American history?
- How likely do you think it is that the people who showed up at this rally that became an insurrection were otherwise satisfied with how the country was being governed in the present in relation to their understanding of how it was governed in the past?
- What unique hauntings from the past continue to shape how Americans feel about each other such that they might make people believe the other side is playing foul?
- Is it possible that people who fundamentally disagree on what happened on January 6 might both feel like something's wrong with how they've been taught to conceive of American democracy?

Teachers are likely to find that students want to provide evidence, or at least an argument, for why the hypothetical subject in question is wrong for feeling as they do. It is up to teachers to remind them that they are not litigating the rightness or wrongness of the actions people took but trying to make sense of the underlying motivations that might propel them to act in certain ways. By helping students to deconstruct the affective propellants, teachers can act to diffuse the existential tension between these parallel realities that has more to do with how one perceives and experiences the past, present, and future than it does with the specific facts included in the narratives that are used to weave a reality in these temporal locals.

Fostering Future Entanglements

Once social studies teachers are successful—if social studies professionals can be so bold as to think it possible to be—at facilitating this entanglement, they must then have an eye to the future. Teachers must be intentional about directing student agency toward shaping a future together

across differences (den Heyer 2017). If teachers fail to make social studies more “attentive to the future,” (the future we and our students shape), then our profession will also end up “failing [U.S.] citizens and the very democracy that we all so deeply cherish” (Marker 2006, 94). As students are typically taught in history classrooms, they often receive narratives of the past passively while notions of futurity are ignored or taken for granted. Teachers can change this pattern in critical and concrete ways.

In their chapter in *The Wiley International Handbook of History Teaching and Learning* Anna Clark and Maria Grever (2018) make clear that the formulation of historical consciousness is not simply knowing about the happenings of the past, but rather the result of history building—an interpretive construction of the past—that makes sense of the present in the service of a trajectory toward the future. In all temporal ontologies, there is a relationship between past and future, filtered by the lens of the immediate present—the point in time in which our individual, if not collective, thoughts, actions, and values briefly cohere across time. It is the process of coherence that is essential to the development of historical consciousness. The challenge for teachers is to support students by fostering this historical coherence.

Social studies teachers are poised to help students make sense of the present and past by taking seriously the competing entanglements that write themselves into our present’s competing realities. By providing students with the tools and opportunities to make meaning out of these competing claims to reality, mediated by teachers’ more nuanced and responsive understandings of temporality, we may lay the foundation for a future-making process that is likelier to be mutual in its entanglement.


To reorient students to the making of future potentialities, we must reorient history-making in ways that help students wrestle with time and temporality directly. Students must be equipped to navigate history by way of time mapping (see Reich 2018), such as timelines, winter counts (e.g., Scott 2006), or other forms of chronological ordering that cut across cultural bounds to demonstrate the ways chronology is used linearly even when those cultures have different temporal ontologies. At the same time, social studies teachers must help students to navigate these ontological terrains that can be frustratingly abstract with more practical approaches to future-making. One example is asking students to order and reorder the significance of historical events in relation to circumstances in the present. Who would have imagined five years ago that the 1918 Influenza Pandemic would be so salient today, or that the social conflicts that emerged in response to it would be so hauntingly similar to the past as societies attempted to navigate the Covid-19 pandemic?

Teachers can approach the process of re-presenting the future in multiple ways: using critical theory as a form of analysis (Haneda 2009), employing Afrofuturisms (e.g., Ellis, Martinek, and Donaldson 2018) and utopian thinking (e.g., Amster 2009) as means of harnessing students’ imaginative potential; engaging diverse Indigenous ways of knowing the past, present, and future as revelation (e.g., Yunkaporta 2020); and sharing in hypothesis generation that is at once critical, creative, and flexible in the face of changing conditions (Leidtka 1998). Framed in an ontologically different temporality, we might say that our students must be able to gaze at the manifold possibilities inherent in the emergent and ebbing flux of time, engage in Dreaming, seek and test

answers in the patterns of temporal flux, observe the fixedness of time alone and with others, and pivot to re-search again.

