

Time-Space Distanciation as a Decolonizing Framework for Psychology

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Abstract

Coloniality describes the way in which racialized conceptions of being, personhood, and morality inherent in colonial regimes are maintained long after the formal end of colonial enterprises. Central to coloniality has been the material and psychological colonization of space and time, largely by Western and industrialized nations. We propose the importance of understanding the coloniality of time and space through a historically grounded framework called time-space distanciation (TSD). This framework posits that via the global spread of capitalism through colonization, psychological understandings of time and space have been separated from one another, such that they are now normatively treated as distinct entities, each with their own abstract and quantifiable value. We discuss the construct and its centrality to coloniality, as well as the ways in which contemporary psychology has been complicit in proliferating the coloniality of psychologies of time and space. Finally, we discuss ways to employ the decolonial strategies of denaturalization, indigenization, and accompaniment in the context of future research on the psychology of time and space. TSD contributes to decolonial efforts by combatting the reification of hegemonic psychological constructs, showing how these constructs arise as a function of historical changes in understanding, experience, and use of time and space.

Keywords

psychology of time, decolonization, coloniality, time, space

The settlers' town is a strongly-built town, all made of stone and steel. It is a brightly-lit town; the streets are covered with asphalt, and the garbage cans swallow all the leavings, unseen, unknown, and hardly thought about. The settler's feet are never visible, except perhaps in the sea; but there you're never close enough to see them. . .

The native town, the negro village, the medina, the reservation, is a place of ill fame, peopled by men of ill repute. They are born there, it matters little where or how; they die there, it matters not where, nor how. It is a world without spaciousness; men live there on top of each other, and their huts are built one on top of the other. The native town is a hungry town, starved of bread, of meat, of shoes, of coal, of light. The native town is a crouching village, a town on its knees, a town wallowing in the mire.

—Fanon (1963, p. 32)

Production, Colonization, and Reification of Space and Time

Coloniality describes the way in which racialized conceptions of being, personhood, and morality inherent in colonial regimes are maintained long after the formal end of colonial

enterprises by European nations and the United States. Interest has grown in psychology to incorporate paradigms that resist coloniality as well as the epistemological and social matrix that supports it (Adams et al., 2019; Bhatia, 2017; Maldonado-Torres, 2017). We argue that one important way the violence of coloniality has been maintained is via the proliferation of Global Northern and capitalist psychologies of *space* and *time*. Through the activity of colonization, the dominance of neoliberal capitalism, and the complicity of contemporary psychology, Western and industrialized nations have universalized their own hegemonic standards for relating to the most basic units of existence: space and time.

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Space and time have been (and continue to be) colonized on two important levels. The first is through the material production of space, time, and their economic uses (Birth, 2007). For centuries, these dimensions have been organized according to the dictates of capitalist and colonialist forces, largely to the benefit of elites. The second level involves the psychological colonization of spatial and temporal orientations (Adjaye, 1994; Nanni, 2011). Mainstream psychologists have been complicit in the coloniality of spatiotemporal epistemologies by reifying hegemonic standards of future-oriented individualism and radical abstraction, and ignoring the material reality of spatiotemporal production under capitalism and colonialism.

We summarily understand the ways in which capitalism and colonialism have produced material—and colonized psychological—space, time, and activity using the framework of *time-space distancing* (TSD; Giddens, 1990; Harvey, 1990). TSD can be leveraged as a conceptual mediator linking broad processes of material change in spatiotemporal production to individual phenomenological experiences, including the psychological colonization of spatiotemporal orientations. Theorizing on TSD posits that via the global spread of capitalism through colonization, psychological understandings of time and space have been separated from one another, such that they are now normatively treated as distinct entities, each with their own abstract and quantifiable value (Palitsky et al., 2016). We present theory and historical analysis utilizing TSD to understand spatiotemporal production and colonization, and how these historical processes have contributed to contemporary psychology's reification of certain standards for temporal and spatial orientation. It is the goal of these analyses to de-reify hegemonic psychological constructs by showing how these constructs arise as a function of historical changes in understandings, experience, and production of time and space. We then conclude with suggestions on moving toward a decolonized psychology of time and space by suggesting that psychologists integrate three broad decolonial strategies: denaturalization, indigenization, and accompaniment (Adams et al., 2019).

Our analysis is rooted both in classic sociological theorizing, typically described as "critical" or "modernization" theory, and more recent postcolonial perspectives, an analytic combination that has been available since at least the writing of Fanon (1963). Though these two approaches frequently intersect, they are not always easily combined (Mignolo, 2012a). In particular, the relationship between analyses of (de-)colonization and (de-)reification is historically fraught (Bewes, 2002; Shippen, 2014). Thus, at the outset, a note on terminology is in order. We use the term (spatiotemporal) *production* primarily to refer to the ways in which physical spaces, objective time, and the activities occurring within them have been actively constructed through social processes (primarily of coloniality and

capitalism). We use the term (spatiotemporal) *colonization* primarily to refer to the sociohistorical processes through which particular uses and understandings of space, time, and activity, generated by elites (often from the Global North), have been forced on individuals who historically possessed different uses and understandings (often from the Global South). We use the term (spatiotemporal) *reification* primarily to refer to ways in which the knowledge base of the Global North—and particularly that of mainstream psychology—has accepted and propagated certain contingent understandings of and standards for space, time, and activity, while obscuring their rootedness in processes of production and colonization. Accordingly, when we speak of *de-colonizing* (space and time), we are primarily invoking the decolonial strategies of indigenization and accompaniment, and when we speak of *de-reifying* (space and time), we are primarily invoking the decolonial strategy of denaturalization (Adams et al., 2019).

Reified understandings of space and time in psychology

Psychologists have inherited and propagated certain ways of thinking about time and space. Starting with the foundational efforts of Lewin (1936), social psychologists have treated time and space as dimensional "containers" in which "behavior" takes place (Giddens, 1979). Although almost all contemporary social psychology could be considered emblematic of this view, let us consider one case: the paper "The Behavioral Ecology of Cultural Psychological Variation," published in the influential *Psychological Review* (2018) by Sng and colleagues. In this paper, variations on the term "ecology" appear 306 times; "environment," 38 times; "time," 40; and "space," 12. The paper proposes an "organizing framework" for a "wide range of important psychological differences across societies" previously explained by spatiotemporal factors: "historical philosophies, subsistence methods, social mobility, social class, climactic stresses, and religion" (Sng et al., 2018, p. 714). The proposed framework, "Behavioral ecology," is described as "the study of how environmental pressures lead to variation in animal behavior," providing "a rich way of conceptualizing the factors driving psychological variation across societies, by characterizing societies in terms of combinations of ecological factors" (Sng et al., 2018, p. 715). The paper reduces the historic-geographical influences of "historical philosophies, subsistence methods, social mobility, social class, climactic stresses, and religion" to the impacts of population density, genetic relatedness, sex ratio, resource availability, mortality levels, and pathogen stress.

