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TO MY PARENTS,

GERALD AND AILEEN,

FOR THEIR FAITH, STRENGTH,

AND STEADFAST LOVE

FOR THEIR CHILDREN

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ABSTRACT

Borrowing from Immanuel Kant's synthesis of rationalist and empiricist philosophies, as well as cultural psychologist Richard Shweder's exposition of content-laden variations in human mentalities, this dissertation contends that the cultural psychology of time and space should be interpreted as a metaphysical instantiation and genealogical record of the fate of these transcendental universals in lived experience and sociohistorical existence. Kant's famous dictum that "thoughts without content are empty; intuitions without concepts are blind" highlighted that abstract potentials and empirical contingencies require mutual and meaningful expression. Since psychological phenomena cannot be studied apart from the cultural backcloth of human existence or its *in situ* referents, Shweder's project can be viewed as a completion of Kant's theorization focusing on the fate of universals in worldviews or mentalities giving shape and function to physiological and psychological dispositions. Time and space are simultaneously part of our inherited mental furniture, subsist in successive environmental regularities and positionings, and result from cognized and cumulative constructions because mind-brain brings a robust but malleable apparatus shaping how we experience, interpret, and elaborate upon the world(s) we encounter. Methodologically, this dissertation employs a wide-ranging survey of select humanities and social science literature to examine the broader significance of indexical qualifiers "when" and "where" for development of the human mind. The central thesis posited herein is that our experiences and conceptions of time and space represent fusions of universal form and particularizing local content privileging the biographical circumstances, spatiotemporal horizons, and cultural specifications sustaining human consciousness and enabling / constraining formation of a human self -- fusions celebrating our

common psychological potentials and the singularities of each individual mind. For cultural psychology, each fleeting construction of past-present-future continuum is the defining structure of human consciousness when mind "presents" itself to the world of meaning and affect; form and content intermix; and abstract potentialities are transformed and functionalized through individual time perspectives. The cultural psychology of time and space is a perpetual exercise in wayfinding since human beings constantly incorporate and update sensory impressions and bodily movements to track position in environment and transit through geographic and symbolic spaces.

PREFACE:

THE SIGNIFICANCE OF BEING HERE RATHER THAN THERE,

NOW RATHER THAN THEN

This dissertation proposes a cultural psychology of time and space examining the significance of indexical qualifiers "when" and "where" for development of the human mind. Via a selective sojourn into disciplinary approaches to time and space in human social life, this dissertation highlights the signal importance of living in particular historical moments and particular geographic locations for the concrete realization of psychological processes and outcomes. For the symbolic contents, practices, and customs comprising cultural life are inseparable from specific temporal and spatial parameters. Every culture gathers historical narratives, artifacts, memories, and myths, just as it interprets and orders the present while positing worldly and otherworldly visions of the future. So too does every culture imagine a homeland, real or fictive, inhabited or exiled, bounded or globalized. Every culture is itself both producer and product of ecological forces, symbolic landscapes, material edifices, and socio-physical environments. And so too does every culture supply the resources people employ to incorporate succession and change, as well as movement and dwelling, into the spatiotemporal horizon that sustains human consciousness. As cultural denizens, we occupy and transit through time-space conjunctions and the "places" we invest with meaning. We also prescribe appropriate behaviors and norms for those places all the while we fashion our identities and minds through the spatio-temporal envelope of cultural experience. In the process, we abide ephemeral presents between re-collected memories and imagined futures, forever navigating the transactional "betwixt and between" of psychological potentials and the singularity of each individual mind. The central thesis posited herein is that our experiences and conceptions of time and space

represent fusions of universal form and particularizing local content privileging the biographical circumstances, spatiotemporal horizons, and cultural specifications sustaining human consciousness and enabling / constraining the formation of a human self -- fusions celebrating the synthesis of everything a mind can become with what it actually does become.

Methodologically, this dissertation employs a humanities and social science literature survey to examine categories of time and space through the prism of cultural psychology, an approach to the study of mind with deep historical antecedents in the works of 18th- and 19th-century scholars such as Herder, Vico, Dilthey, and Wundt, and later revived by late 20th century/early 21st century psychologists, anthropologists, human development specialists, and associated scholars dedicated to studying the very ingrediency of cultural experience in psychological development and expression. As described by Shweder et al, "Cultural psychology aims to document historical and cross-cultural diversity in the processes and products of the human mind. The psychological side of cultural psychology is the study of how individual persons think and act in light of their particular goals, values, and pictures of the world … The cultural side of cultural psychology is the examination of socially assisted processes of learning and schema activation associated with becoming a member of a particular group" (2006, 717). While adopting diverse methodological perspectives, these practitioners embraced both transitory and enduring social and historical conditions as the unique determinants of worldviews or mentalities that gave shape and function to inherited physiological and psychological dispositions. Rather than seeking to remove or eliminate the turbulent "noise," "clutter," and surface-level "trappings" of lived experience in order to expose deeper mental truths or a foundational human architecture, cultural psychologists have highlighted the relevance of such content or "stuff" for the very workings of the human mind.

Indeed, for cultural psychologists, immersion in cultural experience is an essential requirement rather than ancillary excursion for psychological development, maturation, and complexity. Borrowing from Immanuel Kant's synthesis of rationalist and empiricist philosophies, as well as University of Chicago scholar Richard Shweder's exposition of content-laden variations in human mentalities, this dissertation contends that the cultural psychology of time and space should be envisioned as a metaphysical instantiation and genealogical record of the fate of these transcendental universals in lived experience and sociohistorical existence.

While confronting Enlightenment era beliefs in a continuum of "spatial and historical distances" and developmental stages among cultures ranging from the savage to the civilized – i.e., the treatment of diversity as constituting steps on a universal history of mankind conditioned by environmental or societal variables – cultural psychology progenitors emphasized that the human mind is always shaped by, and embedded in, sociocultural achievements (Jahoda and Krewer 1997, 11-14). Vico, for example, postulated stages of development characterized by dominant modes of symbolic communication and malleability of thinking and feeling. Herder embraced a derogation of reason for the concrete realization of general human history ("history of the human soul in general, in periods and peoples") in the shared language, historical tradition, and particularity of a group's shared mental constructs (i.e., *Volksgeist*). An ardent defender of cultural relativism and the unfolding of human capacities in concrete historic-cultural groups, Herder observed that "nations change according to place, time and their inner character; each carries within itself the measure of its perfection, incommensurable with others" (Herder, 1784/1969, vol. 4, p. 362, cited in Jahoda and Krewer 1997, 12). Wilhelm von Humboldt, in turn, pursued a comparative study of linguistic systems and the idea that people who share a language develop a similar subjectivity, or *Weltanschauung* (i.e., worldview). William Wundt

further theorized the mutual interdependence of individual psychology and the *Völkerpsychologie* of higher mental processes, collective form(s) of existence, and cultural-historical modes of cooperation. (See excellent overview of these theorists in Jahoda 1993.)

Regarding the temporal and spatial envelope of mental constructs, more recent iterations of cultural psychology have also reflected select academicians' aversion to the experimental, laboratory-based methods prevalent in general psychology; recognition of the hybridic, contested identities exposed in cultural studies and globalization debates; renewed appreciation of embodied, ritualized, and performative modes of world-making; and anthropology's embrace of "thick" ethnographic description, local voices and symbolic meaning systems. Moreover, as evidenced by Michael Cole's (1996) reinterpretation of Vygotsky's cultural historical psychology and European activity theories; Lave's research on "guided participation" (Lave 1988; Lave and Wenger 1991); Holland and Quinn's compilation of cultural models (1987); and numerous scholars' focus on cultural "practices" that conjoin thought, behavior, and context into molar units of analysis – contemporary cultural psychologists have focused on how people learn, change, socialize, and emerge as cultural creatures by engaging in practical activities of thinking and doing.

This dissertation embraces a cultural psychology approach while reviewing pertinent humanities and social science literature and proposing a comprehensive research program for future explorations into the formative influences of temporal and spatial phenomena on human mentalities and psychological pathways. Regarding the latter, the dissertation explores both implicit and explicit renderings of time and space in existing cultural psychology writings as well as probing associated lines of inquiry in narrative theory, life cycle studies, environmental psychology, history of religions, and related fields. Although drawing selectively from Kant,

Aristotle, Husserl, Heidegger, and others, this treatise does not, however, address broader philosophical treatments of time and space. The dissertation posits that time and space are central categories in the cultural psychology enterprise that have yet to be fully incorporated into its theoretical vernacular. For the very premise of cultural psychology is coincident with the psychological significance – and spatial and temporal relevance – of existing within a specific cultural community or communities that occupy specific geographical / topographical domains / activity settings in specific biographical / social / historical time horizons. As American anthropologist Clifford Geertz suggested, "To be human here is thus not to be Everyman; it is to be a particular kind of man, and of course men differ" (1973, 53). Yet rather than constellate potential *Volksgeist* or *Weltanschauung* and their attendant representations of time and space, this dissertation explores how cultural psychology itself envisions the particularizing nature of psychological existence while negotiating an ongoing dialectic between individual minds and their cultural inheritance, temporal horizons, and socio-geographic positioning.

After exploring Kant's formulation of time and space as pure *a priori* intuitions of mind and Shweder's theorization of cultural psychology, Chapter 1 will examine some of the "explicit" examples in current cultural psychology literature where time and space are theorized and foregrounded: namely, groundbreaking research in linguistic anthropology on time and space constructions in select language communities; the symbolic action theory of Ernst Boesch; a treatise by Ciaran Benson on the self as a locative system; and various essays that have appeared in three prominent academic journals within cultural psychology. Chapter 1 then probes the broader question of purported human universals as categorized and typified to explain commonalities in human social and mental life, as well as the persistent popularity of evolutionary theories. For given the seeming ubiquity of time and space, the long-debated status

of universals is needed to inform and frame any reconciliation between Kant and cultural psychologists. After highlighting the paramount importance of select temporal and spatial themes in the variform ways mind and culture co-constitute one another in the making of human selves and their symbolic representations, Chapter 1 concludes by revisiting Kant's formulation of time and space as inherent forms of human sensibility and suggests that cultural psychology can be viewed as a completion of Kant's theorization alternatively focusing on the fate of universals in worldviews or mentalities that give shape and function to physiological and psychological dispositions.

Chapter 2 of this dissertation examines the relationship between temporality and mind in psychological processes throughout the human life cycle. Highlighting the omnipresent cultural factors driving momentary percepts, future-oriented motivations, goal-driven actions, social coordination, and anthropological horizons, this chapter demonstrates that time is forever being marked and remarked upon in the symbolic constructions of "reality" that bind individuals and groups. Drawing upon wide-ranging interdisciplinary contributions, Chapter 2 suggests that the cultural psychology enterprise is itself a narrative quest for understanding how minds are shaped and formed in the ceaseless interplay between bio-cultural inheritances and each individual's re-collections, experiences, and expectancies. In this formulation, the "who" of the human self is a creator and creation of the "when" moments that characterize its temporal disposition and continuance. The chapter is organized into the following sections: The Psychology of Time, which outlines how time is understood in general and cognitive psychology; The Temporal Horizon, examining the past/present/future continuum, or ever emerging and fleeting "now," as informed by memory studies, theories of action, and cultural-historical activity theory; Narrative and Life Course, which draws upon literary and human development studies to explicate the

constructive nature of identity and meaning; and Social Coordination, or entrainment of social interactions and activities viewed through treatises on the sociology and anthropology of time. In summary, Chapter 2 demonstrates that, rather than possessing an innate, unitive time sense, human beings forge their temporality through *bio*graphical achievements that are thoroughly penetrated by the predications of culture.

Chapter 3 of this dissertation contends that "how" and "what" we think about is partially a product of "where" we are and where we have been, as well as the contextual norms, rules, models, and meaning systems associated with our transactions with particular environments. Moreover, Chapter 3 recommends that human psychology is a perpetual act of wayfinding, a navigation within and between locations and their mental representations and behavioral prescriptions. For human beings are always somewhere, even during their incessant movements from here to there. We segment our spaces and attach emotive force to our places -- especially to the construct of "home" – and prove that mind is the fodder of processes and perspectives indebted, but not necessarily beholden to, the locatedness of our thoughts and actions. The chapter is organized into the following sections: Psychology of Space and Body, which examines the multiple cognitive systems collaborating in spatial awareness and bodily orientation; Situational, Ecological, and Environmental Psychology, emphasizing the perceptual cues, normative values, behavioral settings, and mental models prevalent in everyday geographic experience; The Philosophy of Place, which borrows from the provocative scholarly works of Edward Casey on the peremptoriness of place in all human modes of thinking; and The Anthropology of Space, focusing on the demarcation of spaces, as well as the cultural construction of landscapes, lifeworlds, material objects, and built environments. The chapter reinforces the claim that human beings are neither free agents drifting aimlessly through the

world, nor mere artifacts of their surroundings; to the contrary, they are conscripts to the interdependence of minds, brains, and sociocultural environments.

Finally, the Epilogue of this dissertation will mine the scholarship of Lawrence E. Sullivan to explore religious and mythical imaginings at the outermost extremes of human consciousness. For the human capacity to imagine the pre- and post-conditions of biological (ontogenetic and phylogenic) existence may be a *sine quo non* signature of human psychology. Human beings do not only serialize and locate their cultural experiences into communal narratives, they fashion metaphysical systems that postulate discretionary resolutions to what Shweder has deemed the "existential uncertainty" and "cognitively undecidable questions" confronting every culture and its human agents. Cultural psychologists have long lobbied for the recognition of such "multiple objective worlds" within synchronous communities variously embracing specific planes of perceived / conceived reality and their mythic interpretations and expressions. Those symbolic worlds present alternative representations that orient and compel the human psyche towards purposive pursuit of certain mental states and terminal outcomes. Additionally, individuals draw from prevailing or available worldviews in forming personal cosmologies – whether articulated or barely conscious – that integrate personal experiences with broader sociocultural belief systems. The psychological significance of those cosmologies will be highlighted as persons come to reflect the mentalities resident within and symbolic of particular cultural communities and embrace spatiotemporal movement to / from some desired state in the psychological construction of reality. The Epilogue outlines the symbolic stages of religious imagination leading from early human development through the inevitable facticity of death: Cosmogony, as portrayed in prelapsarian creation narratives leading to a break, fall, or rupture from previously holistic conditions; Cosmology, or the differentiated and postlapsarian

condition of human culture, which is also the mythical realm of ritual, pilgrimage, and sacred/profane time and space; and Eschatology, the confrontation with death, terminality, and promises of world restoration via paradisal imagery and a return to pre-exilic existence. The primary purpose of this analysis will be to examine the critical role played by spatiotemporality in religious imaginings that precede and outlast the individual life course but potentially imbue it – emotionally and intellectually – with tremendous motivational force in the development of psychological processes.

This dissertation on the cultural psychology of time and space is ultimately about what it means to transform universal potentialities (however inchoate or elaborate, hard wired or dependent upon cultural software) into individual and communal eventualities – i.e., what it means to become specific vice abstract, unique vice common, different vice same. It is thus a commentary on the human condition, the story of each individual translating the complex, heterogeneous inheritances of our psychobiological past – the psychic unity of humanity – into biographical trajectories formed by and through immersion in cultural experience. The minds that emerge from that thoroughly penetrating crucible of culture are distinguished by what they share as well as by what sets them apart as individuals and group members -- and the discretion they exercise in imagining one other. Echoing his own dialectic on the general and the particular, as well as his contention that becoming singular is a cultural universal, Geertz forecasted the broader themes of this dissertation when arguing in the "Afterword" to Feld and Basso's 1996 compilation entitled *Senses of Place* that contemporary specifications of self and world continue unabated despite the routinization of social interactions and displaced condition of many cultural communities around the globe.

> For all the uprooting, the homelessness, the migrations, forced and voluntary, the dislocations of traditional relationships, the struggles over homelands,

> borders, and rights of recognition, for all the destructions of familiar landscapes and the manufacturing of new ones, and for all the loss of local stabilities and local originalities, the sense of place, and of the specificities of place, seems, however tense and darkened, barely diminished in the modern world … For it is still the case that no one lives in the world in general. Everybody, even the exiled, the drifting, the diasporic, or the perpetually moving, lives in some confined and limited stretch of it – 'the world around here.' The sense of interconnectedness imposed on us by the mass media, by rapid travel, and by long-distance communication obscures this more than a little. So does the featurelessness and interchangeability of so many of our public spaces, the standardization of so many of our products, and the routinization of so much of our daily existence. The banalities and distractions of the way we live now lead us, often enough, to lose sight of how much it matters just where we are and what it is like to be there. The ethnography of place is, if anything, more critical for those who are apt to imagine that all places are alike than for those who, listening to forests or experiencing stones, know better … The anthropology of place … is a grasp of what it means to be here rather than there, now rather than then, without which our understanding will be thin, general, surface, and incomplete. (Geertz, in Feld and Basso 1996, 261-262)

While embracing interdisciplinary insights, this dissertation is mindful that sweeping claims or presumed connections between methodologies and units of analysis risk charges of speciousness when untethered to the analytical rigor of established academic fields. In some areas – such as recent work in linguistic anthropology on the language of space – there has been extensive research yielding profound new insights on the ramifying effects of cultural choices across cognitive domains. In other areas, such as eliding between micro-level, laboratory-based research on temporal durations and macro-level perspectives on the sociology of time, or transitioning between perspectives on space in fields ranging from environmental psychology to the history of religions, there is increased cause for concern. However, as a humanities and social science survey designed to adumbrate future research possibilities, this dissertation treads cautiously – and, it is hoped, responsibly – in bringing together diverse materials to interrogate how time, space, and culture infuse the psychologies and accounts that we lend to one another.

CHAPTER 1:

KANT'S TRANSCENDENTAL IDEALISM AND THE CULTURAL PSYCHOLOGY ALTERNATIVE

INTRODUCTION

This chapter begins by exploring Immanuel Kant's theorization of time and space as inherent forms of human sensibility, or pure *a priori* intuitions, in his synthesis of rationalist and empiricist philosophies. Rather than construe knowledge as a product of either philosophical, cognitive pursuits or sensory experiences, Kant postulated that both active faculties of mind and phenomenal experiences – i.e., form and content – are necessary to acquire the knowledge available to human beings. The chapter then reviews Richard Shweder's version of cultural psychology and psychological pluralism as the continuation of a deep tradition of scholarship seeking to explore the ingrediency of cultural experiences in psychological processes and outcomes. Unlike some cultural psychologists, Shweder embraces Kant's philosophical project – and subsequent renderings of psychic unity and human universals – while focusing on community-specific ways of thinking, doing, and knowing that shape and transform inherited psychological dispositions. The next section foregrounds implicit and explicit treatments of time and space in cultural psychology literature or related fields, especially constructions in linguistic anthropology, to highlight the need to incorporate time and space into cultural psychology's theoretical vernacular. The chapter then probes purported universals in human social and mental life to inform the broader discussion. Highlighting variform ways mind and culture co-constitute one another, the next section draws from Irving Hallowell and Shweder to preview the

significance of temporal and spatial themes in storied representations (i.e. narrative practices) of human selves, which will be further explored in Chapter 2. This chapter then suggests that time and space are integral to world-making projects and existential resolutions to unavoidable human realities and challenges. Finally, the chapter argues for the complementariness of Kant's transcendental aesthetic and Shweder's "universalism without the uniformity" and posits that the latter can be viewed as a completion of the former project gleaned through the fate of time and space as transcendental absolutes in lived sociohistorical existence.

TIME AND SPACE IN THE KANTIAN SYNTHESIS

SECTION NOTE: This section presents a brief overview of Kant's mature philosophical project and his synthesis of rationalist and empiricist philosophies, specifically his conclusion that both *a priori* faculties of mind and *a posteriori* constructions based upon sense experience, conceptual relations, and imaginative processes are necessary to account for our understanding of the world. The section briefly distinguishes between Kantian terms such as understanding, categories, concepts, and intuitions, and explains Kant's theorization of time and space as pure intuitions or *a priori* sensibilities that pre-structure human experience. Kant believed that an ultimate world of noumena or "things-in-themselves" was unattainable and that human knowledge was confined to phenomenal experiences in which form and content are inextricably bound. This section then touches upon Kant's interest in idiographic geographical pursuits in addition to his nomothetic philosophy. Finally, the enduring significance of Kant's work is examined through Durkheim's conceptualization of time and space as social or collective representations and Gell's subsequent

critique that restored the primacy of Kant's metaphysical postulates but failed to celebrate the contributions of cultural worldviews to envisioning and understanding the nature of existence.

Immanuel Kant's *Critique of Pure Reason* in 1781 posited that time and space are *a priori*, pure forms of intuition pre-structuring how objects of the senses must be known (Kant 1997). Generations of philosophers and social scientists have since debated whether the human mind and its psychological processes and products should be characterized by such purported universality – i.e., a shared basic substrate or common denomination across populations, generations, and geographical expanse. Either opposing or bracketing Kant's propositions, contemporary cultural psychologists and their historical progenitors have advocated alternatively that mind is inextricably embedded in the symbolic and behavioral inheritances of particular cultural communities (Shweder et al 2006). By promoting time and space as forms of sensibility from whence all thinking and experiencing originate, Kant contended that our perception of the external world is governed primarily by principles inhering in the very constitution of the human mind. Prior to Kant, rationalists such as Descartes doubted the reliability of the senses, maintained the possibility of *a priori* or innate knowledge possessed independently from experience, and stressed the role of reason in attainment of substantive truths about reality (See excellent overview in Cottingham 1984, 36-70). In contrast, empiricists such as Locke and Hume claimed that all human knowledge derives from sensory experience, contended *a priori* propositions are confined to uninformative tautologies, and believed synthetic judgments are acquired *a posteriori* (Ibid, 71-81). Kant resisted the rationalist project of 'pure inquiry' supposedly ascending beyond the medium of experience to reach unconditional knowledge, but was equally critical of the empiricist view that mind passively receives sense impressions serving

as the basis of knowledge. Rather, Kant insisted that the active power of mind must be involved in experiencing the world while sense experiences are necessary in order to give content to our experience, for mind without sensory data would be mind with nothing to think about. Synthesizing rationalist and empiricist philosophies, Kant's critical departure claimed there are genuine synthetic judgments in which propositions supply objective, valid information about the world but whose truth are *a priori*, universal, and necessary (Ibid, 82-90). For Kant, the only possible objects of knowledge are phenomena or empirically observable facts about the physical world since we can't possibly arrive at an ultimate world of noumena or mind-independent "things in themselves" apart from the knower's perspective (Guyer and Wood 1997). Kant's "Copernican Revolution" stated that our knowledge of the world should be approached from the structure imposed by understanding itself vice supposed properties of things (Cottingham 1984, 86-87). Kant's famous dictum that "thoughts without content are empty; intuitions without concepts are blind" highlighted that abstract potentials and empirical contingencies require mutual and meaningful expression (Kant 1997; Cottingham, 85).

Kant's *Critique* distinguished between "categories" as pure concepts of understanding applying *a priori* to objects in general; "concepts" as the active species of mediate representations for general characteristics of things; and "intuitions" as the passive species of immediate representations for direct perception of particular things. In this formulation, pure understanding (by means of the categories) is a formal and synthetic principle of all experience (See discussions in Cottingham 1984, 82-90; Guyer and Wood 1997; Wikipedia, *Critique of Pure Reason*; Palmquist, Philosophy-Dictionary.org, Dictionary of Kant's Technical Terms). Kant posited four main categories (quantity, quality, relation, and modality) that each have three sub-categories forming a typical example of a twelvefold, architectonic pattern (Palmquist,

Philosophy-Dictionary.org, Dictionary of Kant's Technical Terms). By requiring perceptions to conform to the categories, concepts serve as 'rules' allowing us to perceive general relations between representations and enabling us to think. Whereas concepts have their source in the understanding, intuitions originate in sensibility and enable us to have sensations. Empirical intuitions contain sensations while pure intuitions such as time and space -- the mind's subjective condition of coordinating sensibilia – do not contain any sensation. For something to become an object of knowledge, it must be experienced, and experience is structured by the mind, with both time and space being the forms of intuition, or perception, and the unifying, structuring activity of concepts (See discussions in Cottingham 1984, 82-90; Guyer and Wood 1997; Palmquist, Philosophy-Dictionary.org, Dictionary of Kant's Technical Terms). As *a priori* forms of sensible intuition, time and space cannot be regarded as existing in themselves. Rather, the subject inherently possesses the underlying conditions to perceive temporal and spatial presentations that bind experience and allow us to perceive particular relationships. Kant's doctrine of transcendental idealism contended that we comprehend time, space, and the spatiotemporality of objects of experience because we recognize these things only as they appear under the conditions of our sensibility. Issuing from the very nature of mind, time and space are presupposed by our receptive faculty of sensibility rather than abstracted from experience (See discussions in Cottingham 1984, 82-90; Guyer and Wood 1997; Palmquist, Philosophy-Dictionary.org, Dictionary of Kant's Technical Terms). For Kant, time and space are transcendentally ideal and contain the condition of possibility to which all appearances must conform while providing objective validity to all objects given under our subjective conditions of sensible intuition. From a transcendental perspective time and space are pure because they exist inside of us as conditions of knowledge, whereas from an empirical perspective they form the context in which objects

interact outside of us. As formal principles of the sensible world, they are subjective and ideal rather than objective or real. Unlike Newtonians, who held time and space to be self-subsisting entities existing independently of the objects that occupy them, or Leibnizians, who held time and space to be systems of relations or conceptual constructs based on non-relational properties inhering in antecedently existing objects, Kant posed that time and space are singular, infinite, and continuous magnitudes providing the very conditions under which objects in experience can be given at all and the fundamental principles of their representation and individuation (See discussions in Guyer and Wood 1997; Cottingham 1984, 82-90). As pure intuitions presupposed by the senses, time represents the experience of things as either simultaneous or successive while space is the sensory perception of objects distinct from ourselves. Time is thus the form of all that we sense, whether inner or outer, and space is the form of our outer sense, or the synthetic cognition of physical properties of quantities and shapes. We represent time by means of space and all inner states are represented in relation to time.

> We have therefore wanted to say that all our intuition is nothing but the representation of appearance; that the things that we intuit are not in themselves what we intuit them to be, nor are their relations so constituted in themselves as they appear to us; and that if we remove our own subject or even only the subjective constitution of the senses in general, then all the constitution, all relations of objects in space and time, indeed space and time themselves would disappear, and as appearances they cannot exist in themselves, but only in us. What may be the case with objects in themselves and abstracted from all this receptivity of our sensibility remains entirely unknown to us. We are acquainted with nothing except our way of perceiving them, which is peculiar to us, and which therefore does not necessarily pertain to every being, though to be sure it pertains to every human being. We are concerned solely with this. Space and time are its pure forms, sensation in general its matter. We can cognize only the former *a priori*, i.e., prior to all actual perception, and they are therefore called pure intuition; the latter, however, is that in our cognition that is responsible for it being called *a posteriori* cognition, i.e., empirical intuition. The former adheres to our sensibility absolutely necessarily, whatever sort of sensations we may have; the latter can be very different. Even if we could bring this intuition of ours to the highest degree of distinctness we would not thereby come any closer to the

> constitution of objects in themselves. For in any case we would still completely cognize only our own way of intuiting, i.e., our sensibility, and this always only under the conditions originally depending on the subject, space and time; what the objects may be in themselves would still never be known through the most enlightened cognition of their appearance, which is alone given to us. (Kant 1997, 168)

Kant's transcendental idealism, a distinguished exposition of philosophical brilliance, was representative of the Enlightenment's pronounced faith in human reason and its commitment to discovering fundamental physical and metaphysical principles through the application of philosophical and scientific inquiry. In this regard, Kant's treatment of time and space constituted an extended foray into human psychological processes characterized by the search for purportedly invariant, universal laws unconditioned by the very temporal and spatial attributes – i.e., the historical, social, and geographic positioning of its subjects and objects – that it sought to describe and explain. Such a search for invariant truths inevitably sought to overcome – or, as in Kant's aesthetic, explain – transitory percepts, sensations, or social and historical events (i.e., the "noise," "clutter," or "messiness" of lived human experience) by subsuming, subordinating, or denying their relevance in generalizable theories. While Kant's contributions to philosophy of mind subsequently spawned voluminous treatments of time and space in philosophical literature, the search for universal laws also became a staple tenet of psychology itself as an emerging scientific discipline.