Another example is what John D. Brewer (2020) calls “remembering forwards” (37). Remembering forward is a process of working with disjunctive memory of the past that involves speaking truthfully about events as they happened; being tolerant of others’ attempts at truth-telling about the past; doing so together with those who disagree so that those who share with each other across difference may come to acknowledge those points of disagreement. The process then turns from past to future in its final two stages. First, he suggested that people can do so by engaging together in efforts to transform present conditions which invigorate ghosts of the past, thereby preventing them from haunting future presents. And second, people must commit to a common trajectory in order to build a future together. For Brewer, this trajectory commitment involves “remembering to cease to remember the divisiveness of disputed memories, reminding us not to live in the past but to remember the future” (43). Brewer’s process is a practical example of how to initiate and practice temporal entanglement in the classroom.

Such re-searching and futureneering is both urgent and essential to the human project because the myriad idiosyncratic entanglements that separate us in how we view and imagine the past, present, and future require that we continue to engage in this conscious project of mutual entanglement. The approaches I have offered provide a set of tools for teachers and students to respond to the challenges of reconciling competing temporalities and to entangle the past, present, and future mutually. This framing opens the possibility that we may offer “diagnoses of the times in which we live, and visions of what must be done to get free” (Estes 2019, 14) from the democratic tragedy that looms large before us. In so doing, we ought to revoke our claims—as teachers—upon the storying of time as only a chronological process, freeing us from the bounds of settler time and empowering our students to be agents in and of time. Thus, our role as social studies teachers would become one of fostering in our students the capacity to engage in this work while we hold for them the spaces in which they may become free from the hauntings of the past and entangled with their once and future histories—together.

Cory Wright-Maley is Associate Professor of Education at St. Mary’s University in Treaty 7 Territory on the lands of the Siksikaititapi in Alberta, Canada. He focuses on socioeconomic equity, political theory, simulations, and time and temporality. His professional development efforts have been focused on learning from Indigenous Elders and Traditional Knowledge Keepers.  ORCID 0000-0002-1742-5537

Endnotes

1. Although the hasty reader may mistakenly draw a conclusion that I intend to liken insurrectionist interpretations of the past with Indigenous temporality, or that I am arguing that Indigenous temporalities are non-factive; nothing could be further from the truth. On the contrary, my purposes are to demonstrate how western colonial constructions of time make us blind to how non-linear temporal constructions can come into existence in parallel with linear ones. It happens that the insurrectionist reality is both non-linear and non-factive. The use of quantum entanglement and Indigenous notions of temporal flux are merely lenses deployed to bring this phenomenon into focus.

2. The former President, Donald Trump established the 1776 Commission in September 2020 to develop and promote “patriotic education” and “pro-American curriculum” (Donald Trump, “Remarks by President Trump at the White House Conference on American History,” September 17, 2020). This commission was subsequently dismantled by President Joe Biden on his Inauguration Day, January 20, 2021.
Link to Archives: <https://trumpwhitehouse.archives.gov/briefings-statements/remarks-president-trump-white-house-conference-american-history>

A correction was made on February 24, 2023: The citation for Gabrielle Lindstrom (2022) was added to the Works Cited.