Although Sng et al. (2018) theoretically integrate a considerable amount of research, their highly representative approach to theorizing environmental influences misses a

number of crucial elements. The terms “capitalism” and “globalization”—two of the most important historic-geographical forces of the last 500 years—do not occur even once in this paper. There is only one instance of the term “race” or any variation on it. The ecological perspective advocated reverses the Marxian dictum of the “annihilation of space by time” (Harvey, 1990), compressing millennia of historical change into a list of static spatial categories that apparently ceaselessly recur to give rise to every behavioral “situation” (e.g., combinations of high or low density and resource availability). This allows Sng et al. (2018) to, for instance, compare the experience of workers at the Fukushima power plant to that of ground squirrels dogged by a coyote.

The ecological perspective advocated is shaped by a methodologically rigid understanding of space and time, according to which “historical accidents” (such as “the slave trade”) “cannot [be] anticipate[d]” and hence take a scientific backseat to ecological laws that permit “predicting future differences” (Sng et al., 2018, pp. 727–728).¹ The problem with this kind of reductive approach to time and space is not merely that it obscures the historic-geographical realities that have been determinant in the lives of all humans since modern social science came into being—although that is certainly a significant problem (see Sullivan, 2020). The problem of equal or greater relevance for a decolonial perspective is that this mainstream view cannot acknowledge the ways in which space (Harvey, 2019; Lefebvre, 1992) and time (Elias, 1992; Postone, 1993) have been actively *produced* through social processes, most notably those of capitalism, colonialism, science, and globalization.

Capitalist and colonialist production of space and time

Global spaces have been actively produced through colonial and capitalist processes of uneven development (Harvey, 2019; Lefebvre, 1992). The very idea of an abstract dimension of “space” superordinate over particular concrete “places” is not an intuitive form of human experience, but required European movements such as Renaissance perspectivism and the development of mapping technologies (Harvey, 1990; Heft, 2013). Once the idea of abstract space emerged historically, individual places were quickly commoditized within colonizing (European) nations (Mumford, 1961); elites began to understand space as an empty grid to be creatively filled and organized for profit, facilitated by the standardization of time (Giddens, 1990; Zerubavel, 1985).² As capitalism spread globally via colonial efforts (especially from the 18th to the 21st centuries), spaces around the world tended to lose local meaning and economic and ecological context through enforcement of new property and taxation laws as well as massive construction

projects (e.g., Luxemburg, 2015; McNally, 2011; Murray, 1980). These laws and projects were backed initially by colonial military power stemming from direct violence, and in more recent decades from exploitative processes of international debt relationships (e.g., the International Monetary Fund; Graeber, 2014). They have largely overturned sometimes centuries-old patterns of communal land ownership and interdependency predicated on meaningful connections between time and space established in the recursive performance of social activities. The production of places as a means of furthering the expansive flow of capital has combined with the practice of producing new kinds of space (e.g., digital networks for finance capital) to act as a “fix” circumventing what might otherwise be the limits of capital, its internal contradictions and profit crises (Harvey, 2019; Lazzarato, 2015b). To accurately theorize the role played by space in the constitution of human behavior, it is essential to recognize that ideas such as commoditized space and property rights have been actively produced and promoted by elite powers (e.g., Chimni, 1999). Colonial enforcement has played an essential role in structuring the spaces inhabited by the Earth’s population, arguably above all the >1.4 billion of that population that lives in extreme poverty and/or in the >200,000 recorded slums (World Bank, 2020).

Time has also been very actively produced and commoditized, a phenomenon that has played an integral role in colonialist and capitalist agendas. Because of the reified nature of temporal experience in the Global North, people rarely reflect on the fact that what scientists call “time” is really always a constructed social process, namely the interrelating of a wide number of social activities by comparison to some other observable process (most recently, a collection of atomic clocks; Elias, 1992). For billions of individuals to mark time in this way required considerable augmentation of abstract, metacognitive thought, and the internalization of “universal” time through extensive technological development (e.g., watches and smartphones), a task that was only made necessary in human life by the growing fragmentation of labor under capitalism (Elias, 1992). Birth (2007) describes the enormous efforts that have been required throughout the colonial period to effectively “empty” and homogenize time on a global scale:

Ignoring the differences between solar time and longitudinal time, averaging the length of the solar day to create mean time, ignoring variable cycles of daylight in favor of regular clock hours, creating time zones, and making these definitions of time internationally accepted. (p. 220)

Socially controlled time plays a critical role in maintaining capitalism’s continuous growth (Postone, 1993). Capitalism entails (often via colonialism) the stripping away of social support and means of production from individuals, who are then forced to sell their labor power—and time—to

exist. The capitalist elite benefits from the relative surplus value extracted when technological advances reduce the amount of concrete time required to produce a commodity (Postone, 1993). However, because abstract, universal time (i.e., the hour for which workers are paid) does not change as a function of increased productivity, efficiency merely adjusts the baseline for labor within the universal standard, in a vicious upward spiral. Temporal standardization and reductions in necessary labor time allow human activity to expand in time, without any necessary parallel expansion in space (Hawley, 1986). And yet, paradoxically mimicking the disparate spatial experiences of colonizer and colonized, there is an increasingly bifurcated temporal experience: The wealthy are constantly busy and lacking for time, whereas the poor are trapped in endless waiting, with neither experiencing a sense of forward progress (Auyero, 2010; Taylor, 2014).

Psychological spatiotemporal colonization

Colonizer nations in the Global North have universalized their own standards for spatiotemporal relations on two important levels which exist in a mutually constitutive relationship (Markus & Kitayama, 2010; Shweder, 2003). The first is through the material production and colonization of space and time just described, occurring through systems of forced adaptation to hegemonic spatiotemporal standards to maintain economic productivity, the “slow violence” of environmental degradation inflicted disproportionately on formerly colonized peoples, and the wholesale exploitation of natural resources (Bhatia, 2017; Birth, 2007; Muradian et al., 2012; Nixon, 2011).

The second level involves the psychological colonization of spatial and temporal orientations (Adjaye, 1994; Nanni, 2011). This psychological colonization stems from material spatiotemporal production, which facilitates and requires the universalization of hegemonic standards for future-oriented, individualistic, and capitalistic ways of being via the abstraction of objects and people from their proximal spatiotemporal context (Nguyen, 1992; Sullivan et al., 2016). Space and time have become the *de facto* means of social control in a global neoliberal culture that declares individual freedom to be a value. For example, residential mobility allows the privileged to distance themselves from and outsource the spatial degradation coterminous with unchecked consumptive practices, while increasing and standardized time demands erect a labyrinthine path to financial stability that only the privileged have the resources to navigate.