Yet Kant himself, coincident with his philosophical program, was an avid student of history and geography, the cumulative record of humanity's existence in time and space. Indeed, Kant lectured on physical geography for over forty years at Königsberg University in Germany even before geography became a widely accepted academic discipline (See discussion in May 1970). During that forty-year period, Kant – who dubbed geography "the propaedeutic for knowledge of the world" – offered his introductory lecture course on physical geography 48

times, lecturing more only on logic (54 times) and metaphysics (49 times), while also covering moral philosophy (28 times), anthropology (24 times), and theoretical physics (20 times) (Ibid). Although Kant's conception of the nature of geography and of its location within the sciences has generated considerable disagreement, Kant himself made few lasting contributions to the field, though his work was cited in Hartshorne's *The Nature of Geography* (1939) and was more recently incorporated into Hägerstrand's time geography model (See Pred 1996). Claiming knowledge can be classified in two ways – either logically or physically – Kant asserted that "History differs from geography only in the consideration of time and space. The former is a report of phenomena that follow one another and has reference to time. The latter is a report of phenomena beside each other in space. History is a narrative; geography a description. Geography and history fill up the entire circumference of our perceptions: geography that of space, history that of time" (Hartshorne 1939, cited in Johnson et al 1994, 302-304).

Because Kant emphasized the descriptive aspect of geographical knowledge, he was considered by some later geographers to be the originator of an "exceptionalism" which was inimical to the "explanations" and "generalization" required for geography to be reconstituted as a spatial science (Ibid, 302). Still, Kant's stress upon the "epistemic structuring of the world by the human actor" in his *Critique of Pure Reason* was also taken up by various humanistic geographers of a subjectivist orientation as a means to transcend the dichotomy inherent in subject-object relations (Ibid, 303). Although Kant never fully articulated the relationship between his geographical interests and his broader philosophical project, and our extant knowledge of his geographical teachings is based only on reconstructed student notes, it is significant that Kant embraced and endorsed idiographic researches all the while developing his nomothetic theories on mind and reason.

While the quest for descriptive, local, and time-bound knowledge is by no means mutually exclusive from a quest for comprehensive, global, and universal truths – indeed, one may instantiate or illuminate the other – the relative weighing of such epistemological endeavors significantly influences the type of findings we encounter. These sometimes countervailing quests have infused major ideological and methodological debates in the academic disciplines of anthropology, psychology, sociology, history, and geography – fields at the crossroads of this dissertation. Indeed, social scientists embracing local and contingent phenomena have counterweighed Kant's transcendental idealism -- specifically his conceptions of time and space as universal, *a priori* conditions of human psychology -- on the veridical spectrum. Nevertheless, Kant has remained a compelling figure for many theorists grappling with the encompassing dimensions of time and space in human social life.

For example, perhaps the most well known passage in the sociology of time and space is drawn from Emile Durkheim's introduction to his 1912 major work entitled *The Elementary Forms of Religious Life*. Seeking to identify the origins of our differentiation of time into units of qualitative and quantitative measurement, as well as our differentiation of space into relative positionings and directions, Durkheim proposed that the categories of time and space are collective representations emerging from the organization of human social life:

> … What if one tried to imagine what the notion of time would be in the absence of the methods we use to divide, measure, and express it with objective signs, a time that was not a succession of years, months, weeks, days, and hours? It would be nearly impossible to conceive of. We can conceive of time only if we differentiate between moments. Now, what is the origin of that differentiation? Undoubtedly, states of consciousness that we have already experienced can be reproduced in us in the same order in which they originally occurred; and, in this way, bits of our past become immediate again, even while simultaneously distinguishing themselves from the present. But however important this distinction might be for our private experience, it is far from sufficient to constitute the notion or category of time. The category of time is not simply a partial or complete commemoration of our lived life. It is an abstract and

> impersonal framework that contains not only our individual existence but also that of humanity. It is like an endless canvas on which all duration is spread out before the mind's eye and on which all possible events are located in relation to points of reference that are fixed and specified. It is not *my time* that is organized in this way; it is time that is conceived of objectively by all men of the same civilization. This by itself is enough to make us begin to see that any such organization would have to be collective. And indeed, observation establishes that these indispensable points, in reference to which all things are arranged temporally, are taken from social life. The division into days, weeks, months, years, etc., corresponds to the recurrence of rites, festivals, and public ceremonies at regular intervals. A calendar expresses the rhythm of collective activity while ensuring that regularity … The same applies to space … space is not the vague and indeterminate medium that Kant imagined. If purely and absolutely homogenous, it would be of no use and would offer nothing for thought to hold on to. Spatial representation essentially consists in a primary coordination of given sense experience. But this coordination would be impossible if the parts of space were qualitatively equivalent, if they really were mutually interchangeable. To have a spatial ordering of things is to be able to situate them differently: to place some on the right, others on the left, these above, those below, north or south, east or west, and so forth, just as, to arrange states of consciousness temporally, it must be possible to locate them at definite dates. That is, space would not be itself if, like time, it was not divided and differentiated. But where do these divisions that are essential to space come from? In itself is has no right, no left, no high or low, no north or south, etc. All these distinctions evidently arise from the fact that different affective colorings have been assigned to regions. And since all men of the same civilization conceive of space in the same manner, it is evidently necessary that these effective colorings and the distinctions that arise from them also be held in common – which implies almost necessarily that they are of social origin … Thus, spatial organization was modeled on social organization and replicates it. Far from being built into human nature, no idea exists, up to and including the distinction between left and right, that is not, in all probability, the product of religious, hence collective, representations. (Durkheim 1995, 9-13)

In this manner, Durkheim linked his theorization of time and space to the philosophical tradition of Kantian rationalism but sourced those categories to social representations rather than Kant's pure forms of intuition and sensibility. Durkheim's "social time" and "social space" reflected his broader project on the social determination of concepts and signaled his willingness to promote sociological analysis to the level of metaphysical inquiry. Durkheim's contention was highly influential for subsequent sociologists exploring the coordination of social activities and shared

nature of collective understandings (see Chapter 2). Given the pervasiveness, ubiquity, and all-encompassing nature of time and space for an unaided individual, society provides the collective representations that order events and relate purposive activities to broader social goals.

However, subsequent critics of Durkheim have disputed his elevation of the social origins of time and space to the level of Kantian categories. In an incisive monograph on *The Anthropology of Time* (1992), Alfred Gell took particular exception with Durkheim's imputed intent to equate collective representations grounded in transitory social and historical conditions with Kantian categories of reason, truth, logic, etc. For Gell, Durkheim's sociological categories mediated the transition between the natural and the social, whereas in Kant's theory time and space mediated the transition between the noumenal and the phenomenal (or 'natural') (see Gell 1992, 1-14). Gell similarly chastised anthropologists for extrapolating the significance of their theories of time and confusing abstract anthropological models with the chronological time of contingent historical events. Although Gell ultimately concluded that different "concepts of time" were illusory and contrived by theorists, he acknowledged that anthropological treatments nevertheless revealed different conceptions of the world and its workings (Ibid, 36). Curiously, despite his detailed analyses of time in numerous scholarly disciplines, Gell denounced relativist theories that purported to attain metaphysical status. Instead, Gell adopted the Kantian view that there exist inhering categories or logical principles of mind that have a higher veridical status than temporal 'mentalities' or culturally constituted 'world views.' Endorsing the ethnographic study of contingent belief systems, Gell nevertheless denied that culturally transmitted beliefs and representations constitute or contribute to philosophical postulates about "truth, necessity, logic, meaning, etc." Rather, he contended there are deeper "logico-metaphysical premises" that underlie all surface-level cultural expressions.

> The point of view which undermines the case for temporal cultural relativism in the very act of seeking to affirm it, is the doctrine of temporal "mentalities" or "world views," i.e., distinct, culturally constituted temporal frames of reference of equivalent status to rationally argued metaphysical theses, such as those defended by Kant in his *Critique of Pure Reason.* Ethnographically, cultural temporal relativities consist of differential sets of contingent beliefs, held by different cultures and subcultures, as to the historical facticity and anticipated possibilities of the world. There is a big difference between 'metaphysical' postulates and systems of contingent beliefs. Very dissimilar contingent beliefs can be expressed, understood, and acted upon, in the light of uniform, but implicit, logico-metaphysical premises, and indeed only in the light of these premises. What is mistaken, I think, is to suppose that cultural systems of transmitted beliefs and representations are pervaded with a deep 'cultural logic,' which sets the outermost limits on the 'thinkable,' for members of a given culture. These outer limits on the 'thinkable' exist, but they are not properties of that or that cultural system. And they are quite distinct from the constraints of a *de facto* kind which limit the range of beliefs which members of a given culture actually entertain, or the kinds of thoughts which would 'naturally' occur to them. The problem with Durkheimian anthropology is that in discussing this or that culturally constituted world, anthropologists have tended to seek a level of analysis which would imply that their findings have a bearing on the constitution of the world in general, on what kind of a place the world must be considered to be, and not just on the culturally constituted world they are investigating. The formulation of defensible views about what the world is like in general or categorical terms (the promulgation and defense of metaphysical postulates of one sort or another) is the province of philosophy and metaphysics, not anthropology. In particular, it is unwise for anthropologists to think that ethnography is the kind of enterprise which could result in the discovery of new ways of constructing the world in its general or categorical aspect which would amount, in themselves, to useful additions to the spectrum of potentially valid metaphysical points of view … The methodological postulate I advocate … permits anthropologists to assert whatsoever they see fit, concerning the content of exotic belief systems, short of claiming that in so doing they are contributing to our understanding of truth, necessity, logic, meaning, etc., i.e., questions of a general philosophical or metaphysical nature. (Gell 1992, 54-56)

Unfortunately, in his frustration with anthropologists who generalized the reach of their theoretical constructions, Gell ended up denying that cultures tell us anything about the constitution of the world in general, or extend the reach of what is discoverable or thinkable about that world. The alternative view espoused by cultural psychologists is that the mentalities and worldviews found in different cultures do, in fact, present us with variform ways of

envisioning reality and understanding the nature of existence. Since the human mind is inseparable from its cultural fabric, we can only obtain and service "truths" through the symbolic medium of some frame-bound tradition. And because we are always somewhere specific in time and space – vice anytime or everywhere – we can only proximate global truths by traversing the partialities of different perspectives. We can accept that there may be universals of human mental life and nevertheless insist cultures light up planes of existence, coherent and justifiable in their own right, by truly extending the possibilities of thought and action available to us. For if foundational aspects of mental life are only found in culturally specific guises, then cultural models – regardless of whether Durkheim's construct of collective representations is theoretically viable – can be viewed as completions or manifestations of an underlying psychic unity. That is, cultural psychology proposes we do not have to choose between metaphysical truths and culturally relative models of the world because they may be complementary and interdependent rather than contradictory and incompatible.

THE GAMBIT OF CULTURAL PSYCHOLOGY

SECTION NOTE: This section outlines the basic tenets of Richard Shweder's version of cultural psychology and its examination of the psychological foundations of human culture and the cultural foundations of human psychology, or the way that practices and mental states reinforce one another. These tenets include the contention that culture and mind "make each other up," the existence of multiple diverse psychologies rather than a single psychology, the interpenetration of subjectivity and objectivity, the incommensurability of stimulus situations,

the relationship between intentional minds and intentional worlds, cultural psychology's theory of mind, and a viable theory of psychological pluralism.

While Kant formulated time and space as inherent sensibilities of the human mind – i.e., as universal prerequisites and *a priori* psychological features of human mental life – his insistence that our understanding is confined to phenomenal appearances and empirical observations (vice noumenal "things in themselves") implied that our truths are discoverable only in historical or geographical accidents and manifestations. That is, Kant shared with contemporary scholars investigating the interface/interplay between culture and mind the belief that psychological phenomena cannot be studied apart from the cultural backcloth(s) of human existence or its *in situ* referents. Rather than celebrate universal forms or enumerate abstract properties of mind, many of these latter scholars rejected Kant's broader philosophy while still embracing his famous dictum that "thoughts without content are empty; intuitions without concepts are blind" – or Shweder's variant claim that "form without content is empty and content without form is meaningless" (Shweder et al 2006, 723). As summarized by Shweder et al, "For at least 200 years, a distinctive tenet of cultural psychology has been the claim that the formal universals of mind and the content-rich particulars of any sustainable mentality or way of life are interdependent, interactive, and give each other life. Scholars such as Herder, Vico, and Wundt scoured the historical record for successful (cohesive, stable, shared) fusions of form and content, in which the human imagination has, of necessity, gone beyond the relatively meaning barren constraints of logic and mere perception to construct a picture of the underlying nature of the world and its values, resulting in a 'mentality' … supportive of a 'way of life'" (2006, 723-724). The 'stuff' or content that interested such scholars consisted of diverse symbolic formations embedded in myths, folklore, language, and ritual practice – i.e., "alternative

substantializations or instantiations of the disparate abstract potentialities of the universal mind" (Ibid, 724). [See Kantor 2009; Jensen 2010; Heine 2011; Ratner 2011; Yasnitsky et al 2014; Valsiner 2012; Toomela 2012; Valsiner 2014; Valsiner 2015; Glaveanu and Wagoner 2015; Eckerdal 2015; Gülerce 2015; Stam and Ellis 2015; and Zittoun and Gillespie 2015 for recent cultural psychology literature.]

Citing American anthropologist Clifford Geertz's reminder that "one does not speak language; one speaks a language," Shweder noted that since "what you think about can be decisive for how you think, the focus in cultural psychology has been on content-laden variations in human 'mentalities' rather than the abstract common denominators of the human mind" (1999, 67). In this regard, cultural psychology straddles both innatist and empiricist views of mind while resisting the Piagetian notion of a deeply interior and abstract central processing mechanism undergoing progressive development. Rather, cultural psychology's relativist interpretation of context-dependent person perception asserts that the contents of mental life transform and innervate the processes and mechanisms of thinking, feeling, and interpreting the fundaments of experience. Moreover, a culture's worldview(s) and its master metaphors distinctively influence cognitive functioning, mediating the relationship between what one thinks about and how one thinks (Shweder 1991, 148; Bruner et al, 1966; Lakoff and Johnson 1980). For Shweder, abstract potentials and empirical contingencies require mutual and meaningful expression and transcendental absolutes such as time and space remain inert without concrete realization in psychological structures and processes. Though Kant did not address – simply because it was not his primary focus – the embeddedness of individual minds in symbolic and behavioral inheritances of particular cultural communities, Shweder's broader project can be viewed as a completion of Kant's theorization alternatively focusing on the fate of universals in

worldviews or mentalities that give shape and function to inherited physiological and psychological dispositions.

Whereas methodological approaches in general psychology, cognitive science, cross-cultural psychology, psychological anthropology, and ethnopsychology all search for an abstract, formal, invariant, fixed, structural, context- / content-independent central processing device while trying to eliminate interference, noise, or distortion – i.e., extract or separate the transcendental from the world of appearances – cultural psychology focuses on understanding particular ways of life from a psychological point of view and examines how practices and mental states of people reinforce each other (Shweder 1991, 73-110). Seeking to capture local meanings and render people intelligible within their collectively shared interpretive frameworks, cultural psychology highlights sociohistorical contributions in the psychological domains of self-organization, thinking, knowing, feeling, wanting, and valuing (Shweder et al 2006, 724).

In this regard, cultural psychology rejects the proposition in general psychology that mental processes are best studied in the sanitized, privileged "space" of an experimental laboratory where the effects of context, content, and meaning can be eliminated, standardized, or controlled. Rather than seek to uncover a common denominator of mind, cultural psychology embraces cultural diversity while ultimately postponing or bracketing discussions on the primacy of ("hard wired") biological constraints or universal psychological principles (Shweder 1999). Of particular note, cultural psychology views culture and psychology as constitutive phenomena that cannot be reduced to each other, in contrast to the tendency in cross-cultural psychology for culture to be conceptualized as an independent variable that impacts on the dependent variable of individual behavior (Miller 1997, 88).

> Cultural psychology is concerned not only with the inherent, mandatory, or fundamental aspects of the human mind but also, indeed especially, with those

> parts of what people know, think, feel, value, and (hence) decide to do that are conditional, optional, or discretionary and are primed and activated through participation in the symbolic and behavioral inheritance of particular groups. In effect, cultural psychology is a discipline committed to the study of patterns of psychological difference across groups or subgroups and to the investigation of the emergence (and dissolution) of stable, relatively coherent, and intimate interconnections between cultural practices and individual mental states. (Shweder et al 2006, 731)

And as conveyed by Shweder et al in their essay in the *Handbook of Child Psychology,* "At least since the time of Herder and Vico in the 18th century, 'cultural psychology' has been a label for the reciprocal investigation of both the psychological foundations of cultural communities and the cultural foundations of mind. It has been a designation for the way culture, community, and psyche make each other up. Alternatively stated, cultural psychology is the study of all the things members of different communities mentally experience (know, think, want, feel, value), and hence do, by virtue of being the kinds of beings who are the beneficiaries, guardians, and active perpetuators of a particular cultural tradition" (2006, 719). Phrased differently, "Cultural psychology is the study of the mental life of individuals in relation to the symbolic and behavioral inheritances of particular cultural communities. It is the study of the way culture, community, and psyche are mutually instantiating" (Ibid, 720-721).

Emphasizing that culture involves both symbolic and behavioral inheritances, and that a mentality and its associated practice(s) can be reciprocally sustaining and confirmatory, cultural psychologists have searched for the emergence of distinctive cultural mentalities:

> The communities, societies, and cultural contexts within which people participate provide the interpretive frameworks – including the images, concepts, and narratives, as well as the means, practices and patterns of behavior – by which people make sense (i.e., lend meaning, coherence and structure to their ongoing experience) and organize their actions … Those organizing frameworks (also called cultural schemas, models, designs for living, modes of being) are not fully private and personal; they are shared … The claim is that with respect to the psychological, the individual level often cannot be separated from the cultural level. Many psychological processes are completely interdependent with the

> meanings and practices of their relevant sociocultural contexts and this will result in systematic diversity in psychological functioning. It follows from this perspective that there may be multiple, diverse psychologies rather than a single psychology. (Markus 1996; also cited in Shweder et al 2006, 723)

Shweder's conceptualization of cultural psychology opposed both (1) the Platonic view that the very idea of reality suggests something independent of its particular material realizations in time and space or our involvement with it; and (2) the idea that existence is the negation of pure being, an idea traceable "from Plato through Descartes to various contemporary 'structuralisms' which aim to recover the abstract forms, universal grammar or pure being hidden beneath the 'superficialities' of any particular person's mental functioning or any particular people's social life" (Shweder 1991, 7). Rather, Shweder endorsed the romantic conception of an interpenetration or interdependency of objectivity and subjectivity, or pure being and existence – i.e., the idea that nothing exists independently of our theoretical interpretation of it. Since our measuring instruments are part of the reality they measure, intentional objects have real causal force by virtue of our mental representations and involvement with them (Ibid, 18). Seeking unit(s) of analysis beyond the individual person, cultural psychologists celebrate divergent realities in which subject and object cannot be separated.

Citing Herder's premise that "to be a member of a group is to think and act in a certain way, in light of particular goals, values, pictures of the world; and to think and act so is to belong to a group" (Berlin 1976, 195; cited in Shweder et al, 2006, 717), Shweder equated *cultural* to "local or community-specific ideas about what is true, good, beautiful, and efficient. The focus in cultural analysis is on those goals, values, and pictures of the world that are socially inherited and customary. In other words the focus is on those goals, values, and pictures of the world that are made manifest in the speech, laws, and routine practices of some self-monitoring group" (Shweder 1999, 64).

As different cultural groups have pursued different adaptations and adopted different meaning systems in response to different historical and ecological conditions, phenomena may be qualitatively as well as quantitatively different for such cultural groups – i.e., there cannot be comparable measurement of incomparable phenomena (Greenfield 1997, 308-309). And since there will be differences among cultures in the normal meaning of stimulus situations – the problem of 'partial translation' or 'limited commensurability' – we should also expect to find performance differences and response differentials. For this reason, Shweder's cultural psychology recognized that "through the methodological investigation of specific sources of incommensurability in particular stimulus situations (so-called 'thick description') a culture's distinctive psychology (the way people think and act in light of particular goals, values, and pictures of the world) may be revealed" (Shweder and Sullivan 1993 and Shweder 1990; quoted in Shweder et al 2006, 721). It follows that the spatiotemporal orientation of different cultural groups will be, in part, incommensurable due to qualitative differences in the symbolic mediation of particular stimulus situations. So too will each culture's distinctive psychology include unique contributions in how people experience and conceptualize time and space in daily transactions as well as in elaborations of philosophical meaning systems.

While rejecting claims of a fixed, invariant central processing mechanism, cultural psychologists presuppose certain universal truths about inherent psychological functioning:

> At a minimum, we are committed to a theory of mind which everywhere in the world human beings are the kind of beings who have a mental life; who know, think, and use language and other symbolic forms; and who feel, want, and value certain things, which is one way to explain what they do … Even more deeply, we are committed to the view that psyche consists of certain mental powers. Most notable of these are (a) the representational power to form beliefs about other persons, society, and nature, and about means-ends connections of all sorts; and (b) the intentional power to affect an imagined future state of affairs by means of acts of the 'will,' which is the human capacity to have a causal influence on the world through acts of decision making and choice." (Shweder et al 2006, 731)

Of particular relevance herein, Shweder et al further cited William James' (1950) description of the marks of the 'mental': "The pursuance of future ends and the choice of means for their attainment are thus the mark and criterion of the presence of mentality in a phenomenon" (2006, 731). The reference to a future time horizon marked by purposeful psychological activity, indubitably informed by past experiences and the armature of presently-available individual and cultural resources, suggests that the ongoing negotiation of temporal distinctions and navigation of an embodied self through physical and symbolic spaces is likewise an inherent, universal feature of human psychology. For the human mind is constantly reconciling sequency, continuity, and discontinuity as well as positioning itself and imbuing space with meaningful attributions. Cultures variously conceptualize or elaborate the categories of time and space, but every cultural agent exists in a dynamic "here" and "now" that constantly elides to a "there" and "then" as perceived and re-presented in individual experience.

The existence of an active mental agent who receives and preserves cultural traditions while participating in a specific way of life is likewise a cornerstone of cultural psychology. Intentional beings live in intentional worlds populated by concrete particulars and domain specific, subject-dependent artifacts. In this formulation, psyche refers to the intentional person and culture refers to the intentional world. Since there is no context-free environment, person and stimulus are mutually bound and psyche refers to "patterns of motivated involvement, subjective states responsive to and directed at our mental representations of things" (Shweder 1991, 101). Towards that end, cultural psychology may be conceived as the "study of those intentional or symbolic states of individuals … that are part and parcel of a particular conception of things made manifest in, and acquired by means of involvement with, the speech, laws, and

customary practices of some group" (Shweder 1999, 66). Shweder elsewhere elaborated on the relationship between intentional beings and intentional worlds:

> The principle of intentional (or constituted) worlds asserts that subjects and objects, practitioners and practices, human beings and sociocultural environments, interpenetrate each other's identity and cannot be analyzed into independent and dependent variables. Their identities are interdependent; neither side of the supposed contrast can be defined without borrowing from the specifications of the other … no sociocultural environment exists or has its identity independently of the way human beings seize meanings and resources from it, while, on the other hand, every human being's subjectivity and mental life are altered through the process of seizing meanings and resources from some sociocultural environment and using them … intentional worlds are human artifactual worlds, populated with products of our own design … Such intentional (made, bred, fashioned, fabricated, invented, designated, constituted) things exist only in intentional worlds … intentional things have no 'natural' reality or identity separate from human understandings and activities. Intentional worlds do not exist independently of the intentional states (beliefs, desires, emotions) directed at them and by them, by the persons who live in them. (Shweder 1991, 74-75)

Time and space are key features of the intentional worlds that human minds inhabit and experience. Given their phenomenological ubiquity, the temporal and spatial parameters of those intentional worlds emerge from psychobiological inheritances and perceptual dispositions and become part and parcel of the artifactual realities that we design, engage, and comment upon.

Shweder also described cultural psychology as a "practical, empirical, and philosophical project designed to reassess the uniformitarian principle of psychic unity and aimed at the development of a credible theory of psychological pluralism" (Shweder and Sullivan 1993, 498). And since cultural psychology is a form of pluralism and pluralism is a special form of universalism, cultural psychology refrains from blanket denials of universals. Thus, a central claim of cultural psychology is that "there may be multiple, diverse psychologies rather than a single psychology" (Shweder et al 2006, 723). These "'multiple, diverse psychologies' emerge out of the abstract potentialities of a universal mind" and psychological pluralism "emerges, at least in part, because people think and act in light of particular goals, values, and pictures of the

world, and these factors are rarely the same across cultural communities" (Shweder et al 2006, 13). Regarding time and space, people immersed in different cultural communities come to experience the spatiotemporal aspects of human social life in peculiar ways that reflect their unique, characteristic psychologies. Elaborations of time and space become inextricable dimensions of a cultural community's particular goals, values, and pictures of the world, to include its heterogeneous and alternative viewpoints.

IMPLICIT AND EXPLICIT TREATMENTS OF TIME AND SPACE IN CULTURAL PSYCHOLOGY

SECTION NOTE: This section begins by citing assumptions of time and space among cultural psychology progenitors and then surveys the paucity of explicit treatments of these variables in extant literature. However, cultural psychology draws important insights from several notable scholars in linguistic anthropology such as Benjamin Whorf and Edward Sapir's "linguistic relativity hypothesis," Anna Wierzbicka and Cliff Goddard's Natural Semantic Meta-language, and Stephen Levinson's work on frames of reference and their ramifying effects throughout cognitive domains. These insights confirm that our experiences and conceptualizations of time and space are bio-cultural hybrids; that linguistic differences correlate with differences in spatial cognition; and that universal elements are constraints and biases with cultural traditions selecting among a restricted inventory of possibilities. The section then briefly outlines Ernst Boesch's theory of time and space as valence systems in symbolic action theory and Ciarán Benson's view of the self as a locative system for orienting and positioning oneself in the world. Finally, the section reviews treatments of time and space in three academic journals covering developments

in cultural psychology and related fields: *Culture & Psychology*, *Ethos*, and *Mind, Culture, and Activity*. Aside from canvassing the literature, the purpose of this section is to suggest that time and space are central to the cultural psychology enterprise but have yet to be comprehensively incorporated into its theoretical vernacular.

Temporal and spatial concepts were prevalent in the works of early cultural psychology progenitors such as Vico, who conceived of the history of mankind as consisting of repeated cycles of progress and regression between divine, heroic, and humane stages on the basis of predominant modes of symbolic communication (Jahoda and Krewer 1997, 11-12). Linking history itself to the modification of minds that created it, Vico assessed that the human mind was a product of specific socio-historical conditions (i.e., language, myth, art, custom, religion, etc.) rather than a constant nature. Herder, whose *Ideas on the Philosophy of the History of Mankind* (1784-1791) sought to outline the "history of human soul in general, in periods and peoples" (ibid, 12), argued that psychological processes were dependent on time and place (Triandis 2007, 61). Embracing a positive, particularistic stance towards the diversity of human cultures, Herder believed that history was concretely realized and embodied in particular groups or communities ("Volker") bound by a shared language, historical condition, and mentality (or "Volksgeist") (Jahoda and Krewer 1997, 12). Probing the relationship between basic psychic processes and the mental processes linked to collective social life, Lazarus and Steinthal (1860) similarly adopted a historical framework for their *Völkerpsychologie* while attempting to explicate both general laws governing the formation of mind (folk-historical) and the manifestation of particular mentalities among different peoples ("psychological ethnology") (Jahoda and Krewer 1997, 12-13).