Works Cited

- Absolon, Kathleen and Susan Dion. 2017. Doing Indigenous Community-University Research Partnerships: A Cautionary Tale. *Engaged Scholar Journal*, 3.2:81-98. doi.org/10.15402/esj.v3i2.334.
- Amster, Randall. 2009. Anarchy, Utopia, and the State of Things to Come. In *Contemporary Anarchist Studies: An Introductory Anthology of Anarchy in the Academy*, eds. Randall Amster, Luis Fernandez, Anthony J. Nocella II, and Deric Shannon. London: Routledge, 306-17.
- Barad, Karen. 2007. *Meeting the Universe Halfway: Quantum Physics and the Entanglement of Matter and Meaning*. Durham: Duke University Press.
- Ben-Amos, Dan. 1971. Toward a Definition of Folklore in Context. *The Journal of American Folklore* 84.331:3-15. doi.org/10.2307/539729.
- Bendix, Regina. 1997. *In Search of Authenticity: The Formation of Folklore Studies*. Madison: University of Wisconsin Press.
- Blenkinsop, M. Lisa. 2017. Generational Perspectives on Community Knowledge Transfer in Nipissing First Nation. PhD dissertation. University of Guelph.
- Boyer, Pascal. 2018. *Minds Make Societies: How Cognition Explains the World Humans Create*. New Haven: Yale University Press.
- Brewer, John, D. 2020. Remembering Forwards: Healing the Hauntings of the Past. In *Post-Conflict Hauntings: Transforming Memories of Historical Trauma*, eds. Kim Wale, Pumla Gobodo-Madikizela, and Jeffery Prager. Cham: Palgrave MacMillan, 25-46.
- Brown, Brené. 2021. *Atlas of the Heart: Mapping Meaningful Connection and the Language of Human Experience*. New York: Random House.
- Burke, Kenneth. 1938. 1973a. Literature as Equipment for Living. *The Philosophy of Literary Form*. Berkeley: University of California Press, 293-304.
- Cavalcanti, Eric. 2020. New Quantum Paradox Throws the Foundations of Observed Reality into Question. *Space*, September 7, <https://www.space.com/quantum-paradox-throws-doubt-on-observed-reality.html>.
- Clark, Anna and Maria Grever. 2018. Historical Consciousness: Conceptualizations and Educational Applications. In *The Wiley International Handbook of History Teaching and Learning*, eds Scott Alan Metzger and Lauren McArthur Harris. Hoboken: Wiley Blackwell, 177-201.
- Crowley, Bill. 2021. Facts (Almost) Never Change Minds: Libraries and the Management of Democracy-Supportive Public Perceptions. In *Libraries and the Global Retreat of Democracy: Confronting Polarization, Misinformation, and Suppression Vol:50*, eds. Natalie Green Taylor, Karen Kettlich, Ursula Gorham, and Paul T. Jaeger. Bingley, UK: Emerald Publishing Limited.
- Csikszentmihalyi, Mihaly. 1990. *Flow: The Psychology of Optimal Experience*. New York: Harper & Row.
- Dainton, Barry. 2017. Temporal Consciousness. *Stanford Encyclopedia of Philosophy*, <https://plato.stanford.edu/entries/consciousness-temporal/#MetTemCon>.
- Danckert, James A. and Ava-Ann A. Allman. 2005. Time Flies When You’re Having Fun: Temporal Estimation and the Experience of Boredom. *Brain and Cognition*. 59.3:236-45.
- de Tocqueville, Alexis. 1969. *Democracy in America*. Garden City, NJ: Anchor.
- den Heyer, Kent. 2011. History as a Disciplined “Ethic of Truths”. In *New Possibilities for the Past: Shaping History Education in Canada*, ed. Penney Clark. Vancouver: UBC Press, 154-72.
- den Heyer, Kent. 2017. Doing Better Than Just Falling Forward: Linking Subject Matter with Explicit Futures Thinking. *One World in Dialogue*. 4.1:5-10.