Poor and marginalized individuals living in slums or impoverished urban areas have internalized a sense of their environment as heavily stigmatized while lacking the qualities of a “place” where basic security needs are met (Wacquant, 2007). Research suggests that while children

from affluent surroundings initially develop a highly personalized sense of place that seems structured to afford their subjectivity, children from poor areas in Brazil, Mexico, and Romania incorporate very early the public, institutional aspects of place, reflecting the extent to which the spaces they inhabit are subject to strong external influences (Jovchelovitch et al., 2013). These colonized spatial experiences correlate with different experiences of time: While those with ample resources often feel as if time is rushing ahead of them and apparently value “time affluence” above much else (Mogilner et al., 2012), the materially disadvantaged spend hours in cyclic “exposed waiting,” navigating institutions through endurance contests in which they are rewarded for outlasting their competitors for welfare assistance, legal proceedings, or health care services (Auyero, 2010).

Unless one experienced it, it is easy to forget that this colonization occurred, or continues to occur, within the course of individual lifetimes as global time and space have been produced by capitalist expansion. Goehring and Stager (1991) documented this experience in the Inuit community in Pelly Bay, Northwest Territories by highlighting the experience of an elder who was born in an igloo and did not meet a white person until adulthood, but now spends retirement in a suburban home playing video-games. As has occurred repeatedly throughout the history of capitalist expansion, the spatiotemporal distortions accessible through imported technology—television, mobile phones—are avidly consumed by individuals in more rural settings, inevitably introducing experiences of relative deprivation that are typically compensated for either by wholesale conversion to capitalism’s promise of urban wealth, or through the ultimate distortions available in (imported) drugs (Alexander, 2008; Fromm & Maccoby, 1996; Goehring & Stager, 1991; Stürzenhofecker, 1998).

TSD as a Theoretical Tool for De-Reification of Spatiotemporal Concepts

The universalizing theories of mainstream psychology serve to reify standards for spatiotemporal orientation by ignoring the role of colonialism and capitalism in the production of spatiotemporal materiality. For example, scholars (Adams et al., 2019; Binkley, 2014; Ehrenreich, 2009) have noted that the radically abstracted self-concept trumpeted by neoliberal ideology has much in common with that promoted by the positive psychology movement. The individual is assumed in both cases to be free to move about in and take agentic control over their “own” time and space.

Indeed, apologetics for the malign impacts of capitalism often take the form of advice about efficient time-use. In the mid-20th century, such advice still focused on an internalization of time-as-conscience characteristic of the Protestant

ethic (Elias, 1992; Eräsaari, 2018). This discourse has been repeatedly used as justification to chastise and ban the “lazy” poor or colonized from institutionalized pathways to success. But in its more neoliberal form, this discourse has shifted such that constructs like *prospection* and *resilience* are invoked to promote the idea that individuals and even entire communities need to be able to readily adapt to the changing circumstances of an environment made turbulent by forces outside their control (e.g., stock market crashes, “na-tech” disasters such as Hurricane Katrina, or rising ocean tides for Pacific Island nations; Binkley, 2014; Lata & Nunn, 2012; Picou, 2009).

These rhetorical and political tactics often obscure the fact that the spatiotemporal structuring of everyday activities in affluent settings is interlocked with that of marginalized settings as result of historical processes. Understanding this allows for de-reification of spatiotemporal orientations by emphasizing their material and historical grounding (Sullivan, 2020). Theories of time and space serve decolonial aims when they illuminate how processes that appear universal (the “ecological” laws and situational determinants of behavior) have in fact arisen as a function of the colonial-capitalist production of time and space. This is not only a philosophically, but also an empirically important argument. For instance, there is consistent evidence that income level plays a stronger role in shaping psychological experience than other “ecological” variables such as pathogen prevalence (Grossmann & Varnum, 2015; Santos et al., 2017). Such evidence cries out for explanations of psychological experience in terms of inequalities in income, development, and access to (spatiotemporal) resources.

TSD can be used as a theoretical tool to de-reify psychological standards for orientation toward time, space, and activity, by illuminating how these contemporary standards are rooted in historical and social structural processes. We will now discuss how a variety of research programs in contemporary psychology that shape mainstream understandings of spatiotemporal orientation can be critiqued via this construct. Having taken this step toward denaturalization, we will finally move toward a discussion of other strategies for the decolonization of psychological investigations of time and space.

TSD represents a continuum along which cultures and individuals vary, and it can be summarily defined as the extent to which (a) *space and time are abstracted from one another within a society through their precise measurement and control as separate, quantifiable dimensions, and (b) activities tend to be abstracted and organized across large distances and long spans of time* (Sullivan et al., 2016). The theory posits that this social and individual disentanglement and re-alignment of space and time has accelerated over the past 500 years through the processes of production and colonization previously described (Palitsky et al., 2016).

Using TSD to understand cultural processes studied by mainstream psychology

Individualism-collectivism is the most well-studied dimension of cultural variation in psychology (Triandis et al., 1988). One correlate of individualism-collectivism is a person’s method of self-construal, understood as the extent to which individuals construe the self as a disconnected, fully autonomous agent defined by unique qualities (i.e., independent) or as an embedded, relational agent defined by belonging with others (i.e., interdependent; Markus & Kitayama, 1991, 2003, 2010). Research shows that TSD is closely related to cultural factors indicative of the valuing of a radically autonomous and abstracted self. Some evidence comes from an archival sample of a modernizing subculture, U.S. Mennonite farmers in the 1980s. Among this group, we (Sullivan et al., 2015) found that greater use of devices that disembed people from their immediate physical and social environment (e.g., the telephone) was positively related to markers of individual-level TSD, such as degree of movement across settings on a daily basis and concern with the efficient use of standardized time, which were in turn related to individualist values and an abstract goal structure. Further support comes from research we (Keefer et al., 2019) conducted using the American Time Use Survey data from the U.S. Department of Labor. We calculated U.S. state-level TSD scores by aggregating the number of settings an average citizen of that state inhabited over the previous day as well as the average amount of time spent traveling. At the state level, higher TSD predicted increased individualism (assessed with scores from Vandello & Cohen, 1999), even after controlling for population, population growth, and population density.