These eighteenth- and nineteenth-century authors both reflected and repudiated remnants of Renaissance- and Enlightenment-era practices of "distance taking" in order to localize "others" in time and space for purposes of comparative analysis. As documented by Jahoda and Krewer (1997; see also Jahoda 1989 and 1993), Enlightenment-era discussions on man's double destiny as a natural and cultural creature presupposed that all human beings were endowed with reason – the basis for a common mental endowment and universal history of mankind – that was comparatively promoted or hindered by environmental or societal conditions. The breadth of man's potential existence modes was conceptualized as a spatial and temporal system ranging from savage to civilized developmental stages, with the confounding of "spatial and temporal distances" accounting for observed differences in mental acuity, behavioral patterns, and cultural achievement. Underlying these theories was the longstanding practice, dating to antiquity, of attributing differences between peoples to environmental or climactic factors, which evoked adaptive behaviors and varying modes of subsistence in response to ecological conditions. Even the conception of a "psychic unity of mankind," as first proclaimed by Waitz (1859) in opposition to biological racist theories, was formulated as a universal assertion – that human beings in every time and place share the same mental nature – amidst the remarkable diversity of human cultural forms across historical epochs and geographical expanses.

While implicit assumptions regarding time and space will be amply illuminated in available cultural psychology literature, as well as contributing disciplines in the humanities and social sciences, there are several prominent explicit treatments from contemporary practitioners. Of note, while devoting chapters to related topics such as cultural evolution, cultural-historical activity theory, self, situated cognition, social identity, child development, narrative, and memory, the *Handbook of Cultural Psychology* (Kitayama and Cohen 2007) contained only

cursory references to the categories of time and space, mainly in reference to cross-cultural differences in expressing time metaphorically as either a moving object (predominant English cluster) or a container (predominant Chinese cluster) (Zhou 2004; cited in Chiu, Leung, and Kwan 2007); how linguistic differences in expressing time in horizontal (English) versus vertical (Chinese) terms may affect how speakers think about time (Boroditsky 2001; cited in Norenzayan, Choi, and Peng 2007, 573-574); linguistic encoding of spatial locations via relative or absolute reference systems (Levinson 1996; cited in Norenzayan, Choi, and Peng 2007, 573); and how variations in spatial orientation systems affect performance on spatial cognitive tasks (Dasen and Wassmann 1998; Mishra, Dasen, and Niraula 2003; cited in Markus and Hamedani 2007, 18-20). Nevertheless, these references invoke a robust history within linguistic anthropology on time-space constructions that has provided cultural psychologists with a rich body of empirical research yielding profound new insights into culture and cognition.

Indeed, one of the celebrated debates in linguistic anthropology concerned the question over whether all languages contained words and/or conceptions of time and space in their grammatical or lexical forms. Among his essays on Amerindian languages, Benjamin Lee Whorf contended that unlike "Standard Average European" (SAE) languages which characteristically substantify time as an extended, divisible, space-like substance – like a straight line extending from past to present to future -- the Hopi of Arizona had no words, grammatical forms, constructions, or expressions referring directly to time (Whorf 1956, 2012; see also Gell 1992, 118-131). According to Whorf, the Hopi employed three "assertions" (i.e., modalities providing the speaker's propositional attitude toward the content of speech) but did not possess the equivalent of SAE tenses or represent time in grammatical constructions (Gell 1992, 118-131). However, scholars such as Malotki (1983) later repudiated Whorf's claims about Hopi

linguistic "timelessness" by demonstrating that the Hopi not only use spatial metaphors to indicate temporal facts, akin to SAE languages, but also possess a two-tense system as well as elaborate aspect system for marking temporal distinctions. Commenting upon Hopi time characterizations, Gell similarly observed that temporal information could be conveyed through various linguistic constructions, to include tense, auxiliary verb constructions, adverbials, aspectual contrasts of perfective/imperfective, modality, and by the contexts of utterance and discourse (Ibid, 119-128). More broadly, the views of Whorf and American linguist Edward Sapir formed the thesis of "linguistic relativity" whereby users of different grammars are pointed towards different types of observations and evaluations of externally similar acts, and hence were not equivalent as observers but must arrive at different views of world (Whorf 1956, 252). Whorf's primary concern was "how *structural differences among languages* (independent of cultural experiences) predispose users of different languages to highly patterned, systematic, and distinctive thought processes" (Chiu, Leung, and Kwan 2007, 675).

While the Whorfian hypothesis has generated long-standing debate over the influence of language on cognition (See Lucy 1992; Gumperz and Levinson 1996; and Levinson 2012), most practitioners have rejected stronger formulations – i.e., that thought is "determined" by language – while embracing weaker versions recognizing that different languages, employing conventions that enable or inhibit, "facilitate different patterns of thought, different rhetorical strategies, different standardized arguments and images" (Gell 1991, 130). In the *Handbook of Cultural Psychology,* Chiu, Leung, and Kwan endorsed modest Whorfian effects in concluding that as a communal framework for action, language plays an important role in the development of shared cognitive styles and shared cognitions. Rather than rigidly determining thoughts, grammar and vocabulary – combined with emergent properties of the communication context -- limit the tools

available for constructing and negotiating meanings. When speakers use the characteristic ways of referring to a state of affairs in their language as linguistic tools to encode cultural experiences and express thoughts, they influence cognitions by evoking or creating linguistic representations that compete with or overshadow perceptual representations (2007, 668-688).

Over the past few decades, extensive research has been conducted on the cognitive consequences of language differences for the psychology of time and space (See March 1998 and September 2014 special issues of *Ethos* on language and space; Majid et al 2004; Haun, D. B. M. et al 2011; and monographs by Bloom et al 1996; van der Zee 2002; Levinson 2003; Evans 2004, 2013; Carlson and van der Zee 2005; Levinson and Wilkens 2006; Indefrey and Gullberg 2008; Bennardo 2009; Chilton and Evans 2010; Dasen and Mishra 2010; Mix, Smith and Gasser 2010; Filipovic and Jaszczolt 2012; Mani and Pustejovsky 2012; Auer et al 2013; Jaszczolt and de Saussure 2013; Paradis, Hudson, and Magnusson 2013; Tenbrink, Wiener and Claramunt 2013; De Brabanter, Kissine and Sharifzadeh 2014; Moore 2014; and forthcoming Chilton 2015). Even if time and space are not always reified as abstract nouns, scholars have recognized that – despite remarkable diversity – temporal and spatial information is variously encoded and expressed in all language communities. In her 2005 essay in *Ethos,* Anna Wierzbicka proposed a set of empirical universals of time and space that are encoded in all languages. Wierzbicka contended that such empirical universals, derived from decades of cross-cultural linguistic research, collectively comprise a Natural Semantic Metalanguage (NSM), or universal "culture-free" language, revealing a shared core of human thought and linguistic expression. Developed in conjunction with Cliff Goddard (see also Goddard and Wierzbicka 2002; Goddard and Wierzbicka 2014), Wierzbicka's NSM facilitated the identification of both empirical universals and culture-specific features of human cognition. According to Wierzbicka (2005), there are

eight temporal concepts found in all languages: when (time), now, after, before, a long time, a short time, for some time, and moment (in one moment). Beyond these rudimentary temporal concepts, every language elaborated its own repertoire of more complex conceptualizations encoded in lexical or grammatical forms and analyzable as language-specific configurations of the set of empirical universals. In this regard, Wierzbicka echoed Whorf's basic claim that different languages reflect or promote different conceptualizations of the temporal domain. Similarly, Wierzbicka proposed that all languages encoded nine spatial concepts: where (place), above, below, far, near, here, side, inside, and touching (being in contact with). However, Wierzbicka rejected the universality of terms lateral to the human body, such as in front of, to the right of, and behind, or the utility of "orientation-bound" or "orientation free" distinctions. Similar to Berlin and Kay's (1969) pioneering work on basic color terms, which suggested a set of perceptual universals and spawned vigorous debate, the importance of Goddard's and Wierzbicka's claims is the proposition that there remains a culture-free empirical baseline underlying the phenomenal diversity of human languages.

While the validity of Goddard and Wierzbicka's NSM remains controversial, the most comprehensive research on language and space has been conducted at the Max Planck Institute (MPI) for Psycholinguistics in Nijmegen. Focusing on the centrality of spatial cognition in human thinking and reasoning, over forty researchers have studied how a few dozen languages across the globe structure the spatial domain (See especially Levinson 2003; Levinson and Wilkens, eds. 2006; Majid et al 2006; Majid et al 2013; Cai et al 2013; Dunn et al 2013; Gentner et al 2013; Lai and Boroditsky 2013; Levinson and Majid 2013). These studies confirmed that spatial competence involves a complex layering of representation systems and perceptual abilities, from shape recognition to body part awareness to motoric navigation to coordination of

visual and kinesthetic senses (Levinson 2003, 286-287). These studies also refuted longstanding presumptions of the universal basis of egocentric and anthropomorphic conceptions of space. For since Aristotle's reduction of space to place (or space as a nested series of places) and denial of empty space, naïve Western spatial reasoning has been couched in terms of relative locations to other objects rather than abstract location in a spatial envelope. However, this bias towards egocentric spatial information, in which the human body is the source of notions of orientation and direction, proved to be a major ethnocentric error. Similarly, the presumption that all languages use planes through the human body (up/down/, front/back, left/right), as Kant contended in an influential paper in 1768, turned out to be false and reflected the linguistic prejudices of Indo-European languages (Levinson 2003, 6-14).

In his 2003 book, Levinson summarized extensive work on human orientation and claimed that languages utilize only three main coordinate systems or frames of reference, which he identified as the intrinsic, relative, and absolute. However, languages may not use all three – most utilize two in everyday communications -- and each system may be variously instantiated, expressed, and elaborated across language communities (Levinson 2003, 24-60). Drawing upon extensive MPI research, Levinson documented the surprising finding that "choice of a predominant coordinate system in language correlates with, and probably determines, many other aspects of cognition, from memory, to inference, to navigation, to gesture and beyond" (Ibid, 3). That is, people who speak a language that favors one specific frame of reference will tend to think in similar terms, and use a coordinate system of the same type in non-verbal cognition, with the end result that choice of a predominant frame of reference in language determines many other aspects of cognition (Ibid, 213-215). The robust correlations and partial isomorphism between frames of reference employed in language and those used in non-linguistic

representations suggested a "Whorfian effect" of language on cognition, as different human groups use different types of 'mental map' with consequent differences in many aspects of behavior, communication, and culture. Language is the driving force behind choice of frame of reference, constructing for each community a specific 'cognitive style' of spatial representation. In this manner, the adoption of a frame of reference at a cultural level has ramifying effects throughout the various internal spatial representation systems, since once a language has opted for a specific frame of reference, all other systems that support language – from memory to reasoning to gesture – provide information and code in the same frame (Ibid, 290). Speakers of languages with absolute coordinate systems tend to be spectacular dead reckoners, while speakers of languages with predominate relative frames of reference exhibit poor dead reckoning skills (Ibid, 278-279). Citing preliminary evidence (Ibid, 322) that brain systems in the hippocampus, parietal, and frontal lobes may correspond to absolute, relative, and intrinsic frames of reference with different neural pathways conspiring to give a seamless overall sense of space, Levinson concluded that, rather than innate ideas, frames of reference emerge from the complex interaction between perception, internal neuroanatomy, ecology, and cultural variation (Ibid, 322). And since there are only three main choices with accompanying constraints and biases, frames of reference show aspects of underlying universals and are complex conceptual constructs or bio-cultural hybrids like language itself (Ibid, 315, 324).

The MPI research documented extraordinary diversity in underlying conceptualizations as well as linguistic encoding of space in specific languages, substantiating the controversial question of how far the foundations of human cognition are innate. For the predominant view is that cognitive universals provide a rich, innate representation of the world, which is mapped into variable surface formats of languages – i.e., that knowing a language is translating mentalese into

strings of words and vice versa. In our apperception of space, universals of spatial thinking should be reflected in universal conceptualizations in spatial language. However, human spatial cognition is culturally variable, sometimes based on incommensurable conceptual systems, and language reflects this variability. Even if thought and language closely parallel one another, with partial isomorphism between spatial thinking and spatial language, there are myriad internal representations of space each appropriate to sensory inputs and motor outputs, and language semantics are a pale shadow of those underlying mental systems. And since thought is richer than language, any simple equation of conception and semantics is theoretically mistaken, and cognitive diversity is reflected in linguistic diversity (Ibid, 292-296).

For Levinson, theorists seeking to escape strong versions of a "Whorfian resurgence" can either claim that every concept in every language is part of a universal mental endowment from which individual languages draw a tiny subset for their vocabulary – the common view of nativists -- or presume a more modest but still rich mental endowment offers a set of primitives from which all semantic concepts can be constructed. Kantian ideas are echoed in the former – the nativist tradition associated with the cognitive science movement – in which natural language semantics directly reflect universal, innate categories (Ibid, 316-318). Among nativists, Fodor held that every attainable human concept – viewed as a single central representation, macro-package, or unanalyzable whole -- was already part of innate mental endowment (Fodor 1975, 1983); Pinker and Bloom (1992) viewed mind as a highly specialized and structured system of innate modules; Chomsky (1965) endorsed the universality, innateness, and hidden structure of linguistic forms as an accidental by-product of evolution; and Tooby and Cosmides (1992) similarly concluded that structured contents of mind such as language were ancient evolutionary adaptations given impoverished and degraded information in the environment (see discussion of

these theorists in Levinson 2003, 291-325). Buttressed by the MPI research on spatial cognition, Levinson opposed the simple nativism embedded in these theories -- the idea that the form (syntax) and content (semantics) are innate, directly projected from universal concepts – as ill-informed given the depth of linguistic diversity (Ibid, 308). In opposing any simple conflation of conceptual structure and semantics, Levinson outlined a new, hybrid route permitting both universal conceptual primitives and unitary meanings at a lower level of cognitive processing and complex packaging and decompositional meanings of lexemes (as gleaned in componential analysis) facilitating linguistic diversity for learning purposes at a higher level (Ibid, 292-301). This dual-level theory permitted consideration of possible Whorfian effects of language on cognition while hanging onto fundamental "psychic unity." However, while Whorf emphasized the role that obligatory grammatical categories may have on patterns of thinking via behavioral compulsiveness and entrainment of habitual thought, Levinson's argument was based on the overall architecture of the system, since language-specific categories and cultural choices place constraints on other cognitive modules supporting, coding, and operating on output (Ibid, 301).

Rather than language putting labels on pre-made concepts, revised views on acquisition contend that language is a fundamental facilitator of complex concepts and higher-level reasoning, and the very foundation of human cultural abilities (Ibid, 307). Language and human communication systems actually promote conceptual development, including in spatial cognition, and induce subtly different cognitive styles, vice simply reflecting domain-general learning espoused by Piaget and others. In this manner, learning a language plays an important role in restructuring cognition as language canalizes the mental landscape. For Levinson, the major and unexpected discovery is that linguistic differences correlate with, and seem to induce, major differences in spatial cognition across human groups – i.e., the thesis that human spatial

thinking is quite heavily influenced by culture, and by language, and when languages differ in crucial respects, so does corresponding conceptualizations of spatial relations (Ibid, 309). Given cognitive and linguistic diversity, Levinson deemed constructivism to be compatible with strong universals, innate biases and domain-specific learning. The child language learner builds concepts while learning language vice simply mapping local forms onto pre-existing innate concepts, with earliest frames of reference mastered about age four and spatial language fully mastered in late childhood (Ibid, 307-314, 325).

Linguistic universals have typically been formulated either in highly abstract generative terms, in which case they cannot be tested empirically with any degree of confidence, or they are formulated as superficial but testable generalizations that are statistical or conditional tendencies (Ibid, 320). The extensive MPI research demonstrated that many purported universals of spatial language evaporate cross-linguistically – for example, there are no universal IN and ON concepts. In Levinson's theorization, universal elements are constraints and biases, and cultural traditions work within the constraints to select among a restricted inventory of possibilities while always constructing specific instantiations in which universal and relative elements are deeply interlocked in any one linguistic system. Linguistic variation in semantical organization is not indefinite, and universals allowing variants are compatible with modest linguistic determinism. The limited empirical research on semantic universals – such as Berlin and Kay's work on color terms and Goddard and Wierzbicka's postulation of natural 'semantic metalanguage' – likewise suggests that typological constraints lie behind semantic diversity, with a push-pull relationship between neurophysiological biases and cultural pressures (Ibid, 315).

While acknowledging Pinker's lament on the prevalence of "mindless dichotomies of heredity-environment … unhelpful bromides about inextricably intertwined interactions"

(Pinker 1994, 407; quoted in Levinson 2003, 316), Levinson ultimately endorsed a co-evolutionary perspective on human cognition, wherein culture and the biological foundations for cognition have co-evolved and mutually adapted (Levinson 2003, 319-321). For Levinson, the most fundamental biological fact about human communication is its systematic variability in form and content over populations, and evolutionary theory must explain why human beings are the only species to exhibit such variability. Recognizing that spatial thinking – a central area of cognition indubitably hard-wired in many species – can be partially a matter of our cultural "software," Levinson contended that we are specifically equipped to handle cultural variation and that we possess a special innate machinery for tuning into a local variant system (Ibid, 318-319). And since speed of adaptation makes culture evolutionarily advantageous, human wayfinding involves a continual interaction between low-level percepts, ecological facts, and functional needs. Spatial cognition highlights this systematic interaction between structure in mind and structure in a densely patterned cultural environment that is precisely designed to induce cognitive patterns and contentful mentalities for experiencing the world (Ibid).

In *Symbolic Action Theory and Cultural Psychology* (1991), Ernst Boesch delineated one of the earliest treatments to date on time and space under the rubric of cultural psychology. Relying heavily upon symbolic action theory, Boesch's cultural psychology examined how "behavior" becomes "action" within a field organized into hierarchies and systems of goals and meanings. According to Boesch, a "field of action" in the cultural sense embraces the totality of action opportunities and conditions a culture offers its population, action possibilities that an individual may not be aware of and/or must discover over the course of human development and maturation. Culture offers possibilities of, but also stipulates conditions for action. As an action field, culture induced and controlled action while being continuously transformed by it. Both

process and structure, "culture provides a system of objects, rules, recommendations and prohibitions which both facilitate action and circumscribe its limits" (Boesch 1991, 36).

Echoing Gestalt theorists' distinction between "geographical" and "behavioral" environments, Boesch investigated the cultural structuring of space shaped by the objective, social, and ideational contents of a cultural environment. In Boesch's symbolic action theory, the specific *context* – cultural, environmental, situational, and mental – in which action takes place must be understood before ascertaining causality. Boesch's ideas resonated with Kurt Lewin's field theory, in which the "field" of a person (with goals, perceived barriers, and psychological valences) interacts with a larger field or "life space" comprising a behavioral and cultural environment. Lewin's "life space" designated the person and the psychological environment as it exists for the person. For Boesch, the interaction between a human being and his or her environment was conceived in a developmental-constructivist perspective whereby action is a systemic process with polyvalent and ubiquitous symbolism. But action is qualified less by specific goals than by its future-oriented structuring of human behavior. The combined influences of complex "surroundings" lead to the formation of relatively constant action tendencies and regulate the diverse goals and acquired skill sets individuals tend to pursue. On the basis of "human universals," i.e. a general potentiality, culture – defined as relatively stable psychological, material, and institutional results of interaction between individuals / groups, and their natural, material, and social surrounding – controls development of specific abilities and action trends. The individual deals with a "cultivated" surrounding, the surrounding meets the "acculturated" individual, and both go on acting on each other.

Space, over against its physical layout, is mentally structured and can be viewed as a valence system that varies for cultures and individuals. We perceive those contents of reality

which relate to our actual or latent tendencies, while those action tendencies concomitantly are influenced by inputs from concrete reality; we choose among those inputs, accepting some, rejecting others, or storing them for future use. For Boesch, outside reality is too rich to be assimilated in its entirety; we have to effect choices (1991, 150). By selection and arrangement of objects and places, we constitute a material support structure for our actions while the structure of our actions progressively accommodates to material patterns of our environment. For example, the material configurations of a home constitute both a mold for, and a replica of, our action structures. Roger Barker (1968) termed this congruence between actions and environments a "synomorphy" which facilitates action and thereby increases our action potential.

Space is named, shared, and used in various ways, with subjective space differing from 'objective'/mathematical/geographical space because of its relevance for the economy and efficiency of action (Boesch 1991, 145). The places of our world are structured through the actions we tend to perform there; they are tied to each other by "psychological distances" (Ibid, 30), and together form a network that derives meaning from interrelated actions of an individual. For Boesch, this network is the individual's "action space" – i.e., objective space filled with arranged meanings – which is structured by past, present, and projected actions. A collective space of action consists of the combination of individual action spaces. In historical perspective, the ongoing results of historical process and historical change, and the artifacts and ideational contents thereby created, constitute an apparently constant or resistant framework for its inhabitants. Action space is structured according to places, which are characterized as locations for certain activities, connected among each other by distances and "transitions" or "between-places." The action space or "territory" of a person combines a number of places, or activity centers, separated by distances which also have their particular qualities, characterized by the

length of the way between places, the special features of the terrain they cover, as well as the hindrances they might impose. (Ibid, 148) The cognitive structuring of space is motivated by the valences attached to different places, and a spatial area becomes a place or activity center by virtue of the valences of actions performed there (Bosch 1991, 149).

While the functional potentialities of individuals in different cultures are largely similar, variables such as climate, geographical situation, economic, educational, and cultural factors condition further specializations, and contribute largely to the formation of interests and values. For Boesch, environment does not consist solely of physical and social constellations, but also of "ideational" ones, and environment is thus simultaneously objective, perceived, and thought. Environment not only becomes an individually structured action field, but leads to cultural conceptualizations, elaborations, and evaluations. Culturally represented as a person-environment-structure implying opportunities, rights, and obligations, environment localizes the action goals of individuals or groups, and in turn is, materially and symbolically, structured around these action goals. In order to orient, "localize," and reinforce our actions, we require a structuring of constancies as well as experience and anticipation of change. The polyvalence of the environment has both an individual and a collective quality, and environmental structures include both actual and potential action goals. For action – goals and situative referents – is always both real and symbolic. We live in a bio-geographical environment, which constitutes the "objective" world that is representationally structured by human beings (Ibid).

In *The Cultural Psychology of Self: Place, Morality, and Art in Human Worlds*, Ciarán Benson (2001) examined the self as a locative system for orienting and stabilizing persons within the flux of ever-changing experience. Contending that location is a basic ontological category for psychology – i.e., that "who" and "what" you are is a function of "where" you are – Benson

argued that the self serves primarily to navigate both perceptual/physical (space-time) and symbolic/cultural (place-time) worlds via the body's constant auto-referred locating and immersion in language-mediated social relations (2001, 3-14). As recognized by Kant, the morphology of the human body – namely, being creatures who stand upright, 'face' forward, and are bilaterally symmetrical – has significant consequences for spatial construction and the creation of a dynamic, mobile, flexible centredness constitutive of self (ibid, 7-8). The 'here'/'there' binary is particularly significant for movement of bodies from a starting point to a resting one. Viewing place as humanized, personalized space, Benson juxtaposed the place-time of personal and collective memory – of places inexorably constituted by connection with, and embodiment of, certain moments in experiential time -- with contemporary scientific conceptions of an impersonal and generally homogeneous space-time (Ibid, 6-7). For Benson, human beings inhabit places rather than occupy spaces and the subjectification of space and time is a collective evolutionary and cultural achievement.

> We cannot imagine being nowhere. We can envision ourselves being lost, but that is to be somewhere unfamiliar to us, possibly without the means of getting back to a place we know. Where and when, place and time, are the conditions of existence. Being nowhere is simply a contradiction in terms. Without being placed or located I would not be, and where I find myself implaced influences not just the fact of my being but also its nature. Where, when, and who are mutually constitutive. Lives, selves, identities are threaded across times and places. Who you are is a function of where you are, of where you have been and where you hope to arrive. There cannot be a 'here' without a 'you' or an 'I' or a 'now'. Self, acts of self-location, and locations are inextricably linked and mutually constructive. (Ibid, 3-5)

According to Benson, a primary task of the central nervous system is to constitute an organism's position in a world, and for human beings the process of constituting ourselves as unfolding stories (i.e., as narrative agents) being situated and re-situated in incessantly reconfiguring worlds is dependent upon moral and symbolic placement and the repertoires of

cultural-historical options available to people and their communities. In this regard, location, dislocation, and re-location are persistent themes for understanding the self as a locative system. Citing works by Jerome Bruner, Michael Cole and others, Benson noted that

> … Cultural psychology examines how people, working together, using a vast range of tools, both physical and symbolic – tools which have been developed over time and which carry with them the intelligence that solved specific problems – make meaningful the world they find, make meaningful worlds, and in the course of doing all these things, construct themselves as types of person and self who inhabit these worlds … Cultural psychology implicitly acknowledges that how one is located in one's community, how that community is situated in its wider society, how that society stands in relation to other societies, and how these relationships are placed developmentally and currently in history, all have profound relevance for the kinds of mind and self that may be formed. Its stress on acts of meaning-making, on the available tools with which the making is done, and on the constraints endemic to the times in which the meanings are made, are also central to understanding … mind and selfhood (Ibid, 11-13)

Culture plays a significant role in autobiographical dimensions of the self, particularly the placement of a person in individual historical time – itself coincident with and incorporated into broader sociocultural time horizons – between a lived past and anticipated future. Towards that end, the brain constantly renews body image and autobiographical memory. According to Benson, "Understanding the navigational strategies of people in symbolic worlds means understanding the local topographies of meaning of their communities and culture" (Ibid, 25). The shape of self is made and re-made as autobiographical stories are told and re-told in an ongoing redaction of self narrative that is fabricated with the storytelling tools, tropes, and genres of a cultural community. This construction of self is a creative, imaginative act revealing narrative as a distinctive mode of cognitive functioning. And autobiography is specific to time and place: "Where and when you are born and reared matters hugely for the skills of selfhood that you acquire, and for the sort of self you become. The contingencies of historical phase, cultural type, and economic status will shape the world in which a child has to find a place,

determine the scope of actions that will compose his or her sense of agency, and prescribe the type of story that she will be permitted and enabled to tell and be" (Ibid, 57).

The above-mentioned examples of explicit treatments of time and space in cultural psychology will be supplemented by a thorough examination of implicit renderings that collectively suggest avenues for an emergent cultural psychology of time and space. Beyond differences in the way communities conceptualize time and space in linguistic forms, elaborate them in cultural categories, or reckon them in ritualized or routinized activities, cultural psychology must ultimately explain how the individual experience of time and space is indebted to both psychological propensities and cultural inheritance. This includes accounting for the emergence of a psychological "now" from the re-collections and retentions of a biographical and cultural past and the anticipations and protensions of an unfolding future; the crafting of personal stories and life course histories from culture's narrative and symbolic tools; the intrication of individual, social / communal, and cultural time horizons; the marking, re-marking, and segmentation of temporal durations into meaningful intervals; the psychological significance of futuristic planning and goal-driven activities; the importance of embodiment in navigating spatiotemporal environments; the constituency of time and space in memory, identity, and constructions of self; the significance of artifacts and their spatiotemporal signatures for acquisition and transmission of culture; transaction(s) between the human mind and ecological settings, activity contexts, social "landscapes," and culturally configured environments; the primacy of place for human in-habitation and symbolic discourse; and the role of time, space, culture, and imagination in psychological worldmaking and macro-level religious cosmologies.