- Derrida, Jacques and Anne Dufourmantelle. 2000. *Of Hospitality (Cultural Memory in the Present)*. Stanford: Stanford University Press.
- dos Reis dos Santos, Jennifer. 2018. How African American Folklore Saved the Cultural Memory and History of Slaves. *The Conversation*, <https://theconversation.com/how-african-american-folklore-saved-the-cultural-memory-and-history-of-slaves-98427>.
- Eddington, Arthur. 1927. *The Nature of the Physical World: The Gifford Lectures*. Cambridge: Cambridge University Press.
- Election Integrity Partnership (EIP). 2021. The Long Fuse: Misinformation and the 2020 Election. *Stanford University*, <https://stacks.stanford.edu/file/druid:tr171zs0069/EIP-Final-Report.pdf>
- Ellis, Jacqueline, Jason D. Martinek, and Sonya Donaldson. 2018. Understanding the Past, Imagining the Future: Teaching Speculative Fiction and Afrofuturism. *Transformations: The Journal of Inclusive Scholarship and Pedagogy*. 28.1:111-22.
- Estes, Nick. 2019. *Our History Is the Future: Standing Rock Versus the Dakota Access Pipeline, and the Long Tradition of Indigenous Resistance*. London: Verso Books.
- Fuchs, Christopher A., N. David Mermin, and Rüdiger Schack. 2014. An Introduction to QBism with an Application to the Locality of Quantum Mechanics. *American Journal of Physics*. 82.8:749-54.
- Geffer, Amanda. 2015. A Private View of Quantum Reality. *Quanta Magazine*, <https://www.quantamagazine.org/quantum-bayesianism-explained-by-its-founder-20150604>.
- Gerken, Mikkel. 2017. *On Folk Epistemology: How We Think and Talk About Knowledge*. Oxford: Oxford University Press.
- Gerken, Mikkel. 2020. Truth-Sensitivity and Folk Epistemology. *Philosophy and Phenomenological Research*. 100.1:3-25.
- Gilbert, Jeremy. 2010. Deleuzian Politics? A Survey and Some Suggestions. *New Formations*. 68:10–33. doi.org/10.3898/newf.68.01.2009.
- Gottman, John Mordechai and Joan DeClaire. 2001. *The Relationship Cure: A 5-Step Guide to Strengthening Your Marriage, Family, and Friendships*. New York: Three Rivers Press.
- Gribbin, John. 2005. *Deep Simplicity: Bringing Order to Chaos and Complexity*. New York: Random House.
- Haneda, Mari. 2009. Learning About the Past and Preparing for the Future: A Longitudinal Investigation of a Grade 7 ‘Sheltered’ Social Studies Class. *Language and Education*. 23.4:335-52.
- Helmsing, Mark and Annie M. Whitlock. 2018. Time. In *Keywords in the Social Studies: Concepts and Conversations*, eds. Daniel G. Krutka, Annie McMahon, and Mark Steinberg. New York: Peter Lang Publishing, 37-45.
- Jefferson, Thomas. 1997. *Declaration of Independence*. Jackson: Applewood Books.
- Larson, Heidi J. and David A. Broniatowski. 2021. Why Debunking Misinformation Is Not Enough to Change People’s Minds About Vaccines. *American Journal of Public Health*. 111.6:1058-60.
- Levstik, Linda S. and Keith C. Barton. 1996. “They Still Use Some of Their Past”: Historical Salience in Elementary Children’s Chronological Thinking. *Journal of Curriculum Studies*. 28.5:531-76.
- Liedtka, Jeanne. M. 1998. Strategic Thinking: Can It Be Taught? *Long Range Planning*. 31.1:120–29.
- Lindstrom, Gabrielle. 2022. Ethical Spaces and Parallel Processes in Higher Ed. Presentation. University of Calgary Conference on Postsecondary Learning and Teaching, Calgary, AB, Canada, May 1-3.
- Little Bear, Leroy. 2012. Traditional Knowledge and Humanities: A Perspective by a Blackfoot. *Journal of Chinese Philosophy*. 39.4:518-27.
- Little Bear, Leroy and Ryan Heavy Head. 2004. A Conceptual Anatomy of the Blackfoot Word. *Re-Vision: A Journal of Knowledge and Consciousness*. 26.3:31-8.
- Marker, Perry M. 2006. The Future Is Now in the World of 2056. In *Social Issues and The Social Studies Curriculum*, 4th ed., ed. E. Wayne Ross. Albany: State University of New York Press, 77-96.
- Mercier, Hugo. 2010. The Social Origins of Folk Epistemology. *Review of Philosophy and Psychology*. 1.4: 499-514.
- Mitchell, Amy, Mark Jurkowitz, J.Baxter Oliphant, and Elisa Shearer. 2021. How Americans Navigated the News in 2020: A Tumultuous Year in Review. *PEW Research Center*. <https://www.pewresearch.org/journalism/2021/02/22/how-americans-navigated-the-news-in-2020-a-tumultuous-year-in-review>.