One contributing factor to individualism is the surrounding cultural emphasis on personal agency (Adams et al., 2012). As some individuals are encouraged to define themselves through their actions and choices, these individuals develop a sense of self that extends across settings and serves as the foundation for agency. We contend that TSD represents a critical mediator in these processes. In affluent settings where time and space have been commoditized, embodied experiences of frequent spatial and voluntary residential mobility directly afford independent self-construals (Oishi, 2010; Oishi & Kisling, 2009). If one can freely choose to inhabit (or leave) a space, one is expected to employ personal goals (e.g., career, consumer) and values (e.g., preferring urban settings) in determining which spaces to inhabit. And where people are tasked with making choices about how to invest their temporal resources, there is an experience of private authorship or possession that comes from ostensibly structuring one’s own experiences (Fivush, 2001). This evaluative and self-determined approach to time and space—afforded by high-TSD settings—encourages individuals to express themselves in,

and define themselves by, their personal choices (Stephens et al., 2007), over and against what individuals in postcolonial, marginalized, or impoverished settings may experience as the frictions of limited time and corrupted or entrapping space.

In our [REFERENCE MASKED] analysis of time use data, our structural indicator of higher TSD also predicted increased cultural looseness (controlling for population variables), using scores from Harrington and Gelfand (2014). Generally, cultural tightness is defined as the degree to which there are strong explicit norms for behavior across situations, and the presence of sanctions for deviance from these norms; hence, looseness is a relative absence of these factors (Gelfand et al., 2006, 2011). Researchers associate this construct with a wide variety of distal (e.g., economic, environmental) and proximal (e.g., socialization practices, psychological tendencies) factors associated with TSD. For example, tighter nations have less access to communication technologies and have stronger behavioral norms across social situations (suggesting a perception of spaces as unique and not interchangeable), both of which are factors associated with lower TSD.

In tight societies, social control is achieved in large part because members of the society are consciously aware of how they should and should not behave in most situations, engaging in social reinforcement of appropriate use of space and time. Conversely, it is possible that the advent of TSD played a role in contributing to the expansion of cultural looseness. With higher levels of TSD, social control is often “outsourced” to impersonal factors (e.g., debt, deadlines, the control of time itself). In higher-TSD settings, those with the resources to navigate across boundaries and pursue their independent desires experience communication across group lines and a sense of reflexive constructionism (Giddens, 1990). As their relationships and activities become increasingly disembedded from particular locations, advantaged individuals in higher-TSD settings feel less normative social pressure to behave in certain ways. Of course, this experience of looseness is predicated on an expert-managed system of “invisible” social control that these advantaged individuals rarely observe or question, involving precise control and coordination of space and time as well as the sustained precarity or exclusion of countless individuals (the homeless, refugees, the incarcerated; Sullivan, 2016).

Cultural psychological research attempts to be somewhat neutral concerning the value and beneficence of loose and independent versus tight and interdependent cultures. However, it often fails to acknowledge the extent to which experiences of independence and looseness for some (advantaged) individuals are afforded by a system of infrastructural, invisible control. Furthermore, these experiences are afforded by enforced tight social control that has been historically exercised on colonized people and continues to

be exercised on disadvantaged minorities (e.g., disproportionate incarceration rates, dispossession through rent and debt; Alliez & Lazzarato, 2018).

Using TSD to understand interpersonal and social cognitive processes studied by mainstream psychology

Much of social psychological research is either explicitly or implicitly framed to support a normative view of the person as agentic and efficacious in social relationships (Adams et al., 2019). As higher cultural TSD means greater coordination of activities across large distances in space and time, individuals must interact more frequently with geographically distant others, and are often rewarded for conceptualizing these relationships in ways that dramatically deviate from face-to-face relationships normalized in lower-TSD settings. These deviant, relatively novel and privileged conceptualizations of relationship are then universalized and normalized by mainstream psychological theory.

A parallel issue is the role of methodological individualism in mainstream research, which practically forecloses attention to the historical practices that have forged (or dismantled) social identities and linked groups of varying status in cycles of oppression. Research on the social psychology of power is perhaps emblematic of this paradigm. Much of this work accurately characterizes the psychological experience of power as related to a sense of the self as a disembedded agent led by abstract goals (Keltner et al., 2003; Magee & Smith, 2013). The psychological correlates of power largely align with the values afforded by neoliberalism. Power is associated with less sensitivity to others’ attitudes (Galinsky et al., 2008; Tost et al., 2012), poorer ability to take others’ perspectives (Galinsky et al., 2006), less accurate perceptions of others’ emotional states (Gonzaga et al., 2008; Van Kleef et al., 2008), and more instrumental, objectifying perceptions of others (Gruenfeld et al., 2008). Furthermore, research on the concrete bases of power (i.e., wealth and socioeconomic status) reveal positive relationships with similarly individualistic, asocial tendencies (e.g., Bauer et al., 2012; Dietze & Knowles, 2016; Piff et al., 2010; Stellar et al., 2012). This research suggests connections between the symbolic tools and material practices that have allowed some individuals to extend behavior across settings (e.g., money) and the empowered experiences of the individuals wielding those tools.

We expect that such effects are particularly likely in higher-TSD settings in which the activities of resourced agents are coordinated across times and settings. Higher-TSD settings create the possibility of “power” abstracted from context, grounded only in expertise (e.g., credentials) and other forms of status (e.g., socioeconomic status), as opposed to power predicated on social bonds and interpersonal obligations. The former kind of intrapsychic power

has been the focus of mainstream social psychology. But the methodological individualism of the field obscures the grounding of the feeling of power within a historically constructed infrastructure of capitalist and colonialist enterprises that produce power.

Mainstream psychology also values psychological tendencies associated with high intrapsychic power, with important consequences for justifying and sustaining inequalities. If researchers (a) ignore the social structural and historical infrastructures affording (obstructing) the high- (low-)powered psychologies of advantaged (disadvantaged) individuals, then they will likely (b) incorrectly make the mistaken (reversed) causal inference that the absence of certain psychological characteristics are the reason for the disadvantaged circumstances, and finally (c) incorrectly assume that the most effective way to alter the disadvantaged circumstances is by intervening on the psychological characteristics (Jepperson & Meyer, 2011).

Research on action identification can be considered as an example. Action identification theory (Vallacher & Wegner, 1987) assumes that any given action can be construed in a variety of ways, which can be meaningfully organized as follows: any action can be understood in lower-order, concrete terms (e.g., tying a shoe as creating a knot out of shoelaces) or in higher-order, abstract terms (e.g., tying shoes as “getting ready to face the day”). Tendencies to construe actions abstractly are associated with higher levels of experienced personal agency and lower sensitivity to contextual demands (Vallacher & Wegner, 1989; see also Maglio & Trope, 2012). In our own research, we (Keefer et al., 2019) found a significant positive correlation between individual level TSD and the tendency to construe everyday actions abstractly, suggesting once again that such alleged purely intrapsychic phenomena are afforded by technological and economic modes of spatiotemporal organization. Action identification research fails to acknowledge these connections, with serious implications for phenomena of responsabilization (Adams et al., 2019). For instance, Vallacher and Wegner (1989) conclude their classic paper with the remarks:

Personal agency. . . is a single trait that reflects all of personal versus situational causation at once. . . Low-level agents are inclined to enter action contexts with little sense of the action’s potential implications in mind, and so are primed to accept cues to higher-level meaning found in social feedback or situational pressures. In contrast, high-level agents are better able to maintain their actions with respect to meaningful representations that they carry with them across times and settings. (p. 670)

Typical of mainstream psychology is the bracketing of capitalism, colonialism, technology, and expert systems that occurs in the clause “carry with them across times and settings.” This suggests that by merely willing it so, certain

“high-level agents” rely solely on “meaningful representations” for free navigation. If time and space are conceptualized only as the featureless “containers” in which behavior takes place, then it is a straightforward theoretical step to assume that individuals can take active control of them through sheer force of will, thereby making them “better able to maintain their actions.” Hence Vallacher and Wegner (1989) can make interpretive moves such as implying that juvenile detainees have committed more offenses because of their low-level action identification (rather than considering that, perhaps, the experience of incarceration induces low-level action identification).