A review of select journals covering cultural psychology and related topics – namely, *Culture & Psychology; Ethos: Journal of the Society for Psychological Anthropology;* and *Mind,*

Culture, and Activity – reveals that aspects of time and space have been repeatedly featured over recent decades without being fully incorporated into cultural psychology research paradigms. While *Time & Society* and other periodicals have regularly explored psychological research themes, the above-mentioned journals are at the forefront of research on culture/mind interactions and are hence indicative of the relative salience of temporal and spatial categories in associated fields. Since its inception, *Culture & Psychology* has been the most prolific of these journals in exploring temporal and spatial themes, with two issues devoted primarily to time in June 2000 (Vol. 6, No. 2; essays focus on role of time and culture in formation of selfhood; see especially articles by Lightfoot and Lyra; Lock; Lemos; Nelson; Sinha; Chandler; Shotter; Sarbin; White; and Polkinghorne) and June 2006 (Vol. 12, No. 2; essays focus on psychological models of time; see especially articles by Valsiner; Yamada and Kato; Diriwächter; Rudolph; Thorngate; Müller and Giesbrecht; and Hood); one issue exploring the dynamics of narrative and cultural memory (March 2002, Vol. 8, No. 1; see especially articles by Brockmeier; Wang and Brockmeier; Middleton; and Rasmussen); one issue devoted to the literal, figurative, and/or spatial "positioning" of selves (September 2001, Vol. 7, No. 3; see essays by Hermans; Bhatia and Ram; GonAalves and Salgado; and Chaudhary and Sriram) (see also König 2009; de Haan 2011; De Sousa Bastos 2017); one issue dealing with the notion of "psychical distance" (June 2002, Vol. 8, No. 2; see essays by Cupchik; Sigel; Bourdais; and del Rio) (see also Müller et al, 2013; Rochira 2014; Joerchal 2015); and one issue dedicated to the appropriation of domestic spaces (June 2007, Vol. 13, No. 2; see essays by Giorgi, Padiglione, and Pontecorvo; Lyra; Morioka; Trillos; and Jones). Other notable essays cover narrative (Wertsch 1997; Gone, Miller, and Rappaport 1999; Rasmussen 1999; van Geert 2006; Cross 2010; Ribeiro et al, 2010; Hammack 2010; Guimarães 2010; Wertsch 2011; Gómez-Estern and Benítez 2013; Levy and

McNeill 2013; Lopez et al 2014; Sala et al 2017); memory (White 1997; Brown, Middleton, and Lightfoot 2001; Van der Veer 2001; Brockmeier 2010; Echterhoff 2011; Wertsch 2011; Tileagă 2011; Murakami 2012; Carretero and Solcoff 2012; Haye 2012; Hewer and Roberts 2012; Mininni et al, 2013; Cabillas 2014; de Saint-Laurent 2017; de Saint-Laurent et al 2017; Brockmeier 2017; Brown and Reavey 2017; Wagoner 2017; Obradovic 2017; Nicholson 2017; Awad 2017; Glaveanu 2017; de Luna 2017; and Zittoun 2017); lifespan / lifecourse development (Saito 1998; Janssen 2009; Moghaddam 2010; Marsico 2015); Ernst Boesch's symbolic action theory (Baltes 2001; Boesch 2001; and Simao 2001); conceptions of place and space (Poddiakov 2002; Gone 2008; Zentella 2009; Kharlamov 2009; Minami 2009; Watzlawik 2014; Marsico 2016); person / environment relations (Thommen and Wettstein 2010); history (Tapia-Balladares 2002; Muller 2012; Brescó 2016); pilgrimage (Beckstead 2010); artifacts (Sammut et al, 2010; Beckstead 2015); context (Magovcevic 2003); death (Lehmann 2012); future time perspective (Morselli 2013); and co-evolution (Cousins 2014; Kohler 2014; Franks 2014; Castro-Tejerina et al 2015; Tateo 2016).

Since its inception in 1994, the journal *Mind, Culture, and Activity* has published ongoing research in cultural-historical theory that has extended the pioneering theories of L.S. Vygotsky, A.S. Luria, and A.N. Leontiev while promulgating the version of cultural psychology developed by Michael Cole and his collaborators. Given cultural-historical theory's emphasis on the role of cultural tools (i.e., artifacts) in the semiotic mediation of experience over microgenetic, ontogenetic, cultural-historical, and phylogenetic time scales, as well as the prevalence of chronotopic studies, it is not surprising that time is frequently treated as an analytical variable in several essays (see Middleton 1997; Keller and Keller 1999; Gaskins 1999; Monroe 1999; Berkenkotter & Ravotas 1997; Lemke 2000; Manier 2004; Jansson 2011; Perone and Goncu

2014; Cole, Goncu, and Vadeboncoeur 2015; Wallerstedt and Pramling and Saljo 2015; Rosborough 2016). In fact, the inaugural issue included an article by Jaan Valsiner (1994) on "Irreversibility of Time and the Construction of Historical Developmental Psychology," which faulted developmental psychology for failing to account for the irreversible time frame of developmental phenomena and applied Henri Bergson's philosophy of time and constructive evolution to historical psychology. Jens Brockmeier (1995) directly incorporated time into cultural-historical theory in his essay entitled "The language of human temporality: Narrative schemes and cultural meanings of time." While the category of space is implicit in essays dealing with activity settings, social landscapes, and learning environments (see Cole 1997; Sarason 1997; Penuel and Davey 1999; Gutiérrez et al, 1999; Brockmeier 2001; Leander 2002; Lee and Roth 2003; Murphy 2004; Park and Yuji 2006; Nardi 2007; Hedegaard 2009; Baumer and Radsliff 2009; Crafter and de Abreu 2009; Fleer and Hedegaard 2009; Fors and Bäckström and Pink 2013), Volume 13, Issue 3 (2006) explicated the significance of space and spatial analysis (see essays by Vadeboncoeur, Hirst, and Kostogriz; and Kostogriz) for understanding how contemporary conditions of mobility and movement across spatial boundaries have problematized experiences of situationality, meaning-making, and learning places (See also Hammond 2003; Engeström and Sannino 2012; Ma and Munter 2014; Winn 2015; Jornet and Steier 2015; Holmqvist 2015; Nishizaka 2017). Other notable essays address spatiotemporal aspects of objects and artifacts (Ueno 1995; Latour 1996; Heath 2000; Lemke 2000; Garrison 2001; Miettinen 2001; Kaptelinin 2005; Miettinen 2005; Stetsenko 2005; Cole, Goncu, and Vadeboncoeur 2014; Nicewonger 2015; Guribye 2015; Kabayadondo 2016; Nardi et al 2017).

A search of the journal *Ethos*, first published in March 1973, uncovers numerous articles dealing with aspects of time and space. However, aside from the (above-mentioned) essays

covering linguistic encoding of temporal and spatial concepts in natural languages – especially the March 1998 and September 2014 special issues dedicated to language and space (see Lucy 1998; Danziger 1998; Wierzbicka 2002; Wierzbicka 2005; Mawyer and Feinberg 2014; Bennardo 2014; Mawyer 2014; Feinberg 2014; Genz 2014; Ammarell 2014; Shore 2014; Nash 2016; Mawyer and Feinberg 2016; Wierzbicka 2016; Quinn 2016) – the accompanying essays typically only mention time or space in passing, reference them indirectly or metaphorically (Baldassare and Feller 1975; Kimball-Romney and Moore 1998; Brereton 2000; Salamon 2002; Galbraith 2004; Leander 2004; Leatherman 2005; Luttrell 2006; Walkerdine 2006; Yafeh 2007; Hewlett 2009; Silver 2010; Sobraske et al 2013; Zigon 2014 on morality and dwelling; Hollan 2014), consign them as sociological or analytical variables (Devereux 1975; Schwartz 1975), or treat these categories indirectly while exploring memory (White 1999; Garro 2000; Wertsch 2000; Matsuki 2000; Eidson 2000; Linde 2000; Lomsky-Feder 2004; MacPhee 2004; Birth 2006, two essays; White 2006; Shore 2008; Wertsch 2008; Hay 2009), narrative (Miller, Sandel, Liang, and Fung 2001; Ogembo 2001; De Meis 2002; Prince 2010; Sirota 2010a, 2010b; Waldram 2010; Taggart 2012), life span and development (Whiting 2001; Ochs and Izquierdo 2009; Brown et al 2009), event sequencing (Quinn 2011), and geographical location (Maquet 1975; Lattas 1990; Schattschneider 2000; Dickson-Gomez 2002; Lomsky-Feder and Rapoport 2002; Satterfield 2004; Hicks 2004; James 2006; Goluboff 2011; Andits 2015). Given the importance of this journal for chronicling developments in psychological anthropology over recent decades, the frequency of time/space references suggests that these categories have been of episodic research interest even if unelaborated in broader theoretical treatments.

THE PURSUIT AND RELEVANCE OF PSYCHOLOGICAL UNIVERSALS

SECTION NOTE: This section provides a very broad overview of purported human universals in order to better frame cultural psychology's approach to time and space as seemingly pervasive features of mental life. Rather than seek invariant laws of behavior unaffected by content or context, cultural psychology accepts that human universals exist – especially a fundamental psychic unity across minds and cultures – but neither presumes empirical or contingent commonalities nor accepts the excesses of cultural relativism. Instead, cultural psychology brackets the question of universal feature sets while emphasizing discretionary aspects of human psychology derived from membership in particular cultural communities in specific historical and geographic settings. This section reviews various categories and types of proposed universals as well as the ongoing appeal of evolutionary theories to social thought. In addition to selections from the *Handbook of Cultural Psychology*, the section examines Clifford Geertz's "incompleteness theory"; definition of culture as plans, recipes, and control mechanisms for governing behavior; and proposition that becoming particular vice general is the universal human condition as individuals translate generic potentialities into specific performances in time and space. Finally, this section delineates Shweder's claim of "universalism without the uniformity" or the proposition that human beings exercise enormous potentiality through manifest particularity.

General psychology and cross-cultural psychology – operating under the assumption that basic psychological processes are fundamentally unaffected by content or context -- have tended to focus on identification of laws of behavior that are invariant across time, space, and historical

context. In contrast, cultural psychology – treating culture and psyche as mutually constitutive phenomena in which culture and individual behavior are not reducible to each other – views psychological structures and processes as patterned, in part, by cultural meanings and practices that have significance only with reference to particular communities of intentional agents. Neither denying nor privileging universal aspects of psychology such as possible cross-cultural empirical generalities or contingent universals, cultural psychology accepts that psychological structures and processes may vary fundamentally in different cultural contexts. Navigating between the Scylla of presumed psychological universals and the Charybdis of extreme relativism, cultural psychologists acknowledge robust innate capacities of mind while insisting those capacities find expression only in particularized cultural experiences among communities of minds producing, reproducing, and altering shared mental inheritances.

As well-documented in the history of anthropology (see Stocking 1968, 1987; Jahoda 1989, 1993), early twentieth century anthropologists endorsed the idea of psychic unity – i.e., the proposition that people everywhere share the same psychological capacities and mental endowment – to repudiate Enlightenment era, evolutionary, and/or racist schemes presenting human cultures and peoples along a progressive, hierarchical scale of accomplishments. Early theorists of culture such as E.B. Tylor treated "culture" or "civilization" as singular nouns denoting an accumulated fund of collective achievement that groupings of people possessed in relative degrees of sophistication or progress. Pioneering cultural anthropologists such as Franz Boas employed notions of psychic unity to dispel racist and culturally pejorative assessments of "primitive" or "savage" peoples as well as social evolutionary schemes that applied principles of natural selection to societal change. Although Boas himself endorsed the existence of human universals or "fundamental ideas" (1963; Brown 1991, 54-87) while shifting anthropological

attention away from generalizations towards detailed ethnographic studies of particular cultures, many of his twentieth century successors – to include Margaret Mead and Ruth Benedict – privileged the unique, various, exotic, and peculiar characteristics of their anthropological subjects and neglected further elaboration of psychic unity. One of Boas' students, A. L. Kroeber, articulated in his 1917 essay, "The Superorganic," the view that culture is an autonomous phenomenological realm that cannot be explained by or reduced to psychological or biological terms. Although ambivalence towards universals subsequently pervaded much of mid-20th century anthropology, notable exceptions included Clark Wissler's "universal pattern" or cultural scheme rooted in common human biology (Wissler 1923; see also Brown 1991, 58-60); Edward Sapir's work in linguistics (1994); A. Irving Hallowell's conceptualization of a "behavioral environment" (1955, 1963); "culture and personality" theorists such as Kardiner who adapted psychodynamic methods to explore child-rearing and formation of adult personality (1946); functionalists such as Bronislaw Malinowski whose "List of Universal Institutional Types" sought to demonstrate how cultural institutions peculiar to each society attempted to meet basic and derived needs (Malinowski 1960; see also Brown 1991, 66-68); and anthropologists such as Leslie White (1948, 1973) who sought to incorporate evolutionary concepts into their theoretical pursuits.

Among theorists who explicitly addressed human universals, noteworthy were George Peter Murdock's 1945 essay on "The Common Denominator of Cultures," which provided a comprehensive list of universals of classification based on "the fundamental biological and psychological nature of man and in the universal conditions of human existence" (Murdock 1945, 125; quoted in Brown 1991, 70); Melville Herskovits' chapter on "The Universals of Civilization" in his 1947 book, *Man and His Works*, which sought to reconcile cultural relativism

with the study of universals (see Brown 1991, 71); Clyde Kluckhohn's "Universal Categories of Culture" (1953), which looked towards human biology and psychology as well as uniformities of human social interactions and environmental situations (see Brown 1991, 72-73); Walter Goldschmidt's *Comparative Functionalism: An Essay in Anthropological Theory* (1966; see also Brown 1991, 76-77), which argued that diversity of human institutions are born from a universal set of problems or functions that must be solved or discharged in all societies; Joseph Greenberg's *Language Universals* (1966), which gave special attention to the phenomenon of "marked" versus "unmarked" categories found in all languages (see also Brown 1991, 78-80); and Ward Goodenough's (1970) consideration of the role that universals play in two basic elements in anthropological description and comparison: rights and duties of individuals/persons, and "problems with which all societies have to deal" (1970, 38; quoted in Brown 1991, 80).

Reviews of purported human universals (Barkow, Cosmides, and Tooby 1992; Brown 1991; Chomsky 1965, 1988; Comrie 1981; Coon 1948; Ekman 1972; Fox 1980; Gellner 1981; Greenberg 1963, 1966, 1975, 1978; Hockett 1973; Kluckhohn 1953, 1959; Koepping 1983; Lloyd and Gay 1981; Lonner 1980; Murdock 1945; Parsons 1964; Pinxten 1976; Rosch 1975; Spiro 1954; Tiger and Fox 1971; Wallace 1961; Wierzbicka 1986) in anthropology and linguistics have demonstrated a remarkable diversity of types and categories. While some theorists have enumerated lengthy, heterogeneous lists of so-called universal social facts or cultural traits or complexes – for instance, forms of social structure/hierarchy; kinship relations/terminologies; sexual role/status differentiation; conflict mediation; ritual and myth; child-rearing practices; phonemic distinctions; etc. – those realities may presumably exist in all individuals/societies/cultures/languages (i.e., absolute universals), be nearly ubiquitous (i.e., near universals), comprise broad categories (i.e., "universals of classification" or "universal patterns,"

such as practicing religion or possessing a form a government) or sub-forms (i.e., "universals of content," such as facial expressions of emotion), arise from "innate" capacities but not necessarily be "manifest" everywhere, or be contingent upon the presence of other common social conditions (i.e., "implicational" or "conditional" universals; see Greenberg 1966; 1975, 77-78). Norenzayan and Heine (2005) distinguished three types of hierarchically organized universals: (1) an accessibility universal emerging across cultures in the same magnitude; (2) a functional universal emerging across cultures in the same context but differing in magnitude; and (3) an existential universal available in the psychological repertoire of various cultures but elicited by divergent contingencies and in different magnitudes (see discussion in Norenzayan, Choi, and Peng 2007, 588-589). Since societies promote different cultural practices and afford differential expertise and domain knowledge in use of cognitive strategies, even similar cognitive "toolboxes" are actuated and expressed in qualitatively different ways. Furthermore, different cultures may construct complex reasoning strategies out of universal primitives in feats of cognitive engineering (Ibid; Dennett 1995). In the 2007 *Handbook of Cultural Psychology*, Konner (2007, 88-89) adopted a different typology by claiming that the concept of universals has at least five different meanings: (1) behaviors (such as bipedal walking or smiling) exhibited by all normal members of every known society; (2) behaviors that are universal within an age or sex class; (3) central tendencies that apply to all populations but not all individuals (such as sex difference in physical aggressiveness); (4) universal features of culture rather than of behavior (such as taboos against incest and homicide); and (5) characteristics found at some level in all societies, even if rare (such as homicidal violence or depression).

While re-examining universalist claims in six cases within anthropology – color classification, Samoan adolescence, male and female among the Tchambuli, facial expressions,

Hopi time, and the Oedipus Complex – Donald E. Brown's *Human Universals* (1991) remains one of the most comprehensive treatments of universals, their classifications/types, and explanatory concepts. Embracing modest vice strong versions of relativism, Brown argued for the renewed significance of human universals undergirded by a psychobiological human nature, increasingly informed by evolutionary psychology, whose features shape culture and society. Among noteworthy classification schemes, Robin Fox (1989, 113) in anthropology distinguished between "substantive" universals (i.e., "surface" level behaviors, social facts, cultural traits) and "process" universals, while Noam Chomsky (1965, 27-30) in linguistics separated "substantive" universals from "formal" universals. For both Fox and Chomsky, "process" or "formal" universals are deeper level phenomena rooted in human neurobiology (Brown 1991, 39-53). In his 1980 essay entitled "The Search for Psychological Universals," Walter J. Lonner mined anthropological, linguistic, and ethological materials and classified universals as simple, variform, functional, diachronic, ethologically oriented, systematic behavioral, or "cocktail party." In some cases, like Chomsky's (1988) grammatical model or Fiske's (1990) model of social relationships, universals are ideal types that become evident in culturally patterned forms.

While cataloguing candidate universals or their types is theoretically useful, of particular importance is the realization that human beings are biologically primed for the creation, acquisition, and transmission of culture and are equipped with both cognitive constraints and affordances (See Berry and Poortinga et al, 1992) for seizing meaning from their environments and adapting their behavior to ecological conditions. The propensity to acquire culture is itself an unimpeachable human universal reflecting evolutionary foundations as evidenced in learning use and transmission of tools, symbolic communication, and cultural variability. Theorists such as Bruner (1986, 1990) and Cole (1995) have implored the need to incorporate evolutionary

insights and integrate universal biological factors into a general theory of cultural psychology. Cole, for instance, advocated a "cultural context view" in which culture mediates between biology and the environment or between individuals and society, with cultural manipulation of material and symbolic artifacts over multiple (microgenetic, ontogenetic, culture-historical, phylogenetic, and physical) times scales facilitating a co-evolution of human mind and environment. Some universals are also linked to biologically based propensities of the human organism or features of the ecology, but require completion by immersion in cultural meanings and practices, such as universal semantic primitives postulated by Osgood et al (1975), or have open constraints developed in culturally diverse ways, such as the capacity for discriminating sounds. Psychology has always been cultural and experience in cultural environments is necessary for the emergence of most psychological propensities. Or, phrased differently, all behavior is relative to a context and representative of broader psychological processes or principles, some of which may be universal at an appropriate level of abstraction. And to act in a cultural context is in itself a universal principle of behavior. But it is a mistaken simplification to view biology as "natural" and/or "prior to" culture, or to view biology as the sole basis of universal or innate capacities, for we do not experience culture as a set of meanings superimposed upon nature; rather, it is intimately woven into the texture of our perceptions. For nature is no antipode to culture, but is already culture as we experience it. Or, as Jaan Valsiner observed, "culture – in terms of semiotic mediators and meaningful action patterns – is the inherent core of human psychological processes, rather than an external causal entity that has 'effects' on human emotion, cognition, and behavior" (Valsiner 2009). Ultimately, cultural psychology is a hyper-reflexive discipline deconstructing and reconstructing how our culturally saturated minds interrogate the very instrument we employ in our psychological pursuits.

In two seminal essays included in *The Interpretation of Cultures* (1973), anthropologist Clifford Geertz rejected the "uniformitarian view" of a constant human nature "independent of time, place, and circumstance, of studies and professions, transient fashion and temporary opinions" as an illusion and instead proposed that "what man is may be so entangled with where he is, who he is, and what he believes that it is inseparable from them … the conviction that men unmodified by the customs of particular places do not in fact exist, have never existed, and most important, could not in the very nature of the case exist" (Geertz 1973, 35). Seeking to avoid the extremes of both cultural relativism and cultural evolutionism, Geertz suggested that scholars "leave the Garden" and "entertain the idea that the diversity of custom across time and over space is not a mere matter of garb and appearance, of stage settings and comedic masques … the idea that humanity is as various in its essence as it is in its expression" (ibid, 36-37). Geertz rejected the "stratigraphic" conception of human nature whereby biological, psychological, social, and cultural "levels" are successively superimposed (ibid, 37). While opposing this stratigraphic view of man as a hierarchically stratified animal or evolutionary deposit, Geertz resisted the search for empirical (i.e., substantive) universals of culture, whether or not rooted in subcultural realities, "in the face of the diversity of customs around the world and over time" (ibid, 38); the effort to relate such purported uniformities to biological, psychological, and social constants; and the *consensus gentium* (consensus of mankind) notion that there are discoverable things all men agree upon, practice, or possess. Geertz assessed that the search for "bloodless" cultural universals was illusory and led to the very relativism it sought to avoid, even if such universals were conceived as "crystallized" or "institutionalized" responses to "unevadable" human needs or existential realities (ibid, 42). Rather than complexes of concrete behavior patterns (customs, usages, habits, traditions), Geertz defined culture as "a set of control

mechanisms – plans, recipes, rules, instructions (what computer engineers call 'programs') – for the governing of behavior" (ibid, 44) and proposed that man was dependent upon such "extragenic, outside-the-skin" control mechanisms since human thought is social and public vice purely interiorized and consists of a traffic in significant symbols imposing meaning upon experience" (ibid, 44-45).

> And out of such reformulations of the concept of culture and of the role of culture in human life comes, in turn, a definition of man stressing not so much the empirical commonalities in his behavior, from place to place and time to time, but rather the mechanisms by whose agency the breadth and indeterminateness of his inherent capacities are reduced to the narrowness and specificity of his actual accomplishments. (Ibid, 45)

In place of the "stratigraphic" conception of human nature in which biological advances were basically completed before cultural advancements began, Geertz proposed a "synthetic" or "interactionist" framework "in which biological, psychological, sociological, and cultural factors can be treated as variables within unitary systems of analysis" (ibid, 44). In the former "critical point" theory of the appearance of culture, man's physical being evolved through genetic variation and natural selection until a marginal genetic change at some point in phylogenetic history – i.e., the crossing of a "mental Rubicon" – rendered man capable of producing and carrying culture, which then superseded genetics as man's predominant adaptive response to environmental pressures (ibid, 46-47). In Geertz's "interactionist" framework, biological and cultural evolution developed apace, since unlike lower animals, whose genetic endowments predetermine and order their actions within narrow ranges of variation, man possesses general response capacities, considerable plasticity, and unfinished, loosely regulated behavioral mechanisms that positively demand completion by environmental and sociocultural inputs.

> Undirected by cultural patterns – organized systems of significant symbols – man's behavior would be virtually ungovernable, a mere chaos of pointless acts and exploding emotions, his experience virtually shapeless. Culture, the

> accumulated totality of such patterns, is not just an ornament of human existence but – the principal basis of its specificity – an essential condition for it (ibid, 46) … What this means is that culture, rather than being added on, so to speak, to a finished or virtually finished animal, was ingredient, and centrally ingredient, in the production of that animal itself. (Ibid, 47)

For Geertz, man comes into the world an incomplete animal who finishes himself through immersion in specific cultural forms (vice culture in general) and symbolically mediated programs that allow him to create his own biological destiny (ibid, 48-49). According to Geertz's "incompleteness" hypothesis, "there is no such thing as a human nature independent of culture. Men without culture … would be unworkable monstrosities with very few useful instincts, fewer recognizable sentiments, and no intellect: mental basket cases" (ibid, 49). In this regard, man's accumulated fund of significant symbols "are thus not mere expressions, instrumentalities, or correlates of biological, psychological, and social existence; they are prerequisites of it. Without men, no culture, certainly; but equally, and more significantly, without culture, no men" (ibid, 49). Culture does not merely supplement, elaborate upon, or accessorize organically based capacities; rather, it is ingredient in those very capacities, for the human brain is thoroughly dependent upon cultural resources that are constituent, vice merely adjunct, to mental activity. Since the final stages of biological evolution occurred after the initial stages of the growth of culture, it follows that the innate constitution of man (i.e., basic human nature) is functionally incomplete and "unworkable" without the cultural resources necessary for both survival and existential realization (ibid, 82-83).

> When seen as a set of symbolic devices for controlling behavior, extrasomatic sources of information, culture provides the link between what men are intrinsically capable of becoming and what they actually, one by one, in fact become. Becoming human is becoming individual, and we become individual under the guidance of cultural patterns, historically created systems of meaning in terms of which we give form, order, point, and direction to our lives. And the cultural patterns involved are not general but specific … Man is to be defined neither by his innate capacities alone, as the Enlightenment sought to

> do, nor by his actual behaviors alone, as much of contemporary social science seeks to do, but rather by the link between them, by the way in which the first is transformed into the second, his generic potentialities focused into his specific performances. It is in man's *career*, in its characteristic course, that we can discern, however dimly, his nature, and though culture is but one element in determining that course, it is hardly the least important. (Ibid, 52)

Geertz himself subscribed to the doctrine of the psychic unity of mankind – the assertion "that there are no fundamental differences in the fundamental nature of the thought process among the various living races of men" (ibid, 62) – while echoing Margaret Mead in the empirically established generalization that "as far as their [inborn] capacity to learn, maintain, transmit, and transform culture is concerned, different groups of *Homo sapiens* must be regarded as equally competent" (Mead 1958; quoted in Geertz 1973, 69). Yet, while Geertz celebrated a common humanity, he also famously observed that "One of the most significant facts about us may finally be that we all begin with the natural equipment to live a thousand kinds of life but end in the end having lived only one" (Geertz, 1973, 45). Whether immersed in Balinese conceptions of the person or permutational calendars, categories of time, space, and place concretized Geertz's assertion that the universal is not simply expressed or actuated in the particular, but that in a very human sense becoming particular is the universal. As Geertz surmised, rather than heralding a death knell to universals, this realization reconnoitered them not by way of the particular but as the particular. Born with the psychological capacity to intuit, reckon, and symbolize the multiple forms that time and space may be manifested or experienced, a human being advances from utilitarian functions/exercises of serializing and spatializing action to constructing elaborate worlds and cosmologies through which to organize and frame the meaning of lives, communities, cultures, and even species.

Although the use of biological theories to comparatively rank cultures along a progressive scale of achievement – particularly in the form of social evolutionism -- was

discredited in early twentieth century anthropology, the continuing appeal of evolutionary theory for select anthropologists was evidenced in a 1960 symposium at the University of Chicago and subsequent three volume publication edited by Sol Tax on evolution, culture, and psychology (Tax 1960, Volumes I-III). Edward Wilson's *Sociobiology* (1980) later brought renewed interest in the biological underpinning of sociocultural developments, as did Boyd and Richardson's dual-inheritance model of the co-evolution of genes and culture (1985), and several other manuscripts by prominent social scientists (Sahlins and Service, eds., 1960; Service 1971; White and Dillingham 1973; Steward 1977; Lumsden and Wilson 1981; Ingold 1986; Richards 1987; Eccles 1989; Sanderson 1990; Donald 1991; Durham 1991; Smith and Winterhalder, eds., 1992). Advances in the biological sciences, comparative ethology, evolutionary theory, and models of brain plasticity found expression in the emerging field of evolutionary psychology (Barkow, Cosmides, and Tooby, eds., 1992; Barkow 1994; Corballis 1998; Cummins and Allen, eds., 1998; and Plotkin 1998), which sought to explicate the remarkable adaptability of the human brain across developmental trajectories as well as the mutually reciprocal transmission of genetic and extrasomatic (i.e., cultural) information in individual brains and social collectives. Coincidently, modular views of mind and behavior emphasized the development of innately given, context- and domain-specific competencies or predispositions to make particular distinctions or to draw particular inferences (Hirschfeld and Gelman 1994; Sperber 1996; Shweder et al 2006). These modular, context-specific theories contrasted with generalized theories in psychology by ceding a key role to cultural and environmental influences in the expression of biologically based psychological propensities. Collectively, the renewed interest in evolutionary psychology and modularity of mind emphasized the critical, sometimes contributory, sometimes determinative role that culture plays in the course of human evolution as

well as the life course of individual minds. These theories further recognized that innate constraints traceable to the biological baseline of human psychology have both restricting as well as facilitating effects on human behavior.