- Perry, Bruce. D. and Maia Szalavitz. 2017. *The Boy Who Was Raised as a Dog: And Other Stories from a Child Psychiatrist's Notebook—What Traumatized Children Can Teach Us About Loss, Love, and Healing*. New York: Basic Books.
- Rahimi, Sadeq and Byron J. Good. 2019. Preface: Ghosts, Haunting, and Hauntology. *Ethos*. 47.4:409-10.
- Reich, Gabriel, A. 2018. Not So Fast! A Response to the Time, Continuity, and Change Section. In *Keywords in the Social Studies: Concepts and Conversations*, eds. Daniel G. Krutka, Annie McMahon, and Mark Steinberg. New York: Peter Lang Publishing, 47-79.
- Rifkin, Mark. 2017. *Beyond Settler Time: Temporal Sovereignty and Indigenous Self-Determination*. Durham, NC: Duke University Press.
- Scott, Kerry M. 2006. A Contemporary Winter Count. PhD dissertation. University of Lethbridge.
- Shepherd, Brittany. 2022. Majority of Americans Think Jan. 6 Attack Threatened Democracy: POLL. *ABC News*, <https://abcnews.go.com/Politics/majority-americans-jan-attack-threatened-democracy-poll/story?id=81990555>.
- Tolson, Franita. 2021. Op-Ed: Why the Mob Thought Attacking the Capitol Was Their ‘1776 moment’. *Los Angeles Times*, January 21, <https://www.latimes.com/opinion/story/2021-01-21/insurrection-capitol-attack-patriotism-1776>.
- United States of America v. Nordean, Biggs, Rehl, Tarrio, Pezzola*, 21-cr-175 (D. D.C. 2022), <https://www.justice.gov/usao-dc/press-release/file/1510791/download>.
- Van der Tuin, Iris. 2011. The New Materialist “Always Already”: On an A-Human Humanities. *NORA-Nordic Journal of Feminist and Gender Research*. 19.4: 285-90.
- Varga, Bretton A. 2020. Ghostly Entanglements: Exposing Temporal Matter(ing)s in Social Studies Education with (Re)Photography. PhD Dissertation. University of South Florida.
- Varga, Bretton A. and Timothy Monreal. 2021. (Re) Opening Closed/ness: Hauntological Engagements with Historical Markers in the Threshold of Mastery. *Taboo: The Journal of Culture and Education*. 20.3:6.
- Varga, Bretton A. and Cathryn van Kessel. 2021. Haunted by Hope: (Re)tracing the Complexities Embedded within Assemblages of Violence [Review]. *Theory & Research in Social Education*. Online: 1-7.
- Wallace, Chris. 2020. President Trump Goes One-On-One with Chris Wallace. *Fox News Sunday* [Video]. July 19, <https://www.youtube.com/watch?v=W6XdpDOH1JA>.
- Wertsch, James V. 2021. *How Nations Remember: A Narrative Approach*. Oxford: Oxford University Press.
- Wexler, Phillip. 2017. Structure, Text, and Subject: A Critical Sociology of School Knowledge. In *Cultural and Economic Reproduction in Education*, ed. Michael W. Apple. London: Routledge, 275-303.
- Wirtschaftler, Valeri and Chris Meserole. 2022. Prominent Political Podcasters Played Key Role in Spreading the ‘Big Lie’. *Brookings Tech Stream*, January 4, <https://www.brookings.edu/techstream/prominent-political-podcasters-played-key-role-in-spreading-the-big-lie>.
- Yunkaporta, Tyson. 2020. *Sand Talk: How Indigenous Thinking Can Save the World*. San Francisco: HarperOne.