Toward a Decolonial Psychology of Time and Space

Thus far, we have demonstrated that TSD can serve as a conceptual tool for de-reification of mainstream psychology’s taken-for-granted assumptions about time, space, and normative spatiotemporal orientations. Specifically, we have shown how several prominent cultural and social psychological phenomena may have arisen from the historical processes of colonialism and neoliberal capitalism, which have facilitated certain abstracted ways of knowing and utilizing time and space. We now turn to concrete examples and suggested strategies for psychologists to move toward a decolonial psychology of time and space. Namely, we discuss three broad strategies: denaturalization, indigenization, and accompaniment (Adams et al., 2018, 2019). We discuss mainstream psychological research on temporal and spatial variables that could benefit from each strategy, and then offer concrete suggestions on implementation for future research. It should be noted that for meaningful advances toward a decolonial psychology of time and space, these strategies are best employed together when possible. It may be tempting for psychologists to think of decolonial approaches to psychology as only relevant to research conducted in marginalized settings typically outside the purview of mainstream research. However, decolonial approaches are relevant to and can be implemented for all types of psychological research.

Denaturalization

The decolonial strategy of denaturalization in the context of psychological investigations of spatiotemporal issues involves critically analyzing and reflecting on taken-for-granted assumptions normalized by hegemonic psychology conducted in WEIRD settings. Mainstream psychological research often treats spatiotemporal orientations as individual differences and independent variables that predict various adaptive or non-adaptive outcomes. This approach is consistent with the methodological individualism of the field, and contributes to naturalizing responsabilization for

risk and resilience to structural inequalities (Adams et al., 2019; DeJ, 2016; Shweder, 1995). One representative example of this reification in mainstream psychological science comes from research on Time Perspective Theory (TPT; Zimbardo & Boyd, 2015). We will describe the potential inadequacies of certain aspects of such an approach, and offer some suggestions for denaturalizing it.

TPT and reified temporalities. TPT posits that an individual's habitual orientations toward the past, present, and future help to order their understanding of and relation to the social world. Research on TPT often reveals benefits of future-oriented time perspectives for various outcomes, including finding stable housing for homeless individuals, preventing depression among victimized youth, and developing adaptive coping strategies for exposure to violence among African American adolescents (Epel et al., 1999; Hamilton et al., 2015; So et al., 2018). Unaccompanied by a critical analysis of the structural and historical inequities that create the disproportionate burden on vulnerable communities to employ future-oriented coping and resilience strategies, such approaches can naturalize the hegemonic assumption that it is the individual's responsibility to foster a sense of temporal agency to cope with inequality. Another limitation of this line of inquiry lies in what Zimbardo and Boyd (2008) have called the "balanced time perspective," or a habitual temporal orientation characterized by positive views of the past, hedonistic views of the present, and a high degree of future orientation. This balanced time perspective has been associated with subjective wellbeing, satisfaction with life, and adaptive decision making (Stolarski et al., 2011; Zhang et al., 2013). But this time perspective also corresponds with enculturated demands and incentive structures in Westernized societies, as it is researched by Western psychologists studying mostly WEIRD participants. When these standards are applied to cross-cultural research on national-level estimates of temporal orientations (see Sircova et al., 2015), there is at minimum an introduction of faulty universalism and reification of Western temporal standards, and likely a risk of continued coloniality of temporal orientations.

A further concern with this line of research is the risk of uncritically bracketing the interacting structures, affordances, historical processes, and issues of access that have contributed to individual differences in temporal orientations. This problem is compounded by treating socioeconomic, racial, ethnic, and other cultural variables as statistical noise that can be controlled for (see Stolarski et al., 2015), rather than identifying such indices as foundational to individual differences in ways of knowing and doing time and space. When mainstream approaches to temporal orientations do acknowledge structural, contextual, and cultural factors that influence the development of habitual temporal orientations, they often focus on the

potential for clinical interventions to foster individual-level change to promote resilience to structural inequalities (e.g., Boniwell, 2005; Epel et al., 1999; So et al., 2018; Stolarski et al., 2015). Such research may indeed increase resilience, but it is also complicit in the advancement of a biopolitics interlinked with an ethos of individual responsibility.

Central to mainstream analyses of temporal and spatial psychologies are the tacit assertions that to possess the industrialized Western spatiotemporal ways of being—to be future-oriented, to have a high sense of future self-continuity, to sacrifice absorption in a rooted present place and time for an abstracted extension of the self into the future, and to exercise agentic control of the self across contexts—is to be good, natural, efficacious. Conversely, to know and do time and space in a way that aligns with indigenous spatiotemporal epistemologies is to be seen as lazy, as a relic of the past, as "a primitive, 'time-less' other" (Nanni, 2011, p. 8). By bracketing the interacting histories of colonialism, neoliberal capitalism, and neocolonialism that have unevenly distributed access to wealth, technology, and the disembedding devices that facilitate higher TSD, mainstream research on spatiotemporal orientations contribute (even if inadvertently) to responsabilization of marginalized individuals for their "non-adaptive" spatiotemporal ways of being (Adams et al., 2019; DeJ, 2016). A denaturalized psychology of time and space should seek to treat spatial and temporal orientations not as the standard order of things or as a-historical individual differences, but as affordances that stem from historical and structural inequalities.

Suggestions for denaturalizing psychologies of time and space. To meaningfully advance work on time and space, we suggest a number of strategies that can be useful for psychologists and other researchers. Most fundamentally, researchers should temper assumptions that constructs such as agency, action identification, future self-continuity, future orientation, and even supposedly "deep" traits such as conscientiousness arise naturally and spontaneously in subjects, or that these can be easily intervened upon in ecologically valid contexts. We suggest that psychologists include and focus on measures of such variables as access to technology, socioeconomic status, mobility, and historic discrimination, as these are central to contextualizing an individual's reaction to stimuli in the artificial setting of the psychology laboratory.