Testifying to the enduring relevance of biological research to psychological theory, the *Handbook of Cultural Psychology* (2007) contained five separate essays (see Konner; Chiao and Ambady; Newson, Richardson, and Boyd; Shu-Chen Li; and Levenson, Soto, and Pole) dealing with various aspects of the interaction between cultural psychology, biology, genetics, and evolutionary psychology. Konner's essay is particularly germane given its selective reading of anthropological history and its focus on the "evolutionary origins, biological underpinnings, and cross-cultural constants" (Konner 2007, 81-82) that undergird observed cultural variety. Konner welcomed the renewed late 20th century effort in emergent fields such as evolutionary psychology to characterize "human nature" in its phylogenetic expressions through the application of neo-Darwinian principles such as natural selection and genetic fitness. Finding evidence for universals in higher primate research, hunter-gatherer adaptations, cross-cultural psychosocial development, nonverbal communications, linguistic constructions, brain research on the limits and favored pathways of plasticity, and the maturational nature of human development, Konner contended that evolutionary theory provides the launching point for an effective cultural psychology. For Konner, since psychological processes have evolved, "the starting point for cultural psychology must be the cognitive apparatus brought forward from our higher primate background," (ibid, 98) a universal human cognitive apparatus that requires cultural completion and forms a baseline from which cultural divergences depart.

> Although there is convincing documentation of variation in the incidence or context of expression of most human behaviors, the existence of such a large core of constantly present, if variable, features constitutes a demonstration of the reality of human nature and its validity as a scientific construct. These

> universals are fundamental to the nature of our species in a deeper way than the features found in human hunter-gatherers and from which later forms of society departed; universals are found in all societies regardless of environment or subsistence ecology, and thus may be intrinsic to human nature. (Konner 2007, 89)

Shu-Chen Li's essay claimed that "contextualized experiences shape the functional dynamics of brain-behavior reciprocity" (Li 2007, 528) through the brain's dynamic information processing, ontogenetic 'embodiment' in sensory and perceptual stimuli and motor processes in the external world, and 'embedding' in sociocultural environments. Rather than viewing lifespan development of behavior and cognition as dependent solely on maturation or aging (i.e., growth and decline) of basic information-processing mechanisms and their neurobiological substrates (ibid, 529), Li suggested that both endogenous and exogenous processes combine at various levels to effect developmental outcomes. In this manner, human development reflects three classes of processes: (1) species-typical neurobiological and cultural evolutionary processes; (2) normative, age-graded, ontogenetic processes whereby an individual acquires shared, pragmatic knowledge; and (3) idiosyncratic, (non-normative) influence of person-specific expertise and skill derived from an individual's self-selected and constructed personal life experiences and history (ibid, 530-531). Applying the biocultural co-construction approach to Baltes' (1997) framework for the interplay between biological plasticity and culture over the lifespan, Li noted that biology-based plasticity decreases after maturity, with more and more human culture needed to extend human development to higher levels of functioning with older age (Li 2007, 530-531). In early cognitive development, idiosyncratic, person-specific experiences are less important than species-typical neurobiological and age-normative sociocultural factors; however, in subsequent lifespan phases, life-history-specific influences take on greater significance in adult cognitive development (ibid, 539-540). Given empirical evidence of developmental plasticity at

different levels, Li argued that a purely reductionist approach to the genetic and neuronal bases of bases of mind and behavior ignored the cumulative inputs from cultural, experiential, and developmental contexts:

> Genetic activities and neural mechanisms themselves possess remarkable plasticity awaiting sociocultural contexts to exert reciprocal influences on them and to be the "coauthors" of mind and behavior. People are more than mere biological organisms; human mind and behavior need to be understood in the proper context within a brain, in a body that lives in an eventful world abounding with objects and people. Indeed, the brain offers the necessary biophysical reality for individual cognition and action; it alone, however, is not sufficient to engender the mind or behavior. On the mind-brain continuum, the individual mind is the expression emerging from the personalized brain … The very processes for personalizing the biological faculty of the mind take place throughout lifespan development in environmental and sociocultural contexts, which entail intimate dynamical exchanges between nature and nurture, biology and culture. (Ibid, 540)

Whether emphasizing the "cognitive apparatus brought forward from our higher primate background," the transmission of cultural diversity, or endogenous and exogenous processes finding neurobiological, ontogenetic, or idiosyncratic expression, the aforementioned essays in the *Handbook of Cultural Psychology* (2007) highlight that human beings exercise enormous potentiality through manifest particularity. A central tenet of Richard Shweder's theorization is the slogan "universalism without the uniformity," which allows Shweder to acknowledge a baseline version of psychic unity while posing cultural psychology as an antidote to universalist excesses and a preferred framework for understanding the co-constitution of mind and culture.

> So without denying the existence of some psychological uniformities across all human beings, the focus in cultural psychology is upon differences in the way members of different communities perceive, categorize, remember, feel, want, choose, evaluate, and communicate. The focus is upon psychological differences that can be traced to variations in salient community-based 'goals, values, and pictures of the world.' Cultural psychology is thus the study of the way the human mind can be transformed, given shape and definition, and made functional in a number of different ways that are not uniformly distributed across communities around the world. (1999, 67-68)

While reassessing the uniformitarian principle of psychic unity, Shweder neither denied nor privileged the possible existence of cross-cultural empirical generalities derived from comparative research or contingent empirical universals in psychological functioning, but rather was suspicious of claims of fixed essences, intrinsic features, and universally necessary truths. He further cautioned that processes and constraints once presumed fundamental and uniform have been reframed as local regularities embedded in culturally constructed, institutionally supported forms of self organization that are local, variable, contingent, context-dependent, and "made up." In the realm of psychological functioning and human development, the local factors of a particular cultural environment interact with more widely distributed factors to produce diverse outcomes (Shweder 1993, 500-501). Cultural psychology thus acknowledges that morphological change over evolutionary time provides a deep psychobiological inheritance that nevertheless requires cognitive and neurobiological plasticity over the time of a particular life and particular cultural community. As posited by Shweder et al,

> The main wager of cultural psychology is that the relatively few components of the human mental equipment are so inherent, hard wired, or fundamental that their developmental pathway is fixed in advance and cannot be transformed or altered through cultural participation. The bet is that much of human mental functioning is an emergent property that results from symbolically mediated experiences with the behavioral practices and historically accumulated ideas and understandings (meanings) of particular cultural communities. This was the bet of Herder and Vico in the eighteenth century, of Wundt and Dilthey in the nineteenth century, and of Ruth Benedict, Margaret Mead, Edward Sapir, and many other psychological anthropologists in the first half of the twentieth century. (2006, 719)

By championing universalism without the uniformity, Shweder previewed the incessant encounter between every human being's mental apparatus and the preponderant ideas, beliefs, behaviors, and practices resident in cultural communities. And because the multiplicative contents of culture co-vary with local contexts, normative models, ecological systems, narrative

tropes, and community-specific resolutions to functional needs as well as symbolic ideations, minds everywhere are "transformed or altered through cultural participation."

> A primary concern of cultural psychology is the divergences in the experience-near concepts that organize and make sense of population differences in normal psychological functioning. It would be a mistake, however, to conclude that because cultural psychology is concerned with the divergent, discretionary, or optional aspects of normal psychological functioning, it denies that within a certain range of environments there may exist widely distributed or even universal features of a normal mental life … Whether or not there are empirical universals of the mental life, and what they are, is an empirical issue, which implies very little about the existence of an inherent or intrinsic feature of normal psychological functioning. One can be an 'anti anti-relativist' and an 'anti anti-universalist' at the same time. Cultural psychology documents divergent forms of normal psychological functioning and critiques the idea of necessary or intrinsic processes of mind. Cultural psychology does not deny the possibility of empirical or contingent universals, for it is a mistake to assume that the idea of the intrinsic implies a universal distribution or that processes that are widely distributed must be intrinsic. (Shweder and Sullivan 1993, 514-515)

Shweder's suspicion of fixed essences and intrinsic features, as well as his bracketing of abstract universalist claims in favor of more investigable divergencies in mental processes and cultural practices, echoed Hilary Putnam's critique of the spectator point of view in metaphysics and epistemology – which cast doubt on any notion of an "intrinsic property," or property something has 'in itself' apart from contribution(s) made by language or mind -- and his dispensing of traditional dichotomies between the world 'in itself' and the concepts we use to think and talk about that world (Putnam 1987, 20-21).

Regarding time and space, they indeed may be viewed as emergent capacities in the psychological make-up of every human mind, born out of genetics and the physiological necessities of circadian rhythms, information processing, purposive action, and physical movement. But as the biological priming for spatiotemporal experiences gives way to cultural immersion and interpretation, apace with developmental maturation and geographic travel over the life course, time and space become the fodder of symbolic elaboration as individual minds

rehearse their life stories and undertake worldly and otherworldly journeys. From child rearing to rites of passage to funeral rituals – perpetually enacted in places invested with meaning -- time and space become inextricably embedded with the symbolically mediated experiences, behavioral practices, and historically accumulated ideas and understandings of particular cultural communities. Moreover, the lingering questions about human universals and enduring relevance of evolutionary theories for cultural psychology point to an over-arching truth: the human genome is itself a remarkable historical and geographical record of everything that biology and culture have wrought together, an encapsulation of physiological and ecological signatures that define constraints as well as possibilities for the incarnation of individual minds peculiarizing their common human nature.

THE SENSE OF SELF OVER TIME

SECTION NOTE: This section contends that 'what' and 'who' of each person's unique psychological trajectory – its traces and signatures – is a one-of-a-kind historical genealogy embodying multiple time scales and geographic placements. Anthropologist Irving Hallowell acknowledged that the self's purely psychophysical dimensions of time and space were biologically rooted but insisted that schematic perception involved experiential components functioning under the influence of a culturally constituted spatiotemporal orientation. This section also examines Shweder et al's concept of "selfways" or characteristic patterns of participation, including ways of thinking, feeling, wanting, and doing that arise from living in a sociocultural context structured by certain meanings, institutions, mentalities, and practices associated with being an "I" in a particular community. A key tenet of Shweder's cultural

psychology is that individuals are born with a heterogeneous complex of inherited forms and dispositions that are selectively activated through cultural experience, with learning being a refashioning of such inherited complexity. The section also references social science formulations of self-identity and previews the significance of human narrative as a cultural mode of thinking and vehicle for circumstantially revising the self as a work in progress.

An authentic cultural psychology of time and space must be informed by disciplinary inquiries into the basic constitution and malleability of the human condition as it presents itself in individual minds immersed in both the particularity and representativeness of their existence. In other words, we must account for our uniqueness and similarity, individuality and sameness. As specific embodiments and token exemplars of our common humanity, conscious minds are born into social collectives buttressed by cultural contents, products, and symbolic forms. They are also born out of unique engagements between psychological processes and available cultural inheritances splayed over the temporal duration and locatedness of lived experience. For "what" and "who" we are is a one-of-a-kind historical genealogy embodying multiple time scales – species, genome, ethnic group, cultural community, familial unit, person, etc. – and multiple geographic placements within continents, countries, regions, cities, landscapes, neighborhoods, and homes. Quite simply, a person's psychological trajectory – its traces, signatures, and pathways – cannot be duplicated. The compilation of discrete moments and positionings in a life course is as singular as it is representationally emblematic of others who precede, coexist, or survive us in negotiating their own space-time contingencies. This is the story of human selves.

In his seminal (1955) essay entitled "The Self in Its Behavioral Environment," American anthropologist A. Irving Hallowell examined the basic orientations – self-orientation, object

orientation, spatiotemporal orientation, motivational orientation, and normative orientation – provided by cultural means to structure the psychological field and permit the emergence and functioning of self-awareness and psychodynamic adjustments. According to Hallowell, the ability to discriminate oneself in a world of discrete objects is a prerequisite condition for the functioning of human social orders, an integral part of both psychological structuralization and sociocultural adaptation. This self-awareness extends beyond ontogenetic experience and embraces historical and cosmological perspectives on the nature of the world and human society. Rather than bestowed at birth, awareness of self, like other objects of experience, grows out of the matrix of indefiniteness and only gradually comes into being with the process of perceptual differentiation. The psychological field in which human behavior takes place is always culturally constituted and human responses are never reducible in their entirety to stimuli derived from an "objective" or surrounding world of physical or geographical objects. For human awareness is mediated by various symbolic devices that establish – through learning and experience – the concepts, discriminations, classificatory patterns, and attributes by means of which perceptual experience is personally integrated. Hallowell's behavioral environment must be distinguished from a concept of environment construed as being "external" to the individual, with properties that are definable independently of the selectively determined responses that socialization processes impose. The "objective," "geographical," or "physical" environment as thus conceived stands in contrast to Hallowell's "culturally constituted behavioral environment."

Hallowell observed that all human societies form temporal horizons and referential means to distinguish past, present, and future while establishing durational intervals, celebrating life cycle periodizations, marking historical events, and coordinating social activities.

> In all human societies we find that certain classes of events have become established as formalized reference points to which it is customary to relate past,

> present, and future occurrences, or in terms of which temporal intervals of greater or less duration may be expressed. Calendars, of course, immediately come to mind. Yet unsystematized, but no less customary, points of reference such as 'a sleep' are employed by many preliterate peoples as units in estimations of temporal length. Events in the life history of individuals – birth, marriage, or other significant occurrences – are constantly evoked to which other events may be related. Even in Western civilization, despite the fact that our cultural heritage provides us with the alternative of employing exact dates for all such events, similar unformalized reference points are in use. Whether formalized or not, the characteristic reference points employed by the individuals of different human societies are relevant to a full understanding of the functioning of temporal concepts. They are basic cultural phenomena of the utmost importance in the ordering and coordination of human activities. It is impossible to picture any human society without them. In terms of individual experience, they are orientational. The individual's temporal concepts are built up in terms of them; he gets his temporal bearings by means of them, and his temporal perceptions function under their influence. It is impossible to assume that man is born with any innate "temporal sense." His temporal concepts are always culturally constituted. (Hallowell 1955, 216)

Turning to spatial orientation, Hallowell noted that space perception required participation of several sense modalities and highlighted the role that different linguistic and cultural factors played in processes through which spatial attributes become abstracted, conceptualized, expressed in speech forms, and made the basis for action.

> Spatially, like temporally, coordinated patterns of behavior are basic to the personal adjustment of all human beings. They involve fundamental dimensions of experience and are a necessary condition of psychological maturity and social living. Without the capacity for space perception, spatial orientation and the manipulation of spatial concepts, the human being would be incapable of effective locomotion, to say nothing of being unable to coordinate other aspects of his behavior with that of his fellows in a common social life. In addition to the psychophysical and psychophysiological conditions of human space perception, we know variations occur, between one culture and another, with respect to the selective emphasis given to the spatial relations and attributes of things, the degree of refinement that occurs in the concepts employed, and the reference points that are selected for spatial orientation. The human individual is always provided with some culturally constituted means that are among the conditions which enable him to participate with his fellows in a world whose spatial attributes are, in part, conceptualized and expressed in common terms. Ontogenetically, self-orientation, object-orientation, and spatio-temporal orientation are concomitantly developed during the process of socialization … While it remains an open question how far the purely psychophysical dimensions

> of perception may be influenced by culturally constituted experiential factors, schematic perception, involving the meaningful aspects of experience, can hardly be understood without reference to an articulated world of objects whose relations and attributes become meaningful for the individual, not simply through the innate psychological potentialities he brings to experience but, above all, through the significance for experience that the development, patterning, transmission, and accumulation of past experience, in the form of a cultural heritage, have come to imply. (Hallowell 1955, 184-185)

Akin to Shweder's contention that human biology provides the baseline for innate psychological potentialities inextricably infused with cultural influences in the ongoing formation of mind, Hallowell acknowledged that spatial perception is rooted in a psychophysical inheritance that is ultimately inseparable from socialization processes, experiential learning, and symbolic action.

> The development of man's mastery of space and the abstract concepts that have evolved along with it cannot be explained in any psychological terms which ignore the cultural factors involved. Human space perception is biologically rooted, but the level at which it functions in the individual is not reducible to innate capacities or maturational development. The process of socialization contributes experiential components that must be considered. Some of these acquired components of space perception are a function of the cultural milieu in which the individual has been reared. The cultural patterns of different societies offer different means by which spatial perceptions are developed, refined, and ordered. The spatial concepts of different societies also vary with respect to the degree of abstraction attained. There is also inter- and intra-societal variation in the utilization of different degrees of refinement of spatial perception in connection with different life activities. (Ibid, 201-202)

Thus, the self's basic psychological orientations are anchored in the realization that human development and maturation unfold in a temporal horizon and spatial geography that interleaves personal biographies with unique cultural environments that sustain and transform them. For human development itself implies the successive expression of evolutionary inheritances, genetic endowment, sociological productions, cultural resources, and psychological processes over the geo-temporal path of an individual life course. Bio-graphy entails both biological growth and psychological development over a temporal and spatial envelope. In other words, the trajectory of human development is an incessant, sequential expression of being and

becoming characterized by fits and starts as well as ascents and declines. The outcome of that developmental history is a life story that is continually being re-collected, rehearsed, recast, reinterpreted, re-imagined, and re-told by every individual using the biographical fragments and narrative tropes available in a culturally constituted life world and environment.

Identifying the aim of cultural psychology with the "study of ethnic and cultural sources of psychological diversity in self-organization, cognitive processing, emotional functioning and moral evaluation" (Shweder and Sullivan 1993; Shweder 1990; quoted in Shweder et al 2006, 721), Shweder posited that psychic unity resides in a heterogeneous and over-abundant collection of psychic structures, possessed by everybody, that are awaiting to be activated. Different cultural traditions selectively activate or peripheralize those psychic structures, while individuals vary in temperament and thresholds for activation (Shweder 1999, 70-71). Akin to innate, multi-directional potentialities ("keys" or "cures") within immunology triggered by invasive external provocations, these heterogeneous structures precede their time of activation. Addressing the universals of mind entailed by cultural psychology, Shweder et al presumed that

> Any human nature that we are in a position to understand and render intelligible must have a "central kernel or essence" but that it is rarely a strong constraint … The central kernel or essence of human nature consists of a heterogeneous collection of mutually contradictory structures and inclinations which are differentially and selectively activated, brought "on-line," and substantialized in the course of the historical experience of different cultural communities … The motto "One mind, many mentalities: universalism without the uniformity" advertises a discipline founded on the principle that the abstract potentialities and specific heterogeneous inclinations of the human mind are universal but only gain character, substance, definition, and motivational force (i.e., assume the shape of a functioning mentality) when, and as, they are translated and transformed into and through the concrete actualities of some particular practice, activity, setting, or way of life. (2006, 723)

For Shweder, the heterogeneous complex of inherited psychological processes underlying psychic unity allows us to reconcile both common humanity and manifest variety: it unifies and

universalizes us, and makes us imaginable to one another. As activated, institutionalized, and rationalized by various cultures selectively and differentially, the etic grid of heterogeneous forms also makes the study of cultural psychology possible (Shweder, 1993, 517): "There is no homogeneous 'backcloth' to our world. We are multiple from the start. Our indigenous conceptions are diverse … There is, of course, in that formulation a sense of universal latency, in which everyone has got everything. There is also a sense of manifest particularity, in which it matters a lot precisely how someone has got it – 'it' referring to some conceptions of things …" (Shweder 1991, 6-7). As mental life is partitioned, certain aspects of mental functioning are ontogenetically activated and historically reproduced through participation in, observation of, and reflection upon the activities and practices of a particular group (Shweder 1999, 67). Selectively activating the innate heterogeneity of mind – Ruth Benedict's "great arc of human potentiality" (1934) – human beings actualize particular and local conceptions of the world drawn from a repertoire of psychological structures and culturally sanctioned modes of being.

In their 1993 essay, Shweder and Sullivan equated culture itself with the "meanings, conceptions, and interpretive schemes that are activated, constructed, or brought on-line through participation in normative social institutions and practices (including linguistic practices)" (1993, 512). In this formulation, culture is a subset of mind, whereby

> … mind (assumed to be latently available and accessible through each individual's nervous system) is conceptualized as an 'etic grid,' a heterogeneous and inherently complex collection of all possible or available meanings. A culture, from this analytic perspective, is that subset of possible or available meanings, which by virtue of enculturation (informal or formal, implicit or explicit, unintended or intended) has so given shape to the psychological processes of individuals in a society that those meanings have become, for those individuals, indistinguishable from experience itself. From this point of view, one important aspect of the study of cultural learning is to identify the social, political, and psychological processes that explain how, when, and which meanings are brought 'on- and off-line,' are turned into local essences, or are kept more or less permanently suppressed. (Ibid)

Examining the interaction between individual minds and a culture's behavioral and symbolic inheritance, cultural psychology pays particular attention to processes of schema activation and social learning associated with becoming a member of a group (Shweder et al 2006). From among the complex psychic structures available to human imagination as a generative faculty, culture selectively privileges, institutionalizes, rationalizes, and turns into doctrine certain forms. "When certain psychic structures are culturally privileged, members of a cultural community are more likely to see and react to the world in this way rather than that way" (Shweder 1991, 71).

Documenting historical and cross-cultural diversity in the processes and products of mind, cultural psychology views cultural learning as the refashioning of inherited complexity (Shweder et al 2006; Shweder and Sullivan 1993). Infants already enter the world with a complex psychological apparatus of mental and symbolic forms that are consequently (and differentially) activated, maintained, suppressed, or lost over the human life course. Inherited psychic forms are also transformed, reworked, or refashioned through the participation of semiotic subjects in cultural practices, especially language and social discourse.

> Cultural psychology assumes that cultural learning is usefully conceptualized as the refashioning of what is inherited, prior, built-in, or given. In human beings, as in other species, learning processes are not incompatible with the existence of an inherited system of complex forms. Indeed, learning may be thought of as the transformation of what is given by the past, and one of the goals of cultural psychology is to develop a theory of how those transformations take place for the semiotic subject of cultural psychology, for whom the culturally and historically activated meaning of a situation or stimulus event is a major constraint on his or her response to it … One implication of our examples of cultural learning is that infants do not come into the world innocent or as blank states. There is no tabula rasa. Cultural learning does not presuppose an empty organism. Infants are complex at birth and already primed with a nervous system that responds in structured ways … and is able to detect a heterogeneous set of exotic language-specific phonemic contrasts. Learning is the transformation of what is given and does not necessarily presuppose that infants come into the world naïve or identical. In other words, human beings enter the world already equipped with a complex and heterogeneous array of differentiated interpretive schemes, some of

> which are activated and transformed throughout the life course. A second implication of our examples is that there may be aspects of psychological functioning that are empirical universals in infancy but are not cross-cultural universals for adults … We do not mean to suggest that everyone is uniform at birth … Rather, it is our point that some things that are universally present in infancy are differentially lost or suppressed as a result of cultural learning, and the complexity and sophistication of the inherited past, which semiotic subjects bring with them into the world at birth, can be reworked or refashioned in different ways through participation in the practices (including language and discourse practices) of a local and particularizing world. (Shweder and Sullivan 1993, 512-514)

Hence, in Shweder's cultural psychology, the fund of architectonic human history – the temporal and spatial record of the human species encoded in biological evolution and genetic heredity – is selectively activated in the when and where, the temporal and spatial envelope of human development, that accompanies the what, who, when, and why of an individual life course. Not surprisingly, time and space are embedded in social science formulations of self and identity (Lee 1982; Carrithers, Collins, and Lukes 1985; Jacobson-Widding 1983; Snodgrass and Thompson 1997). For identity-building is a continuous, progressive structuring of one's own psychological make-up as well as our imaginings of 'others' encountered via social interactions, concrete experiences, cultural myths of the human being, and personal aspirations and fears (See Bento et al 2012 for dialogical theory of selfhood). Thus Ulric Neisser (1988; 1994; 1997; 2006) rejected the tendency to reify the self as a 'thing' and instead posited that a multi-leveled self was composed of five types of self-knowledge: ecological, private, interpersonal, conceptual, and "extended" (i.e., knowledge of self over time).

In their 2006 essay, Shweder et al treated the self as a distinct product of group and individual history – in Bourdieu's terminology, "history turned into nature" -- and conceptualized "self-functioning" as one's way of being a subject or agent in the social world. Citing Markus, Mullaly, and Kitayama (1997), the authors noted that "selfways" are

characteristic patterns of participation or "orientations, including ways of thinking, feeling, wanting, and doing, that arise from living one's life in a particular sociocultural context structured by certain meanings, practices, and institutions. People do not live generally or in the abstract. They always live according to some specific and substantive set of cultural understandings (goals, values, and pictures of the world)" (Shweder et 2006, 754). In this formulation, Self is conceptualized as a primary locus of culture-psyche interaction and of culture-specific being, an interface where the individual, the biological entity, becomes a meaningful entity, and the " … very existence of human social and moral life seems intimately tied up with the evolution of a species whose central psychological makeup is defined by the existence of a causally active and somewhat unitary self … a self that is free, willful, self-regulating, morally responsible, and conscious; that is the initiator of action, the author of texts, the holder of rights; and that is the subject of evaluation and social scrutiny when questions about rationality, responsibility, normality, and pathology arise" (Shweder et al 2006, 750).

As a product of biography, history, and place, conceptions of the self also reflect preponderant cultural understandings of the human person (See Kitayama, Duffy, and Uchida 2007). For instance, interdependent (or sociocentric) mentalities and practices may be viewed as distinct from individualistic (or independent or ego-centric) mentalities and practices (Shweder 1991, 113-155; Shweder et al 2006, 754-764). In Western societies, the prevailing view of self has been concordant with the doctrine of individualism, which gives epistemological priority to the separate, autonomous, indivisible, whole, bounded, essentially nonsocial individual who is unchanging across different situations. In contrast, non-Western views of self tend to emphasize concrete, occasion-bound social thinking and a context-dependent, holistic, "sociocentric," or "organic" conception of the relationship of a person to society (Ibid). Such generalized

differences demonstrate the extent to which different sociocultural environments facilitate different understandings of the place and role of the human person in culture.

> A cultural psychology approach to personal identity examines the part of our sense of self that develops through membership in some local cultural community and symbolically mediated experiences with its practices … A cultural psychology perspective furthers our understanding of a self's development by emphasizing that particular ways of representing and experiencing a self, both as object and subject of experience, are grounded in the normative understandings and behavioral routines of selfhood in a given sociocultural and historical context … From the perspective of cultural psychology, the self can be defined as the mentalities and practices (the custom complex) associated with being an "I" (a subject, a person) in a particular community … culture does not surround or cover the "universal" child. Rather, culture is necessary for development – it completes the child. Culture provides the scripts for 'how to be' and for how to participate as a member in good standing in one's cultural community and in particular social contexts. Simultaneously, a cultural psychology perspective recognizes that children are active constituents of their own cultures … (Shweder et al 2006, 750)

Cultural psychology thus rejects "epiphenomenalism" (the self as unreal) and views contemporary mechanistic approaches (notion that one's sense of self or continuity over time arises merely from memory of discrete mental states such as pleasure and pain) and vitalistic approaches (contention that sense of self is a fundamental prewired feature of the human brain) as inadequate since the self is not fully reducible to either memory or brain processes. Instead, a "cultural psychology approach to personal identity examines that part of our sense of self that develops through membership in some local cultural community and through a history of symbolically mediated experiences with the practices of that group" (Shweder et al 2006, 750).

Narrative theories of identity, meanwhile – which will be further explicated in Chapter 2 -- typically present the self as a work in progress, a work that is continually and circumstantially being revised (Marcus 1991; Bruner 1993; Wang 2013). For the selves we construct and narrate allow us to be at least partial authors of our stories, active shapers of outcomes, rather than passive objects acted upon by internal or external forces. Rather than merely a temporally

persisting substance that underlies and supports the changing effects of time, like a thing in relation to its properties, the self/I is subject of a life story that is constantly being told and retold in the process of being lived (Peacock and Holland 1993). Alternately expanding and contracting its social engagements – its private and public personas – the evolving self develops attachment to a home and negotiates nestled identities at graduating geographic scales from house to neighborhood, city, state, region, nation, and country. Although contested and permeable, identity comes to co-variate with geographic experience.

According to Jerome Bruner (1990, 1991, 1993), narrative is an intrinsically cultural mode of thinking and we become the autobiographical narratives that we tell about our lives. For even personal storytelling accounts – embodying unique biographical and idiosyncratic details – are variants of a culture's canonical forms. And while cultural narratives, especially "grand narratives," sacred stories, and foundation myths, are occasionally contested and revised, they ultimately shape and reflect how a culture interprets temporality. But the roles we play are not always our own choosing; rather we are recruited into them during our inevitable discourse with other persons and cultural productions. In this sense, narrative is a cultural form expressing our existence as temporal creatures, and experience is already an incipient story made coherent by memory (Crites 1997). Possessing a prospective / retrospective grasp of temporal sequence in which past, present, and future are interdependent metaphysical modalities, human beings rely upon the fount of available cultural narratives to fashion their personal stories and identities.

> Both the content and form of experience are mediated by symbolic systems which we are able to employ simply by awakening within a particular culture in which those symbolic systems are the common currency. Prevailing narrative forms are among the most important of such symbolic systems. It is not as though a man begins as a purely individual consciousness with the incipient story and musicality of his own personal experience, and then casts about for a satisfying tale to lend it some higher significance. People awaken to consciousness in a society, with the inner story of experience and its enveloping musicality already

> infused with cultural forms … In principle, we can distinguish between the inner drama of experience and the stories through which it achieve coherence. But in any actual case the two so interpenetrate that they form a virtual identity, which, if we may pun a little, is in fact a man's very sense of his own personal identity." (Crites 1997, 40-41)

Resonating with the work of Russian literary scholar Bahktin (1981) on the heterogeneity of speech genres, narrative sense-making is a universal, culturally shaped, and socially situated exercise whereby people juxtapose and interweave multiple texts and orchestrate multiple (sometimes conflicting) voices or ideological perspectives in the service of organizing their experience in time and valuing human action in terms of normative intelligibilities. In contrast to structural interpretations of narrative meaning – to include recent iterations of narrative psychology (See Sarbin 1986; Britton and Pellegrini 1990; Murray 1995; Bamberg 1997) – that treat narrative accounts are first-order elaborations of an underlying non-narrative reality, cultural psychology views narrative as a primary vehicle for transforming innate heterogeneity into a culturally indebted and informed human mind.

THE MULTIPLICITY OF WORLDS

SECTION NOTE: This section further delineates key tenets of cultural psychology as an ecological approach to human cognition that views person and context as interdependent variables involving situated or local processes for minding in which thinking, learning, and problem-solving are linked to the specific occasions of their usage. The section highlights key staples of Shweder's version of cultural psychology such as human existential uncertainty, culture's provision of discretionary answers to cognitively undecidable questions, the acceptance of multiple objective worlds, and belief that we are always somewhere in particular giving partial

expression of our pure being. Cultural conceptions of time and space are integral to the articulation and elaboration of such multiple objective worlds.

The cultural psychology of time and space is a seemingly endless unfolding of discrete transactions with the world(s) that human beings inhabit – transactions with social denizens of those worlds; transactions with settings, circumstances, situations, and contexts; transactions with material, linguistic, symbolic, and ideational artifacts; and transactions with ecological and environmental affordances that demarcate the possibilities, limitations, and opportunity costs for particular actions and their psychological valences. Since the human mind is constantly acquiring and processing information through those transactions in the course of perceiving and conceiving the surrounding world, cultural psychologists have sought to break down the person-environment dichotomy and view such interactions within a holistic system of analysis. Cultural influences inform every aspect of those transactions beginning with the anticipations and expectancies built up over a life course of human social interactions. The mind itself is both cultural production and ongoing producer of culture, an active interface for reciprocal influences between an active, meaning-making agent trafficking in symbols and a world that is forever being transformed by human discourse and purposive activity. Thus Geertz defined mind as a "term denoting a class of skills, propensities, capacities, tendencies, habits; it refers in Dewey's phrase to an 'active and eager background which lies in wait, and engages whatever comes its way'. And, as such, it is neither an action nor a thing, but an organized system of dispositions which finds its manifestation in some actions and some things" (Geertz 1973, 58).

Shweder's cultural psychology treats person and context as interdependent variables that create each other in an interlocking system encoded in linguistic and social practices vice dependent / independent variables operating in one-directional, linear, or static fashion:

> The insistence in cultural psychology that contexts and meanings are to be theoretically represented as part and parcel of the psychological system and not simply as influences, factors, or conditions external to the psychological system distinguishes cultural psychology from other forms of psychology which also think of themselves as contextual (or situated). The aim in cultural psychology is *not* first to separate the psychological system from its non-psychological context and then to invoke some type of external setting effect or outside situational influence on psychological functioning. The aim and challenge are rather to recast or soften the contrast between person and context (inside vs. outside, subjective perspective vs. external reality) so that the very idea of a context effect will take on new meaning because our theoretical language for psychological description will be contextual from the start. (Shweder et al 2006, 724)

In their 2006 essay, Shweder et al clarified that cultural psychology focused specifically on a culture's "custom complex" (versus every feature of context) and thus was not co-extensive with contextual psychology. Rather than static givens dictated by the social and physical environment, contexts and practices are ongoing accomplishments in a dynamic contextualization and recontextualization process whereby participants determine which aspects of an ongoing activity are relevant.

> The distinction between cultural psychology and other contextual approaches in psychology is subtle … easy to overlook because all approaches to psychology that emphasize "context" share much in common, especially their opposition to the idea of fixed, universal, abstract forms. Thus cultural psychology shares with all forms of contextual psychology the assumption that the mind of human beings (knowing, wanting, feeling, valuing, etc.) can only be realized through some situated or local process of "minding," which is always bounded, conditional, or relative to something: shared meanings, goals, stimulus domain, available resources, local artifacts, cognitive assistants, and so on. Beyond that general point of similarity, however, cultural psychology should be understood as a rather special type of contextual approach … the relevant contexts for the realization of mind are the customs, traditions, practices, and shared meanings and perspectives of some self-monitoring and self-perpetuating group. The primary emphasis is on contexts thought to be relevant for the realization of mind in the sense that such contexts are the means for transforming a universal mind into a distinctively

> functioning mentality, a distinctive way that 'people think and act in the light of particular goals, values, and pictures of the world' (Berlin 1976). (Shweder et al 2006, 724)

Of particular importance is the realization that human psychology requires a situated or local process for "minding" that is always bounded, conditional, or relative to shared meanings, goals, stimulus domain(s), available resources, local artifacts, cognitive assistants, etc. in transforming a universal mind into a distinctively functioning mentality. The "dialogic mind" emerges from social exchanges and speech acts or language praxis that distribute cognition across communities of participants enjoying partial, shared knowledge or understanding of available cultural tropes and narrative genres. Rather than unconstrained free productions of the individual, thinking is regarded as a truly social and cultural enterprise (See Lave 1988; Lave and Wenger 1991; Resnick et al 1991; Hutchins 1995; Kirshner and Whitson 1997; and Oyserman and Lee 2007) understood in terms of symbolic systems (i.e., religious, philosophical, scientific, indigenous folklore, etc.) used to interpret events and other people's actions. In contrast to mechanical views of human cognition, thought is considered a dynamic process incorporating prior beliefs, values, experiences, and knowledge, and employing culture-specific scripts and schemas. Such "everyday cognition" teems with ways of thinking, communicating, and using symbols that never disappear but rarely come to light in laboratory investigations.

Eschewing the quest for context-invariant mechanisms better characterized as physiological dispositions, Bronfenbrenner (1979) embraced an ecological approach to cognition that sought to recast the relationship between a subject and his/her physical and sociocultural environment. Similarly, situated learning theorists such as Lave (1998) criticized approaches that conceived of contexts as external environmental conditions influencing behavior, and instead proposed dissolution of the boundaries between the individual and the contexts where

cognition takes place. Rather, situated learning theorists embraced a dialectical analysis focusing on settings conceived as relations between acting persons and the arenas in which they act. These theorists consider that cognitive activities take place in specific contexts that, far from being incidental, are essential to what is learned and thought. Such approaches ("situated cognition," "shared cognition," "distributed cognition," "communities of practice," "guided participation") share the belief that cognition and learning are part of the social context where cognition takes place and cannot be viewed in isolation. Additionally, the Soviet sociohistorical tradition views the structure and development of human psychological processes to be determined by humanity's historically developing, culturally mediated, practical activity (Cole 1988, pp. 137-138). In this approach, perception is the result of interactions between the subject and object vice the subject projecting subjective representations onto the object or the epistemological object acting directly upon the subject. Rather than an explanatory construct, context refers to complex relations between characteristics of the subject and those of the setting in which one acts. Finally, situated cognition also recognizes domain-specific knowledge and the development of expertise in specific content areas. For Shweder et al, the situated nature of understanding suggests "we seem biologically predisposed to domain specificity, in the sense that – prior to any experience – we are likely to attend to some events rather than others. In this manner, human beings come into life already equipped with a predisposition to acquire naïve physics, biology, or psychology. For cultural psychologists, domain specificity suggests that our ways of thinking, learning, and problem solving are always linked to the specific occasion(s) of their use and/or specific occasions of their acquisition. This perspective views change as a process of recontextualization or reframing rather than decontextualization" (Shweder et al 2006).

Another unique aspect of human psychology is the capacity to situate individual and collective existence (ontogeny and phylogeny) within symbolic projections about the origin, constitution, and destiny – i.e., cosmogony, cosmology, and eschatology – of its species. While high functioning animals may share with human beings transitional presents that elide from retentive pasts into protensive futures – i.e., from re-collected memories to anticipatory actions – only human beings possess the symbolic capacities for world-making that precede and outlast the duration of their own life course. A cultural psychology of time and space must ultimately address how individual minds over the course of a lifetime become characterized by biological trajectories, world-making mythologies, and imaginal projections that situate individual life stories into historical narratives and religio-philosophical value systems (see Epilogue).

One of the central tenets of Shweder's version of cultural psychology is that cultures provide belief systems or symbolic resolutions to "big picture" questions concerning the nature of things, the underlying structure of the life world, and the destiny of individuals and social collectives (see also Pyszczynski, Greenberg, Soloman, Arndt, and Schimel 2004; and Soloman 2004). This theorization presumes that cultural responses (i.e., "answers") to those foundational questions about the human condition have motivational force in an individual's psychological makeup. As noted by Shweder, "Cultural psychology is premised on human existential uncertainty (the search for meaning) and on an 'intentional' conception of 'constituted' worlds. The principle of existential uncertainty asserts that human beings, starting at birth (and perhaps earlier), are highly motivated to seize meanings and resources out of a sociocultural environment that has been arranged to provide them with meanings and resources to seize and to use" (Shweder 1990, 1). Beyond meeting functional human needs, those alternative resolutions are institutionalized in social organizations and / or captured in cultural narratives that situate

individual life stories within cosmological constructions that lend meaning to seemingly irreconcilable human dilemmas.

> A community's cultural conception of things will also usually include some received, favored, or privileged 'resolutions' to a set of universal, scientifically undecidable and hence 'existential' questions. These are questions with respect to which answers must be given, for the sake of social cooperation and coordination, whether or not they are logically or ultimately solvable by mere human beings. It is inherent in the nature of such questions that they are not solvable in any single way … Locally favored and socially inherited answers to such questions are made manifest and discernable in the speech, laws, and customary practices of self-monitoring groups … local conceptions of what is true, good, beautiful, and efficient plus discretionary answers to cognitively undecidable existential questions, all made apparent in and through practice … Psychic unity could be said to be the facing up to those existential questions. (Shweder 1999, 65-66)

Shweder (1991) refuted the Nietzschean conception that tradition-based reality posits or symbolic forms – i.e., representations of a particular state of the world that functions as content, topic, object, or aim for state(s) of mind – are imaginary phantoms of mind and have null reference since the realities they posit don't exist. Rejecting 'ontological atheists' who espoused the viewpoint that cultures consist of received meanings or reality posits that human being *impose* or project onto the world, Shweder instead argued for a 'post-Nietzschean anthropology,' or postpositivist polytheism, holding "the objective world is incapable of being represented completely if represented from any one point of view, and incapable of being represented intelligibly if represented if represented from all points of view at once" (Shweder 1991, 66).

Reviewing Obeyesekere's (1981) discussion of ancestral spirits, Shweder remarked that instead of treating them as unreal projections, "the alternative is to interpret spirits as real things that have not yet been fully represented in the natural world given to us by our own interpretive schemes; and to try to reconceive our interpretive assumptions so that we can light up reality in a somewhat different way. As Nelson Goodman (1984) notes: 'One might say there is only one world but this holds true for each of the many worlds'" (Shweder 1991, 348; see Goodman 1984,

284). Rather than a set of meanings that human beings impose on the world, culture is a version of the natural world as presented and illuminated by an interpretive scheme portraying that world as more or less livable and meaningful.

> Ontological polytheists hold that reality-posits are not uniform or homogeneous around the world because reality is not uniform or homogeneous. 'Culture is interpreted as a case of perceiving that ___ or understanding that ___ or appreciating that ___. According to the ontological polytheists the framework of reality is multiplex in disjoint planes, and it makes sense to interpret diversity as though there is more than one objective world.' (Shweder 1991, 38)

Shweder's doctrine of multiple objective worlds further holds that all conceptions of reality are, in some measure, irrepressible acts of imaginative projection across the inherent gap between appearance and reality (Ibid, 68). The only way to transcend the partiality of any particular point of view is to move from one objective world to the next, standing inside then out, while imagining a whole constructed out of the never-ending process of overcoming partial views. If each culture or tradition is but a partial representation of the multiplicity of objective worlds, it becomes possible to transcend tradition only by showing how each tradition lights up some plane of reality but not all of it. In this view, nothing in particular exists independently of our theoretical interpretation of it and all theories are inherently underdetermined by the facts (principle of cognitive undecidability) (ibid, 59). For Shweder,

> Our prejudices make it possible for us to see; that traditions not only obscure but also illuminate; that our differences make us real; that while traditions are particularizing (who could *live* by ecumenism alone?), a particular existence can be a selective affirmation of pure being; that the feeling of consciousness goes hand in hand with feeling "astonished" by the variety of ways there are to see and be. In other words, reason and objectivity are not in opposition to tradition, and they do not lift us out of custom and folk belief. Reason may lift us out of error, ignorance, and confusion. Yet, error, ignorance, and confusion are not proper synonyms for tradition, custom, and folk belief. (Ibid, 8)

Urging ethnographers to step into the metaphysical frameworks of the people they study and activate in themselves psychic structures they had not previously realized, Shweder (1999)

stated that the aim of cultural psychology is to "understand the varieties of normal human consciousness across those historically and culturally constructed worlds" (Shweder 1993, 498). Citing Edward Sapir's contention that "the worlds in which different societies live are distinct worlds, not merely the same world with different words attached" (Ibid; see Sapir 1929, 209), Shweder offered that "the knowable world is incomplete if seen from any one point of view, incoherent if seen from all points of view at once, and empty if seen from nowhere in particular. In the choice between partiality, incoherence, and emptiness, I choose partiality, and the continuous overcoming of partial views" (Shweder 1999, 71). Although cultures give distinctive character to the human mind, it is precisely because "mind" exceeds "culture" that human beings have the potential to transcend every partial point of view.

> It is a supposition of cultural psychology that when people live in the world differently, it may be that they live in different worlds. It is an appreciation of those different worlds that cultural psychology tries to achieve … The different worlds that are the true object of astonishment for cultural psychology are worlds in which truths are literal, in a frame-bound sort of way, and in which things follow logically, from powerful imaginative premises that are neither obviously false nor self-evidently true … When 'thinking through cultures, there is no place else, no neutral place, for us to stand. (Shweder 1991, 23)

Building upon Shweder's formulation, we can hypothesize that movement from existence to dwelling, from survival and sustenance to symbolizing and imagining, accompanies the transformation of an environment into a symbolically mediated, intentional world. Through strivances and intentionality, human beings apprehend, appropriate, interpret, and impose upon their external surroundings in creating meaning-laden, inhabitable, symbolic worlds (see also Kharlamov 2012). The specifications of "where" and "when" are essential elements in the narrative each of us constructs about ourselves and social others. But these elements are not mere contextual entailments or parameters of identity – they are ingredient to the very possibility of having an identity and sense of self. Such ingredients are particularly poignant in an

increasingly mobile and fluid world wherein identities have become evermore multiplicative and hybridic. Still, in an era of putative globalization, rootlessness, and diaspora, social theory has decidedly gravitated towards the specific and concrete over the general and abstract.

A common article of introductory conversations, the simple query, "Where are you from?" is freighted with implications for the study of culture and mind. Combined with other cues indicating age, consociates, social status, education, and affiliation, the locative indices of place and time ("when") provide the initial elements of a personal profile, the contextual framework for understanding the "who"/person/self that we are encountering. Tethered to such existential questions as "who are you?" the query of origination may be one of the cognitively undecidable questions to existential dilemmas that cultural psychology posits each culture to address. Answering the question "who one is," "where one is from/at," and "when were you there" is concomitant with resolving the existential questions of existence within the locatedness of cultural experience. And given the ambient facts of our reality, any particular existence is partial in the spectrum of possibilities. As Shweder suggests,

> If psychic unity is what makes us imaginable to one another, then perhaps the really real truth for us mortals is that we can never be everywhere at once (even in a global mind), any more than we can be nowhere in particular. As mere mortals, or if you prefer, as embodied gods, we are always somewhere in particular, giving partial expression to our pure being. (Shweder 1991, 18-19)

REVISITING KANT'S PURE FORMS OF INTUITION

SECTION NOTE: This concluding section to Chapter 1 reiterates that Shweder's version of cultural psychology can be viewed as a completion of Kant's aesthetic focused on the fate of transcendental absolutes and inherited forms in concrete bio-historical and sociocultural

existence. Kant's views of time and space as *a priori* pure forms of intuition are equated to Shweder's biological predispositions and heterogeneous complexes that must be selectively activated through fusions of form and content binding together our temporal and spatial sensations in concrete lived experiences. Biologically primed and physiologically encoded, time and space are culturally instantiated and manifested in every human life story. Human imagination plays a critical role synthesizing intuitions and concepts, mediating the contents of thought, and bridging everything a mind can become with what it actually does become. This section contends that time and space are both formal and substantive psychological universals.

In Kant's formulation, intuitions or sense experiences cannot cohere except in conjunction with a "transcendental aesthetic," i.e. certain ground-conditions contributed by a faculty inherent in the perceiving subject, which binds together the raw materials of intuitions so they manifest themselves as spatio-temporally confined external objects. The appearance of an external universe of objects arrayed in space and time is produced 'subjectively' in the sense that only the 'faculty' present in the percipient, imposing the categorical prerequisites for phenomenal status (i.e., spatiality, temporality, number, substance, causality, etc.), can make possible the manifestation of phenomenal appearances under conditions of our sensibility (See discussions in Guyer and Wood 1997; Palmquist, Philosophy-Dictionary.Org, Dictionary of Kantian Terms; Cottingham 1984, 82-90; Wikipedia, *Critique of Pure Reason*). Kant refrained from speculating about the noumenal (or supersensible) order itself because he believed human thought and experience were confined to the world of phenomena accessible to empirical enquiry. More specifically, Kant saw imagination as a necessary ('transcendental') mediator between the passive or receptive faculty of sensibility, the mind's capacity to be affected by

mental contents or representations ('intuitions' or 'perceptions'), and the affecting, active faculty of understanding – itself the subjective source of our general categories of mind (Palmquist, Philosophy-Dictionary.Org, Dictionary of Kantian Terms). In this manner, imagination serves sense and understanding as their indispensible go-between, synthesizing the manifold and discrete data of sense in such a way to make possible recognition of objects as falling under empirical concepts (See Kant 1997; Strawson 1987; Gell 1992). For Kant, imagination is the faculty responsible for forming concepts out of the 'manifold of intuition' and synthesizing intuitions with concepts to form objects ready to be judged. While the transcendental or productive imagination is a faculty of *a priori* synthesis providing necessary unity to the manifold of appearances, the reproductive imagination is subject to empirical laws of psychology (Palmquist, Philosophy-Dictionary.Org, Dictionary of Kantian Terms).

Revisiting Kant's contention that time and space inhere in the very constitution of the human mind and provide the conditions of our sensibility – i.e., Kant's version of panhuman psychic unity – we can combine this philosophy with the broader project of cultural psychology by likening Kant's pure forms of intuition with the biological inheritances and predispositions undergirding our experiences of time and space. For the mind is pre-structured, primed, and predisposed to process sensations and experience the world in certain ways that organize our thoughts and prepare us for encountering other people, objects, and environmental happenings. While Shweder's cultural psychology admits the postulate of psychic unity, it questions whether the search for psychological universals is theoretically productive since any identifiable panhuman characteristics are likely to be so abstract they will have little explanatory force in accounting for phenomena that are instantiated only in culturally specific forms. For the baseline biological capacity to serialize temporal experiences or move spatially and symbolically through

life may be inherent features of normal psychological functioning, but the necessary elaboration of those manifest capacities – i.e., the selective activation and refashioning of heterogeneous mental complexes – takes place only within the messy, phenomenal immersion of cultural life. Coordinate with the gambit of cultural psychology that universals of mind are only to be discovered (rather than assumed or renounced), time and space may be acknowledged as *a priori* potentialities of mind, ala Kant, that are only actuated in the matrices and practices of cultural existence – i.e., the perennial fusion of form and content in lived human experience. Geertz would say that mind requires time and space reckonings just as it requires culture to develop and complete itself, with particularization of every human mind in time and space being a universal constant. Again, Kant and Shweder would concur with these basic fundaments of human mental life: there is no *tabula rasa* and the mind comes into the world as a plenary presence (i.e., we are already equipped with a predisposition to acquire naïve physics, biology, or psychology and possess a complex and heterogeneous array of differentiated interpretive schemes that may be activated and transformed throughout the life course). As previously mentioned, Shweder's version of cultural psychology can be viewed as a completion of Kant's aesthetic focused on the fate of transcendental absolutes and inherited forms in concrete bio-historical and sociocultural existence. Whether considered *a priori* prerequisites for experiencing the world or innate dispositions for processing sensory inputs, the human capacity to perceive, conceive, and conceptualize temporal and spatial properties exhibits both universal constraints and manifest diversity.

In this philosophical reconciliation of Kant's transcendental idealism with cultural psychology, the ground-conditions contributed by a faculty inherent in the perceiving subject equates to the psycho-biological foundation of mind that binds together our temporal and spatial

sensations. Cultural psychology actually exceeds Kant's refrainment from speculation on the noumenal realm by welcoming the findings of evolutionary psychology as they bear on the heterogeneous inheritances and potentialities of the human mind. As long as we recognize the fragility of the infant brain – which absolutely requires cultural transactions with human and physical environments to develop and flourish – then our re(presentations) of time and space can help negotiate if not collapse the illusory divide between subjectivity and objectivity, between an active faculty of understanding and our sensibility of mental contents awashing both our momentary percepts and symbolic representations. Still, whereas Kant envisioned the noumenal realm to be independent from phenomenal appearances and ultimately inaccessible to human strivings, cultural psychology insists that nothing exists independently from our culturally freighted interactions and engagements – i.e., that our symbolic existence actuates vice negates pure being.

Kant's transcendental aesthetic presaged cultural psychology's approach to mind in the critical role played by imagination in mediating the contents of thought and in serving as an "indispensible go-between" synthesizing everything a mind can become with what it actually does become (Guyer and Wood 1997; Palmquist, Philosophy-Dictionary.Org, Dictionary of Kantian Terms). And since even Kant held that human thought and experience are confined to the world of phenomena accessible to empirical enquiry, the stuff of imagination – the stuff of cultural experience – is the most lucrative currency for investigating the "why" questions that every human life course begets. For while this dissertation focuses on the significance of "when" and "where" for the formation of human minds, as well as the spatio-temporal aspects of "what" and "who" in the dialectic of identity and selfhood, a cultural psychology of time and space must ultimately answer "why" it really matters. Heretofore, we will bracket further

postulates of pure forms and universal feature sets as too abstract, less meaningful, and less interesting than the discretionary journey through time and space that is as singular and peculiar as it is indebted to the cultural forms that make idiosyncrasy possible. For both Kant and Shweder, time and space form ground conditions or heterogeneous complexes of mind that we experience through transitory acts of imagination bridging the human potential we inherit with the phenomenal diversity we exhibit.

> There are undoubtedly many ways to reconcile human variety with our common humanity. One way is to argue that what everyone has in common, what unifies and in a sense universalizes us is itself a heterogeneous complex of inherited psychological processes and forms. These processes and forms are activated, institutionalized, and rationalized by various cultures selectively and differentially, but considered as a complex whole and examined theoretically as an etic grid, make the study of cultural psychology possible. From this point of view psychic unity is what makes us imaginable to one another, not what makes us the same … (Shweder and Sullivan 1993, 517)

For cultural psychology, what kinds of universals, then, are time and space? While inhering in the formative capacities of the infant brain – akin to Kant's pure forms of intuition, since cultural psychology neither rejects nor embraces intrinsic features of mind – time and space become inseparable from cultural experience from the moment of birth to the relinquishment of death (and imaginally beyond). They are biologically primed and physiologically encoded, but culturally instantiated and manifested in every human life story. Whether or not reified as abstract nouns, time and space are variously elaborated in every human culture. So too are they variously codified in every language via diverse linguistic practices and speech acts. They are as much substantive universals as they are process or formal features of the mind's order-making and meaning-making quest to transition the present from memory to future-directed action. Recalling Li's (2007) essay in the *Handbook of Cultural Psychology,* time and space embody and reflect all three classes of psychological processes: (1) species-typical neurobiological and

cultural evolutionary processes; (2) normative, age-graded, ontogenetic processes; and (3) idiosyncratic, (non-normative) processes of person-specific biography (and geography) capturing self-selected and constructed personal life experiences and history. Moreover, our imagination of self and others across time and space represents the migratory persistence of soul(s), the unshakeable conviction that despite irreversible elapse and vicissitude, something within us remains the same, some ephemera of what we have been and become in our hold on life. Indeed, the singular human mind is a cultural artifact of what it meant to live within these communities, these times, these spaces, and these places. For better or worse, the cultural psychology of time and space is the record of that achievement.