Relatedly, assumptions about how individuals utilize time and space outside of the laboratory should be regarded with skepticism. Self-reported time use may differ dramatically from actual day-to-day activity. Field methods, ecological momentary assessment, and use of big data may provide an essential complement to lab studies (Mehl & Conner, 2012). Even these methods offer relatively limited information if they continue to provide only person-centered and methodologically constructed data,

as opposed to thoroughly contextualized accounts of the actual *ecologies* through which people move and in which they live their lives. In the history of social science, numerous innovative methods have been proposed as correctives to these limits, such as Barker's (1968) behavior settings survey or Lefebvre's (2013) rhythm analysis. While such methods are certainly intensive, their further use would contribute substantively to the denaturalization of time-space psychology.

Acknowledging the psychological colonization of time and space as a function of social-structural histories and inequalities will allow psychologists to focus not only on individuals' spatiotemporal orientations, but also on the systems that normalize privileged spatiotemporal ways of being and pathologize those of the oppressed. However, this suggestion would be incomplete without an acknowledgment that much of the research in hegemonic psychology is conducted with convenience samples from WEIRD settings (Henrich et al., 2010). As such, an equally important suggestion is for mainstream psychologists to engage in critical reflection on the historical and structural processes that have shaped the very samples they study. We refer readers to the work of Else-Quest and Hyde (2016a, 2016b) and Sullivan (2020) for further reading on incorporating critical engagement with historical and structural developments into psychological research.

Many examples of existing psychological research on spatial and temporal variables have approached these variables in a way that denaturalizes them by acknowledging structural and historical roots. For example, Fieulaine and Apostolidis (2015) present a program of research on how financial insecurity dramatically shapes time perspective, even suggesting on the basis of these data that a lack of future orientation may be considered a realistic adaptation in certain contexts of material scarcity.

One of the more insidious ways in which the reification of time-space psychology influences the attitudes of researchers and lay people alike is through processes such as space-focused racial bias (Bonam et al., 2017) and territorial stigmatization (Wacquant, 2007). Even well-intentioned researchers often uncritically accept spatialized "culture of poverty" narratives, which imply that spaces inhabited by poor and ethnic minority individuals are inherently polluted and crime-ridden. Such spatial stereotyping in the absence of real data can have daunting consequences. Laypeople (Bonam et al., 2017), as well as politicians, corporate leaders, and city planners (McAdam et al., 2010), have been shown to be more willing to site hazardous facilities in spaces that are perceived to be inhabited by ethnic minorities or populations low in social capital. Denaturalization of assumptions about the social composition of spaces, and about the nature of socialized spaces, is a vital corrective to such problematic lines of thought. If it is recognized that notions of "impoverished" places as loci

for adversity arise out of the systematic disenfranchisement and impoverishing of these very places, then contamination and restoration can be seen as possibilities (and responsibilities) rather than inevitabilities.

There are also compelling instances in which field and geographical methods have called into question certain theoretical assumptions formulated based on lab studies or untested social policy. For example, by examining the actual mass behavior of individuals in public settings using either intensive observational or Geographic Information Systems (GIS) methods, researchers have shown the persistence of behavioral segregation patterns, stratified by race in post-apartheid South Africa (Durrheim & Dixon, 2005) and by religion in Northern Ireland (Dixon et al., 2020). Whatever we may assume about people based on theory or single-time-point studies, they are often ingenious in their strategic deployment of time and space to create their own behavioral environments (de Certeau, 2002), a reality that may reduce the likelihood that merely individual, "psychological" interventions will have any lasting impact.

Indigenization and accompaniment

Along with denaturalizing psychological investigations of spatial and temporal orientations, we suggest that indigenization and accompaniment are integral strategies for a decolonial psychology of time and space. Indigenization involves local or indigenous scholars and community members utilizing locally-relevant knowledge and knowledge production strategies to conduct research that more accurately reflects the lived experiences of, and what is at stake for, a given community (Adams et al., 2015). This strategy facilitates the production of psychological knowledge that can actually benefit a community by engaging indigenous knowledge, by employing it to create interventions that are well-aligned with local epistemologies, ecologies, and histories, by avoiding the unwelcome imposition of hegemonic ways of knowing and being, and by partnering with indigenous and marginalized people who speak for and represent themselves. Traditional ways of conducting research with marginalized groups are constrained by extensions of coloniality, from culturally insensitive or incompatible research methodologies (Couzos et al., 2005), to the otherization and problematization of the indigenous subject (Smith, 2013), to the devaluation of indigenous ways of knowing (Cruz, 2008). It is of the utmost importance, then, that psychologists adopt and support indigenization strategies by listening to and working with indigenous scholars in the context of research on time and space.

Accompaniment, a related but distinct practice, involves the engagement of researchers in collaborative relationships with disenfranchised and marginalized communities that are often overlooked or spoken for by mainstream psychological science (Watkins, 2015). By actively engaging with

people struggling against inequalities of various kinds, research that employs the strategy of accompaniment seeks to create “knowledge that will assist in transforming status quo arrangements that undermine the integrity of body and mind, relations between self and other, and between one community and another” (Watkins, 2015, p. 327).

Mainstream investigations of spatiotemporal orientations. We offer a discussion of mainstream, hegemonic research on spatiotemporal orientations among marginalized communities to illustrate the importance of indigenization and accompaniment. This brief discussion is by no means comprehensive, and we have no intention of summarizing the entirety of these historical processes (for additional illustrative examples, see Bulhan, 2015; Kalpagam, 1999; Mignolo, 2012b; Nanni, 2011). Rather, in this section we intend to illustrate some important historical trends relevant to the colonization of spatiotemporal orientations, and the maintenance of these trends in mainstream psychological science. Historically, divergent spatiotemporal orientations have been a central means of justifying the dehumanization and exploitation of colonized peoples, as well as for enrolling them into homogenizing economic systems wherein they are nevertheless disenfranchised. Building on the spatiotemporal orientations of European nations, colonial powers have exported the interpretation that industrious time use and productivity are signals of moral worth (Weber, 1958; Wesley, 1839). Colonial outsiders saw traditional indigenous ways of knowing and doing time and space as symbols of moral inferiority, seeing only unprofitable use of space, and idle, “wasted” time (Eräsaari, 2018; Nanni, 2011).