CHAPTER 2

WHEN WE ARE: THE BIOGRAPHICAL AND HISTORICAL ENVELOPE OF EXPERIENCE

INTRODUCTION

Following a graduating scale from person to society, this chapter proposes a cultural psychology of time tracing the fate of this transcendental absolute through an individual's perceptual and representational processes; through an individual's perpetually renewing past-present-future time horizon; through individual and cultural conceptualizations of human development – or the anthropology of our existence in time – as well as storytelling and narrative practices that cohere the proto-narratives inherent in experience, provide semantic threads for meta-representations of self over time, and lend meaning to temporal episodes and events; and through social coordination of temporal rhythms, regularities, schedules, scaffolding devices, technologies, and objectified representations of time. The first section mines the psychology of time perception through psychophysical and cognitive research while explicating the lack of a human clock, physiological rhythm, unitive dimension, or determinate thing called time. The chapter then examines each dimension of the tripartite temporal horizon: past, present, and future. The past is viewed through characteristics of human memory and our remarkable but fallible re-collections and reconstructions of personal and shared histories. The chapter then reviews social interactionist approaches to the temporal character of consciousness by scholars such as Bergson and Husserl who probed the eliding nature of present moments with fleeting past and future fringes. It is suggested that spatiotemporal processing is coincident with

consciousness itself as human beings bring themselves – their accumulated pasts, neural patterns of activity, dispositions, cultural understandings, and goals – to every momentary and unrepeatable encounter with the world. The future is then briefly sketched through human expectancies, goals, plans, and intentional actions. The next section examines temporal themes in human development models, constructions of self-identity, and narrative theories while suggesting that models of the life course itself are cultural artifacts contributing to the storied representations we use to cohere, order, interrogate, and interpret existence in time. Finally, the chapter explicates temporal coordination of social activities through treatises on the sociology and anthropology of time. While social groups rely upon inter-subjective construction of temporal patterns borrowing from seasonal variations, cycles, and social exchanges, cultures also provide unique conceptualizations of the past-present-future horizon as well as worldviews that variously abstract or objectify succession and duration to capture both unique and recurrent events.

THE PSYCHOLOGY OF TIME

SECTION NOTE: This section documents the fate of time as a transcendental absolute in individual minds. A viable cultural psychology of time must account for constancy, change, succession, simultaneity, duration, directionality, and temporal order while probing (1) the experiential phenomenology and moment-to-moment flow of consciousness through incipient past-present-future horizon and automatic tuning of action to surroundings; and (2) near- and long-term conceptualizations of time through intentional behavior and reflective interpretation. Recalling Kant's proposition that time constitutes mind's subjective condition of coordinating

sensibilia as simultaneous or successive but is otherwise meaningless in reference, this section equates Kant's pure intuitions and cultural psychology's collection of psychobiological dispositions to the mind observer's capacity to bind percepts and combine manifold intuitions into concepts and relations through rule-based schemata in imagination as empirical experience innervates *a priori* form with meaningful content. Research on psychophysical judgments of brief-duration events under laboratory-like conditions has affirmed there is no singular human "time clock" or neurophysiological rhythm whose rate consistently correlates with temporal judgments and our sense of time involves multiple non-dedicated brain areas operating at different thresholds to process and cohere biochemical, perceptual, and cognitive contents in effective yet fallible constructions. The basis for our temporal accomplishments – ranging from subconscious hormonal and respiratory processes to motor tasks and speech interactions – remains largely unresolved. Rather than a determinate thing or dimension, time is manifold. Unlike some species' circadian pacemakers, humans' internal biological clocks and timers are comparatively labile, imprecise, and have to be supplemented by experiential, biographical, and sociocultural content. This section also cites cognitive approaches to information processing that have further demonstrated time is a complex product involving elaborate inferences, temporal markers in language, attentional resources, and sociocultural cues. Researchers have typically characterized time as "pre-existing" in mind and imposed upon external world; manifested and discovered in periodicities and dynamical processes of environment; or empirically perceived, cognized, and built up as independent mental object in perpetual exchange between person and world. This dissertation asserts each postulate is necessary since mind imposes temporal intuition onto internal thoughts and external objects but extracts content from environmental exchanges while interrelating intuitions and concepts over cumulative historical experiences. The

evolutionarily tuned mind of a conscious observer leverages primitive neurophysiological encoding capacities to sensibilize perceptual constructs, exchange information with environment, cope with sequential and durational contingencies, generate local taxonomies of time, and form mental representations to organize events as coherent episodes and achieve behavioral and cognitive consequences. Time is both product and building block of behavior and cultures substantialize, shape, and induce temporal patterns and content-enriched mentalities for experiencing the world.

Philosophical and psychological inquiries into time and temporality have examined foundational aspects of mental life such as the nature of consciousness in time as well as of time, the origination of our temporal sensibilities, the question of whether time is "real" in nature and / or in the minds that apprehend it, the relation between mind and other objects that seemingly exist in time, the difference between our "subjective" sense of time and ostensibly "objective" measures of its passage, and the ways in which we reckon, mark, and remark upon the flow and contingencies of experience. Documenting the fate of time as transcendental absolute in individual minds, cultural psychology apprehends constancy, change, succession, simultaneity, duration, directionality, and temporal order while probing (1) the experiential phenomenology and moment-to-moment flow of consciousness through incipient past-present-future horizon and automatic tuning of action to surroundings; and (2) near- and long-term conceptualizations of time through intentional behavior and reflective interpretation. The former is an emergent property of consciousness itself and relates to how cultural influences are embedded in both basic perceptual and conceptual processes, to include self-awareness, while the latter relates to reflective and reflexive acts – sometimes sub-conscious but oftentimes deliberative – of

interpretation, meaning-making, and imagination. Posed differently, cultural psychology offers unique insights into both the experiential phenomenology of our sense of time as well as near- and longer-term conceptualizations of time that derive from our membership in groups that "think and act in a certain way, in light of particular goals, values, pictures of the world" (Berlin 1976, 195; cited in Shweder et al, 2006). Recalling Kant's proposition that time constitutes mind's subjective condition of coordinating sensibilia as simultaneous or successive but is otherwise meaningless in reference, we can equate Kant's pure intuitions and cultural psychology's collection of psychobiological dispositions to the mind observer's capacity to bind percepts and combine manifold intuitions into concepts and relations through rule-based schemata in imagination as empirical experience innervates *a priori* form with meaningful content. Research into the psychology of time – to include time perception, memory studies, and motivational theories – lends profound insights into how persons in different cultures may experience and comprehend time differently, opening up unexplored avenues for probing the ways that mind and culture make each other up. For it turns out that how we experience and represent time is entwined with our previous encounters and dispositions as well as the nature and content of activities we perform (See also Cornejo and Olivares 2015; Baerveldt 2015).

Predominant approaches to human time reckoning range from rational epistemologies such as Kant's transcendental aesthetic to empirical epistemologies locating time in the flux of immediate experience, critical philosophies based upon the structure of cognition, and speculative theories such as Heidegger's "being-in-the-world" as *dasein* that stressed the temporal modalities of human consciousness emerging when people take action with others through a chosen tradition and constitute temporality in a dialectical process and teleological pathway towards death (Roeckelein 2008; see also Ellis and Stam 2015). Researchers have

typically characterized time as "pre-existing" in mind and imposed upon external world; manifested and discovered in periodicities and dynamical processes of environment; or empirically perceived, cognized, and built up as independent mental object in perpetual exchange between person and world. This dissertation asserts each postulate is necessary since mind imposes temporal intuition onto internal thoughts and external objects but extracts content from environmental exchanges while interrelating intuitions and concepts over cumulative historical experiences. Recalling that Shweder's cultural psychology opposes both the view that the very idea of reality suggests something independent of its particular material realizations in time and space or our involvement with it, and the idea that existence is the negation of pure being, it is noteworthy that many early Western philosophers sought to justify the ultimacy of posited truths by juxtaposing images of divinity, eternity, or being with the transience and passage of experienced human time.

Heraclitus, for instance, professed that all things were in flux and that permanence was an illusion of the senses amidst the unending, transient changes in visible objects coming into being and passing away in ordinary experience; Parmenides distinguished between an eternal plenum of immutable being attainable to reason from the change, motion, and temporality of "not being"; and Plato further elevated the domain of being (including ideal forms) as a higher level of reality above becoming in the flux of objects in experience, with time serving as the moving image of eternity measured by the movement of heavenly bodies (Reck 1994, 455-460). The Roman philosopher Plotinus argued that time is generated by the restless energy of the soul seeking to express in matter the infinite and eternal fullness of being; St. Albertus Magnus contrasted enduring and successive being; and St. Thomas Aquinas distinguished between time and divine eternity (or "timelessness" without beginning, end, or succession). Josiah Royce's notion of an

absolute, nonempirical self who transcends momentary fluxes and grasps the whole of time in a unified, singular vision also contrasted higher and lower forms of psychological realization. Even Isaac Newton distinguished between a "relative" time and space measured by human sensibilities and bodies in motion and an "absolute," mathematically expressible theory of time as a categorical envelope encompassing all physical reality – with the present moment the same throughout the universe and time and space being independent of the objects, events, and minds contained therein (See reviews of these thinkers in Roeckelein 2008 and Macey 1994). For these above-mentioned thinkers, the human experience of time was viewed as partial, illusory, incomplete, or degraded from a higher source, form of being, or elusive mentation standing above the seemingly unceasing flux and change of human experience.

Regarding the origination of temporal sensibilities, many other Western philosophers decidedly postulated that time emerged from our experience in the world rather than from a divine or ideal mind. Such arguments included John Locke's empiricist repudiation of innate ideas, embrace of the *tabula rasa* or blank space upon which the world describes itself through experiences of the senses, view of time as an intuitive perception of relation between successive durative ideas, and discrimination between sensations (outer sense) and reflection (inner sense); Aristotle's adoption of a space-based definition of time as the measure of uniform or non-uniform motion and his seminal query into how we perceive time via memory or sense perception; St. Augustine's introspective analysis of time's subjective (i.e., internal) character and the human soul's realization of a present of things present (i.e., attention), a present of things past (i.e., memory), and a present of things future (i.e., expectation), which portended modern treatments of temporal horizon; Scottish historian David Hume's primacy of experience over abstraction and conception of time as the relation between discrete durational and ideational

moments; and Leibniz's relational theory of time and sequential order incorporating actualities, possibilities, and necessities. Other seminal thinkers included William James' analysis of stream of consciousness and the "specious present" within the constant processes of remembering, perceiving, and anticipating; and Edmund Husserl's phenomenological consciousness of temporality and the present's retention of immediate past and protention of pending future (see Roeckelein 2008 and Macey 1994). The French social philosopher Jean-Marie Guyau's late 19th century empirical investigation of time and its relation to human information processing suggested that time was a purely mental construction from our experience of events in the world determined by the accumulation, intensity, number, attention, associations, and differences between stimuli producing an internal perspective directed toward the future (1890, 1988). Even J.M.E. Mctaggart's infamous thesis of the "unreality of time" based on his formulation of an "A series," "B series," and "C series" – since rejected by most philosophers – was based on a dilemma of temporal ordering (i.e., before / after) within the successiveness of experience (McTaggart 1927; see also Gell 1992, 149-174). And, finally, modern scientific and physicalist treatments of time further embraced the uniqueness of human positioning in the world. These included Minkowski's four-dimensional space-time matrix; Whitehead's doctrine of an extensive continuum of overlapping durations mediated by contemporaries' common pasts and future possibilities; and Einstein's theory of relativity that rejected absolute simultaneity (i.e., notion of the present moment being the same everywhere) and specified the "now" of any event with reference to spatial location and motion (Roeckelein 2008 and Macey 1994; see also essays in Atmanspacher and Ruhnau 2012). More recently, renowned physicist Paul Davies (1996, 2001) has brilliantly documented for popular audiences how theoretical problems in electromagnetic theory and thermodynamics led to revolutionary insights in quantum mechanics and Big Bang

cosmologies repudiating the artificial separation between contents of the universe as cast and time and space as stage in the play of the cosmos. For Davies, "space and time are themselves *part of the cast*; they play a full and active role in the great drama of nature. Space and time, it turns out, are not simply 'there' as an unchanging backdrop to nature; they are *physical* things, mutable and malleable, and, no less than matter, subject to physical law" (Davies 1996, 16).

The cultural psychology of time endorsed herein reinforces Shweder's contention that form without content is empty and content without form is meaningless. Positing that time pre-exists in the mind of viewer – i.e., part of our mental furniture imposed upon an external world – but is also extracted from dynamical processes or properties of the environment – i.e., the repetitive and non-repetitive events proceeding around us – cultural psychology's alternative formulation of time views it as an emergent property of our sensory, perceptual, and representational processes in engagement with a world predicated upon cultural experiences. As such, cultural psychology also empathizes with theorists postulating that time is cognized or constructed in the perpetual exchange between person and world. The mind brings its natural equipment – evolved, unfinished, dependent upon cultural immersion – just as the environment brings its naturalistic and social affordances and constraints – diurnal and annual cycles, directional growth and decay, material ecology and social others – to this exchange. Thus, the cultural psychology of time involves ongoing interplay of person and world in the emergence of content-filled representations that link structures of mind – the heterogeneous complexes that must be selectively activated or refashioned – and processes in the external world – the regularities and dynamically changing events surrounding us. Those contentful forms are derivative of our cultural experiences and exhibit persistency and perdurance as well as elasticity and plasticity. Of note, there is a perennial translation problem or (in)congruency challenge

between what ostensibly exists in the "actual" physical world and how we sense, encode, interpret, and act upon those same contents in our perceptual and representational processes. The degree of "matching" between physical and neural spaces, or between the "world out there" and the results of our sensory impressions, perceptions, and representations, is achieved through our emerging temporality of consciousness. In this manner, cultural psychology brings concepts and percepts, forms and contents, structures and experiences, subjectivity and objectivity, together in the same analytical framework. To reiterate, this dissertation asserts that time can simultaneously "pre-exist" in the mind, be manifested or discovered in environment, and be cognized or built up through experience because mind imposes temporal intuition onto internal thoughts and external objects but extracts content from environmental exchanges while interrelating intuitions and concepts over cumulative historical experiences. By combining insights from both Kant and Shweder, inherent potential in mind (pure intuition or form) is only realized through substantial cultural experiences (empirical contents) that can be associated or elaborated (role of imagination in combining manifold intuitions and concepts through schemas) in bringing sense and understanding together.

TIME PERCEPTION. The principal tenets of these philosophical debates – i.e., whether time is an imposition of mind upon world, a measure of the duration and change pervading and characterizing the world, or an artifact of our encounter with that world – were replayed under different methodological guises in the history of psychology. For experimental research into time dates back to the early beginnings of psychology as a scientific discipline with German physiologist Gustav Theodor Fechner's seminal publication of *Elemente der Psychophysik* in 1860, Ernst Mach's (1865) early experiments on "human time sense" around the same time, and

Wilhelm Max Wundt's founding of the Leipzig psychological laboratory in 1879. Important studies by James (1890), Guyau (1890/1988), and Nichols (1891) stirred flourishing research interests that continued into the 1920's, then waned for several decades before resuming in the 1960's with the cognitive revolution and renewed interest in temporal representations (See discussion in Block 1990). Most early studies involved judgments of simultaneity, successiveness, duration, and the temporal order of rapidly occurring, brief-duration events discriminated by biopsychological and sensory-perceptual processes under laboratory-like conditions (Ibid). These experiments typically measured reaction time as a dependent variable and examined the temporal resolution of perceptual systems (visual, aural, or tactile), such as discrimination of simultaneity and successiveness via the minimum interval between onset of two stimuli in less than several milliseconds. In other experiments, subjects might be given successive stimuli and asked to recall and estimate the fluctuating duration of empty or filled intervals. Memory-based researchers also performed considerable work on how people encode and remember temporal order of events occurring over progressively longer periods of time (ibid). (For recent works in the psychology of time, see Molder 2015; Wearden 2016)

In seeking to uncover the structures of mind imposing or enabling our measurement of time, early psychological researchers referred to human time sense as a loose term denoting apprehension of duration, change, order of occurrence, and temporal attributes of experience – i.e., the capacity of apprehending. William James devoted an entire chapter of *The Principles of Psychology* (1890) to time perception, or "internal perception," which referred to specific occurrences of apprehending (see Roeckelein 2008, 25-31). English and English (1958) later deemed psychological time as subjective estimation of time duration and judgment without external aids, while Wolfman (1973) defined time perception as attention to, or apprehension of,

change through integration of a series of stimuli exhibiting duration, simultaneity, and succession (see Roeckelein 2008, 28). While early time perception researchers yielded significant insights – such as our general tendency to overestimate short intervals and underestimate long intervals relative to physical time, referred to as Vierordt's Law – they also documented common inaccuracies, fragilities, and distortions of subjective duration in human time processing (Friedman 1990, 20). It wasn't until the advent of cognitive psychology that psychologists began to treat time as an independent variable or form of information worthy of study in its own right. Simão (2015a) recently contrasted abstract, objective conceptualization of time with the temporality emergent in subjective experiences. Keeping in mind cultural psychology's healthy suspicion of sanitized laboratory research and insistence that cultures present incommensurable stimulus situations, the psychology of time today includes wide-ranging topics and disparate models drawn from psychophysical, cognitive, chronobiological, developmental, social-psychological, and psychoanalytic approaches that cumulatively highlight the constructive nature of human temporality (See also Klempe 2015; Ruggieri and Gorrese 2015). Collectively, those approaches have affirmed Shweder's endorsement of the interpenetration or interdependency of objectivity and subjectivity, or pure being and existence – the idea that nothing (i.e., time) exists independently of our theoretical interpretation or representation – since our temporal capacities or measuring instruments in the brain are part of the reality being measured.

Perhaps the most profound revelation – based upon centuries of philosophical musings as well as a century and a half of experimental research – is that psychologists have affirmed there is no singular human "time clock" or processing unit; rather, our sense of time involves multiple brain areas and representational systems that are synthesized in effective yet fallible constructions. Rather than a single thing or dimension, time is manifold. William James (1890)

had previously denied there was a single, master time flow or invariant cross-reference, noting instead that nature has times, but no one time. Kastenbaum (1964, 1994) similarly contended that time's passage is not a single, independent function but derives from multiple feedbacks as human beings respond to both internal and external environments and organize and interpret experiences while shaping their temporal "perspective" (cited in Roeckelein 2008). French psychologist Paul Fraisse also maintained we have no specific time sense or direct experience of time as such besides sequences, rhythms, and quantity and quality of changes (1963, 1984). Cohen (1971) further viewed subjective or psychological time as an ensemble or congeries of phenomena rather than distinct mental entity. And Gibson pointed out there is no unique sensory organ or perceptual system subserving timing (Gibson 1975; cited in Block and Zakay 2008, 379). These arguments echo Shweder's broader contention within cultural psychology that there is no central processing unit in the brain (See also Simão 2015a).

The search for a human timepiece was driven in part by recognition that timing variables are critical to animal behaviors such as navigation, foraging, reproduction, and predator avoidance – important survival skills that allow animals to anticipate and adapt optimally to changing environmental conditions. For timing, encoding, and remembering are crucial functions that enable animals to recall the temporal order of events, anticipate the duration of episodes, and time actions in response to environmental conditions (Block and Zakay 2008, 367). These skills help guide future actions, including the execution of plans for previously formed intentions. Empirical demonstrations have shown the ability of animals (rats, pigeons) to estimate time accurately and suggested that certain animals possess in their brains a specialized physiological mechanism for measurement of external time (Droit-Volet 2014). Since some species exhibit very specific circadian pacemakers entrained by light as well as precise interval

timing capacities, researchers have similarly sought to identify the internal biological clocks and timers used by humans to regulate bodily rhythms, daily cycles, and biochemical processes. Ever since Gustav Fechner's 1860 book on psychophysics (or the relation of body to mind, sensation to stimuli) psychophysical approaches have focused on two key areas: comparison of successive time intervals and the psychophysical function for duration (Grondin, 2008; Eisler et al 2008). The idea of an internal clock mechanism underlying time perception was first proposed by Francois (1927) and Hoagland (1933) and later incorporated into psychophysical models such as Treisman's (1963) influential clock model featuring a pacemaker that produces a series of neural pulses that enter into a counter/accumulator; the more pulses accumulated, the longer the perceived time stored in working memory. The basic elements of clock, memory, and decision were formalized in Gibson's scalar expectancy model (1977; see Brown 2008, 113) which sought to unify human and animal time by positing a similar internal clock – probably located in early maturing sub-cortical structures of the brain – despite cross-species differences in the sensitivity and selectivity of temporal resolutions (Droit-Volet 2013, 2014). However, temporal behavior does not always conform to the scalar properties of time and the expectancy model of "pure time" excluded all non-timing factors such as attentional strategies, motivational processes, and linguistic transformations of tasks (Wearden and Lejeune 2008; Lejeune and Richelle 1996).

Overall, chronobiological models investigating relationships between endogenous biological rhythms and organisms' cyclical behaviors have failed to provide supporting evidence or identify the neurophysiological basis for internal clock models such as Hoagland's master chemical clock, which seem best suited to handle relatively simple relationships between body temperature, arousal, and response rate (Block 1990). Regarding estimations of longer durations

(minutes to hours), human timekeeping displays two properties not usually associated with clocks: (1) sluggishness (free-running circadian rhythms have periods slightly longer than 24 hours and humans isolated from temporal cues experience a subjective hour averaging 1.12 hours); and (2) sloppiness (human temporal estimations are particularly labile without ordinary environmental cues and behavioral controls) (Lejeune and Richelle 1996). Still, humans show some capacity for estimating elapsed time in the apparent absence of external time cues and conscious awareness, suggesting the existence of some type of endogenous time-keeping mechanism. But given the failure to identify a physiological rhythm whose rate is consistently correlated with lengthening or shortening of temporal judgments, available findings do not support the notion that human time-related behavior and judgment are mediated by putative biological clock(s) similar to those underlying circadian rhythms and timing in non-human animals. Rather, a spate of recent studies on time estimation reasserts the limited role internal clock mechanisms play in human tuning to temporal contingencies, for the functional role of such "personal time" is mediated through endogenous mechanisms but is highly dependent on prior experience, internal and external contexts, and structuring presence of social and occupational pressures (Campbell 1990; see Droit-Violet et al, 2013; Droit-Volet 2014). As such, the inherited complexity of the human mind does include biological timers, clocklike processes, and circadian rhythms – which, while generally proficient, are labile and imprecise compared to some animal species – that must be supplemented by experiential, biographical, and sociocultural content to facilitate adaptational and meaningful action.

Early research also sought to define an elusive "true present" or *psychological moment* akin to a geometrical point on a line in space in which successive stimuli are integrated and perceived as a whole – a kind of discrete quantum of psychological time. However,

psychological or perceptual moment models with biopsychological underpinnings that attempt to explain the fine structure of simultaneity and successiveness – such as Stroud's (1955, 1967) discrete moment model utilizing a central neural pacemaker unaffected by external conditions – have fallen out of favor due to lack of unambiguous evidence on cortical mechanisms supporting a central fixed-duration intermittency, typically estimated to be about 100 ms, underlying perception (Patterson 1990; Block 1990). Nevertheless, since E. R. Clay anonymously wrote in 1882 about the segment of time constituting our immediate experience as the "specious present" – a term William James adopted and distinguished from a "true present" or durationless moment sharply dividing past from future – theorists have sought to define the psychological sense of "newness" in ongoing conscious awareness (See James 1890; Andersen 2014). James characterized this psychological or conscious present via the notion of a "saddle-back" and subsequent estimates in the psychological literature have ranged from two to seven (most averaging two to five) seconds in everyday experience, in part due to constraints of working memory (20-30 seconds before refresh). While no single method permits precise measurement, Michon described the "psychological present" proposed by James and others as a "highly flexible tuning process that is dynamically fitting the temporal width of field of attention … to the sequential structure of the pattern of events" (Michon 1978, 89; quoted in Block 1990, 5).

Despite new insights from neuroimaging techniques and neurotransmitter research, investigators have neither uncovered the "seat" of human timing nor identified a simple neural structure responsible for temporal processing (see Coull et al 2011; Ivry and Schlerf 2008; Weiner, Turkeltaub, and Coslette 2010; cited in Droit-Volet 2014). Rather, meta-analysis of neuroimaging data suggests the existence of at least two distinct neural timing systems: an automatic timing system for shorter intervals up to approximately one second, which recruits

motor systems of the brain (supplementary motor area, basal ganglia, cerebellum), and a more cognitively controlled system for time intervals with durations up to a few seconds related to right prefrontal and parietal cortical areas (Lewis and Miall 2003, 2009; Wittmann 2014). Since precise timing of intervals ranging from hundreds of milliseconds to a few seconds is essential for controlling complex human behavior, other lines of research have suggested that sensorimotor processing of temporal intervals up to two to three seconds is governed by different mechanisms than intervals exceeding that limit. Wittmann (2014), for instance, contended that an integration mechanism of two to three seconds duration is a prerequisite for temporally structuring perception and action while processing of intervals shorter than 100 milliseconds and longer than three seconds follows different rules. Thus, considerable doubts persist about the existence of any central time processor and recent debates continue to favor non-dedicated timing mechanisms (Wittman and Van Wassenhove 2009). According to Livesey, Wall, and Smith (2007), when cognitive task demands are controlled for, most brain activations thought to be involved in time processing disappear, with only three regions surviving as possible candidates: a small region at the confluence of inferior frontal gyrus and anterior insula; a small portion of the left supramarginal gyrus, and a portion of the basal ganglia (Droit-Volet 2014). Overall, these findings reinforce that the human mind employs multiple brain mechanisms operating at different thresholds to process and cohere temporal information via lived experience while creating stable structures or forms of consciousness – the elusive "present moment" – that integrate biochemical, perceptual, and cognitive contents. The elastic and eliding notion of "now" is an emergent product of the mind's active (conscious and unconscious) engagement with its environment.

While humans and other animals make poor stopwatches, accurate or exact timing is essential in some but not all situations, and successful behavior may outweigh distortions of subjective time (Arstilla and Lloyd 2014). Beyond endogenous psychophysical cycles and integrative mechanisms, human beings are nearly everywhere and always enacting temporal accomplishments – from subconscious hormonal and respiratory processes, to motoric coordination, to speech interactions, to complex cognitive constructions – that require timing tasks and functions. Think, for instance, of the detailed sequencing and precise hand-eye coordination involved in picking up a cup of coffee, hitting a tennis ball, performing a dance routine, relaying instructions, or driving an automobile. Or consider the orchestrated exchanges, pauses, and sensorimotor cues at work during a conversation between speech partners. Even the inner world of complex ideas and thoughts is characterized by order and timing at the fringes of conscious control, involving acts of precision ranging from neuronal levels to bodily systems syncing to enact behavior. Beyond kinesthesia and language, timing and coordination requirements are pervasive in human action. Yet, exactly how movement sequences and motor tasks are timed is still largely unresolved among researchers. While various models account for aspects of human movement sequences – for example, cognitive constructs containing a motor program and internal clock, activation or connectionist models postulating timing nodes controlling the activation of movement components, and ecological or action-system approaches arguing that movement is a consequence of dynamic functioning among coordinative structures – there is no single mechanism that can comprehensively account for timing behavior in the motor domain (Summers and Burns 1990). Rather than relying upon an internal clock, the timing of human movement appears to arise from the interaction of perceived actual task requirements with motor action units shaped by learning processes (Zimmer 1996; Zelaznik et al 2008).

Whatever the physiological and cognitive substructures, intentional beings make intentional worlds and humans are forever incorporating temporality into moving, thinking, acting, and interacting through motivated, future-directed action. Recalling Levinson's correlations between coordinate systems in language and other aspects of cognition, human timing and movement emerge from complex interactions between low-level percepts, internal neuroanatomy, ecological facts, functional needs, cultural variation, and biographical practice and learning. As a bio-cultural hybrid embodying both our psychic unity and plasticity, the human time sense builds upon primitive neurophysiological rhythms and cycles and incorporates perceptual and representational constructs that regulate conscious awareness and behavior. Combining innate biases, "hard-wired" constraints, and domain-specific learning potentials (i.e., cultural software) – a restricted inventory of timing possibilities – our human time sense is specifically equipped to tune into local variant systems and is instantiated in systematic interactions between structure in mind and structure in densely patterned cultural environments precisely designed to induce temporal patterns and content-enriched mentalities for experiencing the world (see also Levinson 2003, 318-319).