This often resulted in the intentional colonization of psychologies of time and space by colonizers, as indigenous ways of knowing and doing time and space were major barriers to the capitalistic enterprises of colonization. Thus, across the world colonial powers intentionally and systematically disrupted indigenous spatiotemporal flows to increase economic productivity and encourage integration into settler colonial culture, effectively disenfranchising indigenous cultural praxis (Tyack, 1976). Central to these colonial strategies was the goal of instilling higher TSD in the colonial subject. This is evinced, for example, by boarding school programs in the United States that taught the economic value of time (Woolford, 2014), compulsory education in Fiji that made telling time by the clock a central facet of the curriculum (Eräsaari, 2018), and the use of “adapted” curricula in Kenya “aimed at the production of subordinate workers” (Ball, 1983, p. 259) who could use time industriously to benefit economic productivity. Such education programs further intentionally separated colonial subjects from their ancestral lands to disrupt indigenous attachments to place and their associated temporalities (Milloy, 2017; Tarabe & Naisilisili, 2008). These strategies of sabotaging indigenous ways of knowing and acting in the

world sought to transform the indigenous subject from one characterized by noncommodified spatiotemporal orientations, into one characterized by abstracted and westernized spatiotemporal psychologies that could be exploited in service of colonial powers.

This historical uprooting of indigenous spatiotemporal orientations continues to this day by means of pressures from globalized supply chains, tourism economies, and exploitative structural adjustment programs from entities like the International Monetary Fund (Forster et al., 2019; McKercher & Decosta, 2007; Strakosch, 2016; Wijesinghe, 2020). Beyond the amorphous historical processes of colonialism and neoliberal capitalism, mainstream psychological science has facilitated and supported the disruption indigenous spatiotemporal flows. Bulhan (2015) points out that contemporary psychologists exhibit a “convenient social amnesia, ignoring their complicity with colonialism both in its crude and subtle forms” (p. 250). This amnesia has facilitated the continued use of problematic practices in mainstream psychological research that occurs both when Western psychologists apply certain methodologies and theories internationally (Marsella, 2009; Sloan, 1996), and when psychologists study marginalized communities within their own country (Okazaki et al., 2008; Steinmetz et al., 2017).

A common strategy adopted by mainstream psychological investigations may be characterized as a set of interventions that metaphorically seek to pull marginalized individuals from their place in the “past”—spatiotemporal orientations characterized by rootedness to specific places, communal use of temporal resources, and event-time orientation—and place them in the “present” of high TSD ways of knowing and being (Fabian, 2014; Tarabe & Naisilisili, 2008). For example, in the context of contemporary “resilience” work with marginalized and indigenous communities to increase psychological resilience to things like economic subjugation, loss of autonomy, displacement from ancestral land, and environmental catastrophe, psychologists often employ individualistic and decontextualized interventions (Dej, 2016; Estrada-Villalta & Adams, 2018; Kirmayer et al., 2011, 2012). These interventions encourage individual-level actions that inspire hope for and perpetual movement toward a brighter future, paying little attention to social structures and historical traumas that created the need for “resilience” in the first place (Serrano-García, 2020), and systematically ignoring any potential for concretely rooted, place-based models of resilience (Gone, 2008). Even descriptive research that does not seek to intervene to increase resilience tends to invalidate indigenous and marginalized spatiotemporalities when they do not conform to the future-oriented imperative for growth in the face of suffering that characterizes hegemonic psychological science (Adams et al., 2019; Sullivan et al., 2020; Ungar, 2005). Such practices represent a problematization and

decontextualization of indigenous and marginalized spatiotemporal epistemologies and praxes, invalidating the knowledge and lived reality of these groups.

A central issue in the kinds of investigations described above is that the voices of the indigenous or marginalized communities of interest are not represented among the researchers. The decolonial strategies of indigenization and accompaniment can facilitate psychological research that expresses greater respect and understanding of indigenous spatiotemporal orientations, and that creates more meaningful and impactful interventions which could not be achieved by outsider-researchers, or hegemonic research praxis, alone (Duran et al., 2008). We now turn to specific suggestions for employing and supporting indigenization and accompaniment in psychological investigations of time and space.

Suggestions for indigenizing psychologies of time and space. Fortunately, psychologists need not look far for examples of indigenization strategies in psychology and related fields. For example, strategies of indigenization have gained traction in community psychology (Rasmus, 2014), in public health (Cochran et al., 2008), and in the constellation of disciplines and methodologies employed by participatory action research (PAR) paradigms (Snow et al., 2016).

The primary suggestion for indigenization that can be employed by mainstream psychologists involves citing, listening to, elevating, valorizing, and centering the spatiotemporal epistemologies of indigenous and otherwise marginalized individuals. It should be borne in mind that the colonial project involves subordination of indigenous ends and means to external priorities. Conversely, indigenized psychological praxis should be willing to subordinate external priorities and methods to the means and ends of participating stakeholders. Supporting and valuing the work of indigenous scholars on the spatiotemporal (and other) orientations of their own communities is central to a decolonial psychology of time and space. Not only does this facilitate the accurate depiction of the psychologies of indigenous and marginalized people, but it also enables the creation of more successful interventions that do not commit epistemicide on these communities. For instance, the work of indigenous scholar Rasmus (2014) employed PAR methods to collaboratively construct and implement a mental health and wellbeing intervention in a Yup'ik Alaska Native community. This intervention utilized metaphors and activities based around traditional Yup'ik values, storytelling, and hunting and fishing practices to construct a *Qungasvik* (toolbox) for locally meaningful mental health and wellbeing (Nu et al., n.d.). Many of the activities employ traditional Yup'ik stories of cyclical time and nomadic spatial orientations to communicate resilience strategies. By validating (without homogenizing) indigenous spatiotemporal orientations and by revitalizing

traditional low TSD cultural practices, this intervention has seen much success in increasing protective factors for mental health (Mohatt et al., 2014; Rasmus et al., 2014).

A related indigenization strategy involves the validation and legitimization of indigenous knowledge that comes not from scholars and institutionally sanctioned disciplines, but from lay people within indigenous and marginalized communities who do not have traditional academic accolades. Cruz (2008) puts it thus:

The struggle for decolonizing knowledge needs to go beyond developing research projects from and with the historically marginalized to actually elaborate theory based on the reflections people make about social life. Doing so could open more spaces for colonial subjects anywhere: from within and outside academic circles, for those who maintain evident connections to their ancestral ways of knowing and those who cannot or simply do not make such claims. And it occurs to me that part of the problem is that we don't trust the non-academics to have enough insight, enough reflexivity, depth enough, to be able to see past the traps of ideological discourse, speak beyond their own immediate experience. (p. 656)

By honoring the knowledge of the indigenous subject gained through lived experience rather than through academic training, psychologists can more readily ground their work in the concrete realities of those they study. This can be crucially important as a corrective to assumptions about the temporal and spatial psychologies of people that act to "Other" them, such as presuming in the absence of data that a person from a given community will have a past-oriented or "cyclic" view of time, or will not be widely traveled. The approaches described here will facilitate more nuanced and complete understandings of the spatiotemporal orientations of marginalized and indigenous individuals.

Suggestions for accompaniment in the psychology of time and space. One suggestion for employing accompaniment is that psychologists familiarize themselves with and adopt methods of PAR when possible. The methodologies employed in PAR, though hardly monolithic, involve privileged and institutionally connected academic researchers conducting research that is fundamentally collaborative with individuals from the marginalized community of interest. This collaboration serves "to enhance understanding of a given phenomenon and the social and cultural dynamics of the community, and integrate the knowledge gained with action to improve the health and well-being of community members" (Israel et al., 1998, p. 177). To best adopt PAR methodologies that effectively and respectfully accompany the struggles of marginalized communities, there are a number of best practices for researchers. Israel and colleagues (1998) outline key principles of PAR approaches that have been foundational to much productive work in this area. One key principle is that researchers

engage in collaboration with community members at *all* phases of the research process. This means involving community members with forming the foundational research questions, planning the specific methodologies to be used, reviewing research materials, collecting and co-analyzing data, disseminating data back to the community at large, co-owning or owning the data, and co-authoring reports and articles. Another key principle involves what some scholars refer to as cultural humility: a commitment to continual critical self-reflection on researcher privilege, positionality, power, and taken-for-granted beliefs about what constitutes knowledge (Chávez et al., 2008; Tervalon & Murray-Garcia, 1998).

PAR approaches have been used to accompany indigenous and marginalized communities in their fight to restore and maintain traditional spatiotemporal orientations and praxes. Indigenous food sovereignty programs have worked to restore the use of traditional indigenous land and fire management tactics, agricultural practices, and hunting customs on indigenous lands in the United States (Sowerwine et al., 2019). Such programs represent resistance to the abstracted and commodified understandings and uses of time and space in settler colonial regimes. Revitalizing traditional foodways involves a departure from high TSD, commodified understandings of food-as-commodity by engaging in the practice of producing food via the input of communal time on communal land (Alkon & Mares, 2012).

A second means of employing accompaniment for decolonizing psychological investigations of time and space involves researchers giving prominence to the spatiotemporal struggles of marginalized and indigenous people, and to the ways that they interact with the coloniality of high TSD conscriptions. There is a long tradition of activist social science investigating the temporal-spatial psychology of precarious employment and under-employment, from which mainstream psychology could greatly benefit. One of the earliest major field studies in modern social science was the investigation of the *Unemployed of Marienthal*, which countered assumptions about the “time affluence” of unemployed people by documenting longitudinally how unemployment in modern capitalist settings radically alters people’s temporal perception (Jahoda et al., 1971). Auyero (2012) has documented in detail how low-income and unemployed people in the context of neoliberalism are submitted to an excruciating ordeal of waiting and wasted time to qualify for needed social services, a process which he argues has further damaging impacts on their temporal orientations. Moving beyond documentation, researchers and theorists accompanying the poor or precariously employed in their experiences of time and space have gained important insight into how these individuals creatively utilize what freedom of movement they possess to resist systematic oppression. Some have joined with gig workers, migrants, and day laborers in identifying

as resistance acts of movement (soliciting for work), of standing still (resisting deportation), and of reclaiming time (fighting the rise of sporadic, piecemeal work; Apostolidis, 2018; Nail, 2015; Pickering, 2004). Others have continued to investigate the radical potential of one of the oldest forms of resistance in organized labor, namely, the refusal to meet capitalism’s spiraling demands for increased efficiency, and the embrace of one’s right to work less or less efficiently within the same unit of time (Berg & Seeber, 2016; Davis, 1975; Lazzarato, 2015a).

Conclusion

We have outlined the way that time and space around the world have been actively produced by colonial and capitalist enterprise, and how psychologies of time and space have been colonized as a result. We have also reviewed several prominent research programs in contemporary social psychology to highlight the ways in which an acknowledgment of historical changes in TSD produced by colonial endeavors and maintained by neoliberal capitalism can serve to denaturalize the standards for spatiotemporal orientation characteristic of contemporary psychology. Finally, we have discussed the decolonial strategies of denaturalization, indigenization, and accompaniment in the context of psychological investigations of temporal and spatial orientations.

The various programs of research that we have reviewed interact, in various ways, with long histories of colonial oppression and the accompanying epistemicide of temporal and spatial psychologies. De-reification of mainstream standards for spatiotemporal orientation is critical in order for psychology to embrace decolonial perspectives, and to present a more accurate rendering of human psychology in the context of marginalized communities. Such an understanding is contingent on a familiarity with the histories of racialized oppression inherent in colonization and neoliberal capitalism, as well as the ways that psychology has served to uphold this oppression via prescriptive and colonial notions of being (David & Okazaki, 2006; Maldonado-Torres, 2017; Sullivan, 2020). There is a great deal of constructive work to be done to evaluate and revise the specific elements of the TSD construct, but the insights into the coloniality of temporal and spatial variables that it affords contribute to the decolonial project by highlighting spurious assumptions in psychology, revealing colonial tendencies of psychological research, and critiquing the devaluation of diverse spatiotemporal perspectives. Maldonado-Torres (2017) aptly describes the ways in which critical understandings of time and space are central to the decolonial turn in psychology:

The decolonial attitude . . . [consists in] the re-introduction of human temporality into the life of embodied subjects and society within an also re-humanized space that is conducive to

intersubjective interactions beyond coloniality and all kind of dehumanizing lines of differentiation as those that are produced in epistemological and ontological colonization. (p. 435)

Moving forward, it is our view that for psychologists to decolonize the study of time and space, they must acknowledge the ongoing involvement of colonialism and neoliberal capitalism in the production of these variables, and they must uncover alternatives to the coloniality of these basic elements of human psychology that have been reified in mainstream psychological science.

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Notes

1. The discussion of “historical accidents” is highly telling. It is akin to the use of the terms “noise” and “error” to describe the massive influence of demographic variables on most psychological processes (Shweder, 1995). What the authors appear to mean is that forces are “accidental” if they are purely anthropocentric in origin, rather than in some sense “naturally occurring”; and presumably the importance of this distinction is that a focus on “naturally occurring” forces permits comparisons between human and non-human animal samples as well as easier future predictions. But this distinction glosses over the fact that social processes like slavery are far from “accidental” and are perhaps better described as constants in the human experience, which can be rigorously studied in terms of their systematic (psychological) effects (Blassingame, 1979). It also fails to acknowledge that anthropocentric processes have had by far the largest impact on all “ecologies” in the last century.
2. In the interest of avoiding too Eurocentric a perspective, it must be acknowledged that methods of administrative “time reckoning” have been very sophisticated in many parts of the world and prior to the European Renaissance (e.g., in Egypt). Most relevant to this paper, however, is the fact that European modes of spatiotemporal production were forcibly exported throughout the world in the last 500 years (Alliez & Lazzarato, 2018; Birth, 2007).

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