While psychophysical studies focusing on very brief temporal durations failed to produce conclusive evidence for the neural substrate of an internal clock, cognitive approaches involving time estimations of longer durations (from seconds to minutes) were popular from the late 1960's through the 1980's and led to elaboration of functional models similar to information processing. John Michon (1972, 1985) advocated the "equivalence postulate" that considered time as a form of information explicitly represented in mind with the same status as stimulus attributes such as size, loudness, intensity, color, etc. (Ibid). Recognizing the role of stimulus environment in shaping perception, Michon defined temporal information as a succession of events encoded in a

specialized representational system and processed as a deliberate, effortful task requiring attentional capacity (Brown 2008; Michon 1985). In this theorization, the subjective experience of time or conscious estimation of duration is the result of elaborate inference processes taking into account multiple variables such as number, quality, complexity, or density of the sequence of events occurring during a time period. Michon (1990) further argued that the human experience of duration is a complex cognitive product that must take into account progressive mastery of temporal markers in language praxis as well as social and cultural factors integral to development of time perspective in personality.

The mechanisms leading to awareness of a psychological present is a coagulation of reality and shows characteristics of Dennett and Kinsbourne's (1992) "Multiple Draft Model" of consciousness that assumes information processing is distributed in time and space and that elementary processing mechanisms each have their own timing distribution and parallel streams of conflicting and continuously revised contents. Even if not integrated into one single temporally defined stream of perceived events, there is convergence towards a more or less stable, syntactically and semantically, discrete internal representation. Rather than a durationless knife edge between past and future, the psychological present or Now has certain width and allows the human organism to integrate various elements of information processing into one coherent package (meaningful scene, event, frame, idea). Tuning is a continuous and automatic process of parsing and interpreting the world and anticipating what will happen next on the basis of incoming stimulus (Michon 1998). As a cognitive construction, temporal memory judgments or attributes such as order, spacing, and position are contextually anchored and encoded – automatically or deliberately -- at the same time as nontemporal information and subsequently recalled during retrieval (Jackson 1990). In this regard, our continuously integrated function of

perceiving, remembering, and anticipating apparently produces a relatively automatic awareness of the successive ordering of events (Block 1990).

Significant research has also examined effects of attention on duration estimates, with the adage that "time flies when you're having fun" expressing the basic observation that subjective time appears to flow more quickly when one's temporal awareness is minimized and, conversely, appears to slow down when attention is focused on time. Since time perception depends on diverse temporal cues forming the basis for a continuously updated temporal record that organizes events and experiences on a temporal timeline, attention helps determine whether and to what extent these cues are processed. The allocation of attentional resources involves selectivity as well as limitations. Since time may be treated as either an independent or dependent variable (see Roeckelein 2008, 38-39; Roeckelein 2000), the human sense of duration depends on the number of stimuli perceived and stored in one's mind; if an interval has many divisions (marked off visually or aurally) it tends to appear longer, whereas a reduction in external information registered by the brain causes duration to appear shorter. Fraisse (1963) similarly observed that duration judgments depend upon the number of perceived changes.

Researchers have distinguished between retrospective timing (or remembered duration) relating to judgments about past events or activities in which participants do not know time will be estimated, and prospective timing (or experienced duration) in which subjects know beforehand they will estimate a temporal duration. A general finding regarding retrospective timing is that if a person remembers a greater number of events from the time period, he or she tends to estimate longer duration (Ornstein 1969; Block and Zakay 2008, 179). Additionally, remembered duration lengthens if people perform different kinds of information-processing tasks instead of a single task, while time judgments under (simultaneous) dual-task conditions become

shorter, more variable, and more inaccurate versus single-task conditions – the well-replicated interference effect (Brown 2008). Temporal relevance refers to the degree to which duration is essential for interpreting the meaning of a situation or for making optimal and adaptive environmental decisions. Subjective time – "experience of time in passing" or "flow of time" – is discontinuous and fluctuates based on relevancy and degree of attentional spotlight (Block and Zakay 2008, 389-390). In contrast, prospective timing, or timing the present while in progress, is dependent upon attentional resources devoted to time itself. In everyday life, prospective timing usually involves dual-task conditions in which attention is shared between temporal and non-temporal information processing, and timing the future (time-based prospective memory) involves remembering actions that need to be performed later, to include forming intentions, instructions, plans, task requirements, expectancies, and anticipations, etc. Prospective memory – which has a retrospective memory component for previous similar durations – can be event- or timing-based and is essential for ensuring optimal daily activity. Per the "watched pot phenomenon," attentiveness to passage of time heightens temporal awareness and lengthens temporal perception. Whereas retrospective judgments based on fragmentary temporal information are shorter and less reliable, prospective timing involves heightened attentiveness to temporal cues (Block and Zakay 1997).

The dependence of temporal judgments upon memory processes and attentional resources has spurred attempts to reconcile psychobiological models incorporating an internal clock or timer with cognitive models foregoing such a timer. Block and Zakay's "attentional gate model" interposed a filter or "gate" situated between a pacemaker and an accumulator mechanism; the more attention directed or allocated to temporal information processing in a given situation, the more neural pulses enter the counter (Block and Zakay 1996, 2008; Zakay and Block 1996,

1997, 1998; Brown 2008, 113-114). Block and Reed later proposed a "contextual change model" in which people make retrospective judgments by assessing the amount of change in cognitive context occurring during a duration, to include emotional content and changes in surrounding physical environment (Block and Reed 1978, 1980; Block 1990; Block and Zakay 1996). Factoring in both working and long-term memory processes, this model assumed that contextual associations are automatically encoded in memory and likewise retrieved depending upon availability factors. Evidence from laboratory and everyday-memory studies converged in suggesting involvement of two major kinds of processes: people make event-dating judgments by relying on contextual information, by relying on a time-based property of the memory trace itself, or by relying upon both (Block and Zakay 2008, 374). Seeking to combine the attentional gate model's psychobiological pacemaker with cognitive and motivational processes within a single construct, the contextualist model emphasized the importance of four factors – characteristics of the time experiencer, contents of time period, activities during time period, and time-related behaviors and judgments – affecting duration estimates (Block 1989; Block 1990). Researchers have highlighted that remembered duration is influenced by the number and nature of changes in cognitive, environmental, or emotional contexts (Block and Zakay 2008, 179). While far removed from earlier timer models measuring discrimination thresholds and simple reaction time between presentation of stimulus and participant response, contextualist models struggle to account for the formation and maintenance of broader temporal perspectives critical to normal psychological functioning.

Research into attentional allocation has demonstrated that more attention to flow of temporal events lengthens perceived time because more temporal pulses are accumulated or because temporal cues become more salient. Even when temporal awareness is minimal, some

degree of temporal information processing is occurring in an incidental fashion outside conscious awareness. And under dual-task conditions, less attention to time reduces the amount of temporal information encoded and stored, oftentimes leading to a faulty temporal record containing gaps, omissions, or distortions. Whether assuming a single pool of generalized attentional resources or several specialized pools geared to workload demands such as visual, auditory, verbal, spatial information etc., numerous researchers have contended that resources specialized for executive control functions are involved in time perception (Brown 1997, 2006). Indeed, there is substantial neuroanatomical literature implicating the prefrontal cortex – especially frontal lobe functions monitoring and regulating thought and behavior, to include planning, reasoning, comprehension, and decision-making – in timing processes, suggesting shared or related cortical mechanisms (Casini and Macar 1996; Macar 1998; Macar et al 2002; Pouthas et al 2000; cited in Brown 2008). These findings resonate with Shweder's (1991, 1999, 2006) observation that form without content is empty, content without form meaningless – the cultural psychology contention that formal universals of mind and content-rich particulars of any sustainable mentality are interdependent. For what one thinks about – what one pays attention to, including a culture's worldview, master metaphors, semiotic signs, and selective foci – can be decisive for how one experiences and thinks about time. Thus, attentional research in the psychology of time clearly demonstrates that the content and relevancy of what we think about influences temporal processing and recall as measured in both experimental performance tasks and everyday cognitive functioning.

Remarking on early psychological studies of time, J. M. Baldwin distinguished between (1) intuitive, a priori, or nativistic theories holding that some form of time (whether duration or succession) is a part of one's mental furniture, in which a moment or temporal character is

contributed by mind to the structure of experience; and (2) empirical theories holding that bits of time are perceived, cognized, or experienced as properties of events and time cognition is built up by abstraction and generalization as an independent mental object. (Baldwin 1901-1905, 704-705; cited in Roeckelein 2008, 37-39). Kant, of course, was a proponent of the *a priori* view positing time and space as parts of our mental apparatus for imagining and visualizing the world, but it is too often forgotten that Kant insisted those pure *a priori* intuitions inhered in our sensibilities for pre-structuring the contents of experience. In contrast, G. J. Whitrow (1981, 1989) held that time should be regarded as a consequence of our experience of the world and the result of a long evolutionary process – i.e., the view that mind gets time out of experience rather than contributing time to its experience. Again, the cultural psychology position advocated here believes that such an either/or claim is misplaced and that mind can bring the *capacity* for contributing time to experience while also getting time out of experience because pure intuitions are meaningless without empirical contents. For unlike animals, human beings have the peculiar power to construct time and realize our potential mental capacities through learning, practice, and activity. Other theorists have focused on the distinction between tuning and conceptualizations of time, specifically – as gleaned in phenomenological distinctions between action and reflection – the dual nature of time experience between (1) implicit, direct tuning of human action, or concrete intentional behaving that builds upon implicit memory, to the dynamics of a surrounding world; and (2) conceptual structures for thinking about temporal perspective and duration in which reflection takes implicit action as an explicit temporal object (Michon 1989, 1996). Regarding the former, Guyau made the point in 1885 that time in conscious experience was a derived entity from effective and efficient use of memory strategies to organize knowledge representations (See Guyau 1988). In this view, time as duration is an

advanced abstraction based on the need to stay in tune with a dynamic unfolding outside world, and mental representations of time enable us to achieve behavioral and cognitive consequences of successions of real events or episodes. Gibson similarly noted that time is a posteriori construction based on the dynamic structure of the perceptual field (Gibson 1977, 1979). Again, the cultural psychology view endorsed herein believes that time can be both a form of our sensibility (i.e., imposing biological dispositions for processing sensations and perceptions) as well as an *a posteriori* construction because mind relates and cumulates intuitions and concepts into cognitive abstractions. Thus, cultural psychology can account for both automatic tuning of mind (i.e., phenomenology) as well as elaborate conceptualizations of time and space.

Michon (1990) has postulated that experience of time is a conscious product of processes enabling us to cope with sequential and durational contingencies of reality, while memory is a collection of strategies that temporally organize our experiences. Departing from traditional emphases on the psychophysics of duration, Michon contended that a central tenet of time psychology was the organism's need to constantly exchange information with its environment. Experience of time was treated as an advanced abstraction or ensemble of mental representations even if derived from functional needs to stay attuned to a dynamic, unfolding world. Unlike color, size, and tactile sensations that directly trigger representations, "time is the conscious experiential product of the processes which allow the (human) organism to adaptively organize itself so that its behavior remains tuned to the sequential (order) relations in its environment" (Michon 1985, 20). Summoning broader philosophical debates – i.e., whether time is a mental construction imposed on reality or a fundamental property of the physical world – Michon posed a design problem of "how to demonstrate that the human mind operates in such a fashion that it can cope with the sequential contingencies of its natural and self-created (cultural) environment

and at same time produce the experiential appearances (phenomenology) of time which conscious reflection reveals" (Michon 1989, 19). And since time is not explicitly represented in autonomous processes, it is a product vice building block of behavior. In Michon's relational and relativistic approach, people entertain multiple time encodings deriving directly from the structure of events that happen in the "real world" (Michon 1996; Zakay 1990). Rather than events taking place in time, it is representations or encodings of time that derive from dynamic properties of events. In this view, the psychological experience of time is not a distorted or altered perception of a determinate thing called 'time' but rather encompasses multiple representations constructed by individuals to cope with multi-fold, context-dependent, and changing life situations in the temporal planning of actions (Michon 1996). Events do not simply occur in time, they constitute time. The psychological present is a process of coagulating streams of incoming information and incorporating an extraordinary variety of time encodings.

> The temporal control of complex behavior as we find it in humans relies on an advanced ensemble of dynamic representations or encodings, partly incorporated in the organic architecture of the system and partly acquired by learning from experience. Representations of time enable us to grasp the behavioral and cognitive coherence of successions of real world events. Here lies the task of the psychology of time: we seek to understand, first, how the mind/brain is able to cope with the temporal contingencies of this dynamic world, and, secondly, how this coping effort can produce the rich conscious experience of time which includes, among other things, the awareness of past and future, the subjective rate of time, and the experience of the present. (Michon 1998, 202)

The perspective adopted herein finds much of Michon's argument compelling – especially the need to cope with sequential and durational contingencies; exchange information with environment; view time as an advanced abstraction or ensemble of mental representations; reject time as a "medium" in which events take place; and even consider time as a product vice building block of behavior – but insists that mind brings temporal sensibilities to experience while admitting local or episodic times and constructive activities fusing form and content in

meaning-making projects. For cultural psychology reconciles transcendental and relational views of time. As Kant previously noted, time has no intrinsic referential meaning aside from the conditions of our sensibility and the conformance of our internal thoughts and external objects to those conditions.

While flow of time is an inherent property of events taking place in the physical world, a conscious observer tuned by evolution to the dynamic characteristics of reality is needed to recognize this property (Michon 1985). This observer's temporal representations are constrained by various organic and cognitive clocks and switches in the body as well as functional characteristics of human information processing. The implication of a relational view is that our experience generates homogeneous local times and an intrinsic temporality organizing events as coherent episodes. Rather than plotting on an absolute reference scale, the variety of modules and encodings representing temporal relations define appropriate characteristics of episodic times vice Newtonian time. Similarly, the relational nature of time implies that the popular assumption of a generic internal clock controlling behavior is untenable since ensembles of partially ordered events bring forth their own time encodings vice a single time scale. The relational view also borrows from cognitive approaches treating time as a form of declarative knowledge and higher-level cognition. For instance, the repertoire of "scenarios" developed by Schank and Abelson (1977) each carried an implicit temporal structure indicating if episodes unfold in a dynamically plausible way. Time conceived as conceptual structure – literal, figurative, metaphorical – echoes Schank's (1982, 1986) view that human behavior in everyday life is directed by scenarios or explicit representations of remembered situations sufficiently close to prevailing circumstances to serve as guides to action (Michon 1998). The temporal character of cultural scenarios reminds us that no sociocultural environment exists independently

of the way human beings seize meanings and resources from it, while every human being's subjectivity and mental life are altered through the process of seizing such meanings.

Recognizing diverse taxonomies of time, Michon (1989) observed that we possess no genuine time sense and no natural correspondence between temporal relations in the world and our mind-brain representations of them. Becoming and Being are pro and con positions on the intrinsic directionality of time, whether sequential order is a structural feature of the universe (problem of time's arrow). Many early physicists were ideologues of being and tried to eliminate temporality from their theories. The distinction between deliberate effort to make events "signify" versus non-reflective adaptation to a course of events is the distinction between becoming and being – minding your time and timing your mind (Ibid). "Minding your time" is a consciously controlled way of coping with aspects of the world to which we cannot directly tune ourselves because we are not geared to those aspects in evolution or learning, while "timing your mind" is primarily a matter of automatic processing of external (perceptual) as well as internal (stored or represented) data – the implicit temporality or "hum in the basement" underlying consciousness – that enables us to stay in tune with an intrinsically temporal world (Ibid 20-22).

A cultural psychology of time views both phenomena as part of the heterogeneous complexes, abstract potentialities, and mutually contradictory structures and inclinations inherited from our psychobiological past that are differentially and selectively activated, brought "on-line," and substantialized – translating universal latency into manifest particularity – in the historical experiences and functioning mentalities of different cultural communities (Shweder 1999, 2006). The unique perspective of cultural psychology suggests that our psychic unity brings forth complex encoding capacities and multiple representational systems (structures in mind) for handling, sensibilizing, and tuning into the sequential and durational contingencies

(structures in environment, or time's arrow) of a dynamic, unfolding world while perceiving, cognizing, building up, and abstracting local time(s) emerging from our cultural experiences and engagements with that world. Rather than simply imposing temporal categories onto mental representations (contributing time to experience) or, alternatively, regarding time as a consequence of our behavioral and cognitive exploits (getting time out of experience), the temporal character of consciousness emerges through contentful living, learning, thinking, practice, and activity. Becoming and being, timing mind and minding time, are complementary exercises in the construction of temporal realities and contingencies.

The fragile constructiveness of our temporal worlds becomes readily apparent in the etiology and symptomology of select psychological conditions and developmental disorders. Pronounced disruptions in subjective time perspective – or our awareness of the rate of time's passage and cognitive placement of past, present, and future – can be particularly debilitating in organic brain disorders even though external time calculation and internal time estimation may remain in tact. Since subjective time experience involves meaning, emotion, and affect, moving back and forth and through time with an indefinite plasticity, it changes with age and is intimately related to cognitive and emotional functioning (Edlund 1987). Frederick Melges (1982, 1989, 1990) has observed, for instance, that schizophrenia is associated with disorganized views of time, paranoia, breakdown of sequential thinking, telescoping of time, delusional confusion of present thoughts with future projections, diminished sense of personal continuity, loss of past and future perspectives, and racing of inner events and slowing of outer time (from fast to slow, timeless to stopped). In contrast, depression is characterized by biochemical imbalances in circadian timing systems, foreshortening and constricting of future time perspectives, slowed passage of internal time, and sometimes compulsive neuroticism caused by

fixation on the past. The opposite symptoms are typically observed among those with manic disorders. Under such conditions, normal psychological functioning is disturbed and human beings can become disoriented and their temporal and spatial horizons radically altered. Not only can loss of short or long-term memory make the past inaccessible through brain damage or debilitating diseases such as Alzheimer's, but the ability to plan and participate in purposive activity can also be dramatically effected (Ibid; see also Schacter 1996). Chronic temporal incongruities are found in other affective diseases, antisocial personality, and altered states of consciousness. Similarly, time processing deficits and streams of confused time perspectives are characteristic of cognitive malfunctioning in developmental disorders of dyslexia, attention deficit/hyperactivity disorder, and autism spectrum disorders (Noreika et al 2014; Falter and Noeika 2014; Allman et al 2014). While significantly different from the temporal disintegration accompanying schizophrenia, autism spectrum disorders may also share atypical experiences of the "psychological present," with sensory overload and temporal binding deficits inducing difficulties imagining past and future changes to the current situation, understanding things change over time but remain the same, and cohering successive events as parts of a unitary process. In this theorization, stereotypical behaviors may serve to compensate for temporal deficits and to facilitate processing of sensory information within the bounds of a psychological present that parses and links the passage of time with ongoing activities (Boucher 2001; Boucher et al 2007, cited in Allman et al 2014). While it remains unclear whether temporal disorientations are primary or secondary dysfunctions in these various conditions – i.e., causes or effects – it is clear that the human ability to synthesize the strands of experience into phenomenological and representational coherencies is an essential requirement for creating and maintaining a sensible and meaningful temporal world (see also Friedman 1990).

THE TEMPORAL HORIZON

SECTION NOTE: This section observes that human beings signify their temporal horizons and integrate experience via perpetually eliding present moments fusing our sensory impressions, perceptions, and representations. For cultural psychology, each fleeting construction of our past-present-future continuum is the defining structure of human consciousness when mind "presents" itself to the world of meaning and affect; form and content intermix; and abstract potentialities are transformed and functionalized through individual time perspectives. Sherover has contended that no conscious thinking is devoid of temporal constituents and we cannot relate to truths incapable of temporal instantiation while Cole emphasized cultural mediation of tools, artifacts, and "history in the present" as emergent outcome of phylogenetic, cultural historical, ontogenetic, and microgenetic domains. This section separately considers each aspect of the tripartite temporal horizon: past, present, and future. Regarding the past, memory bestows the sense of temporal succession as well as power to abstract coherent unities from the elision of momentary percepts. Bartlett postulated that memories are imaginative reconstructions shaped by the rememberer's "attitude," expectations, and general knowledge. Dependent on conditions of their encoding, rehearsal, and retrieval, memories are comprised of dissociable processes and subtypes (episodic, semantic, procedural, implicit, explicit) rather than a unitary faculty of mind; distributed throughout brain; and formed from temporary constellations of neural activity always serving present purposes. Subject to diminution, bias, and distortion, memory is also a sociocultural exercise as notions such as Halbwachs' "collective memory" suggested recollections are socially and instrumentally distributed. Regarding the present, research has failed to find unambiguous evidence supporting a central fixed-duration intermittency or

"psychological moment" (typically estimated to be about 100 ms) underlying perception, and neuroimaging data has suggested automatic timing for intervals up to one second, cognitively controlled durations up to a few seconds, and a separate mechanism for exceeding intervals, with results converging on two to three seconds for the subjective present bridging recollections and expectancies. This section canvasses Bergson's subjective "inner duree"; James' "specious present" encompassing a non-punctuate saddle-back with forward- and rearward-looking streams; Husserl's sliding chains of retentions and protentions; Mead's temporal horizon performing service for the present; and Schutz's internal time consciousness of the "life world" to demonstrate that memory and anticipation, the present of things past and the present of things future, are tensed modalities of the present itself. Select theorists have also postulated that human temporality is identical with conscious awareness as homeostatic, visceral, proprioceptive, and emotional processes comprise the material substrate for our mental self and functional anchor of meta-representations of self across time. Regarding the future, cultures provide competing visions, valuations, and time perspectives as human beings project their thoughts and plans forward via cognitive representations that move from covert cravings to elaborate motivational goals and behavioral plans. The perennial (re)construction of 'here' and 'now' is thus freighted with sliding transformations of just-past and soon-to-be fringes of temporal horizon that demand biographical (i.e., cultural) and contentful specification.

Whereas time perception deals with relatively brief periods, the term time perspective or temporal horizon refers to viewing events from a certain distance relative to the present moment and reflects a person's unique developmental history and interpretation of the past, present, and future continuum – i.e., the totality of a person's psychological past and future at a given

vantage. While non-human animals demonstrate the ability to time, remember, and plan basic actions, humans possess a distinguishing capacity for signifying and symbolizing their temporal horizons through imaginary acts that integrate experience via ever-changing, perpetually-eliding present moments fusing our sensory impressions, perceptions, and representations. For cultural psychology, each fleeting construction of past-present-future continuum is the defining structure of human consciousness when mind "presents" itself to the world of meaning and affect and abstract potentialities are transformed and functionalized through individual time perspectives. During such "present moments," consciousness incorporates contributions from its sensory-perceptual-representational capacities as well as dynamic regularities and happenings in environment to accomplish a fusion of form and content in the particularizing and concretizing moment that is our "here" and "now." The perennial (re)construction of this "psychological present" is freighted with sliding transformations of just-past and soon-to-be fringes of temporal horizon that demand biographical (i.e., cultural) and contentful specification. In his essay "*Res Cogitans:* The Time of Mind," Charles Sherover contended that every thought integrates the three temporal modes of pastness, present, and futurity into an interpretation of meaning embodied in the living present, along with the corollary that no conscious thinking is devoid of temporal constituents (Sherover 1989, 285). Through unification of memory selection from the past, selective sensory awareness of the immediate present, and anticipation of possible futurity, "the interpretive function of the human understanding – taking time, structured by time, oriented to temporally presented actualities and temporal possibilities – enables us to be ourselves as beings who operate into the future" (Ibid, 289). According to Sherover,

> All thinking, then, is not only a time-durational process. Thinking is not merely concerned with temporally defined objects – whether they be things in the world as such or thoughts in our thinking. The thinking process itself is the continual interpretive integration of the three temporal modes of the thinking activity that is

> the self; it provides the meanings that are developed in the commitments brought forth as imperatives for action. It is this continuing process of continually integrating the continuity of temporally framed and temporally structured experiencing that enables each to find his own selfhood in the continuity of the "I" who does the thinking. Mind then appears to us as essentially temporal in every way that it manifests its activity of being. (Sherover 1989, 289-290)

Reviewing Locke's transitional and progressively disappearing "train of ideas" that succeed each other in consciousness, Leibniz's dynamic processing of ideas in cognitive contact with world, Kant's pure forms of intuition, and Descartes' distinction between physical matter and mind's systematic introspection (*Cogito ergo sum:* "I think therefore I am") in which consciousness and perceptions arise, Sherover argued that we only experience our own minds in the thinking-activity that constitutes experience: in its own activity, in its references to objects of thought, and in its grounding presupposition of the continuity of self that persists through and unifies the flow of its pervasively temporal experience. As such, Sherover embraced the American contextualistic pragmatism of Charles Pierce and William James that made temporality of all thinking its central point of departure; Josiah Royce's philosophical idealism and John Dewey's philosophical naturalism; and the centrality of mind and temporality emphasized by Bergson and Husserl then elaborated upon by existential phenomenologists Martin Heidegger and Merleau-Ponty. Further repudiating the Platonist thesis that mind finds truth only by escaping temporality, Sherover observed that while there may be truths that stretch across spans of human temporality, we cannot relate to truths incapable of temporal instantiation, and thereby of temporal predicates. Rather, we only grasp truths available as possible objects of temporally constituted experience and we have no experiential basis for claiming insight into truths with irrelevant time predicates. Phrased differently, the thinking mind develops and manifests truths within its human ken that are inherently temporal in every aspect of knowable being. "Only in its continuing particularized functioning do we find awareness of the

biographical particularities that constitute our own individual being" (Sherover 1989, page). Mind is a thinking entity that continually uses time, continually functions by means of temporal terms, and cannot find its own being except by means of the continuity of time. Thus, mind must find temporality not only intrinsic to its own self but also intrinsic to any external intelligibility with which it can deal. Moreover, for Sherover any act of thinking is culturally bound and contemporarily distills a given ideational heritage, with present formulations framed in accordance with a particular parochial culture.

> The context of any individual's thinking is thus a present individual response to its own historic inheritance. This inheritance provides the parameters we each use to guide our own thinking: the valuational standards and distinctions we invoke, often without question or conscious awareness; the questions which we raise in the face of proffered answers; the problematics we see in what members of an earlier generation may have taken as assured doctrine. Royce once suggested that each of us is born with an overwhelming debt, a debt to the entire historically still developing civilization which has received us into its currently expressed localized form. All thinking … is contextually bound. But the context is, first of all, a dynamically historic one, which is to say that it is the temporal context of our inherently historical sociality. Any individual thinking is thus historically situated … No individual's thinking can then be 'objective' beyond those culturally induced categories which are transcendentally operative in his thinking. No matter how dispassionate one may seek to be, one can but express a particular kind of outlook on the historically developing world within which he finds himself functioning. As social beings, any individual thinking thus necessarily incorporates particularized time predicates, as particular differentiating descriptions of the historically developed social milieu out of which whatever individuality we each manifest has arisen. Because each individuality is idiosyncratically reflective of the nourishing culture, it is historical, thereby temporal, from the outset … As we progressively narrow the societal area of consideration, we finally come to the individual who reflects, even in his most strident individuality, the entire historical ethos which, in his own biographical development, he had absorbed into himself – and of which he must always remain an, even if critical, expression. (Sherover 1989, 283-284)

Among contemporary cultural psychologists, Michael Cole (1989, 1996, 1997 et al) has been one of the few practitioners to explicitly incorporate temporal or spatial dimensions into his theorization. Citing Wundt's dictum to supplement physiological psychology (experimental

study of immediate experience seeking to explicate how sensations arise and combine in consciousness) with a robust Volkerpsychologie (the study of higher psychological functions such as remembering, reasoning, and language), Cole adopted the "cultural historical approach" previously associated with Russian scholars Alexei Leontiev, Alexander Luria, and Lev Vygotsky. According to Cole, there are three basic principles of the Russian cultural-historical school: (1) mediation through use of tools, artifacts, or other auxiliary means whereby humans modify material objects as a means of regulating interactions with the world and one another; (2) rediscovery of previously created tools in each generation through enculturation and historical development, with culture being the accumulated store of artifacts and species-specific medium of human development (i.e. "history in the present") that is reproduced for succeeding generations; and (3) emphasis on incorporation of artifacts in everyday activities and practices while overcoming the duality of materialism and idealism and implicating the social origins of human thought processes (Cole 1996, 108-110). In this formulation, functions that appear first on the social plane are then internalized on the intrapsychological plane via the "zone of proximal development." In Cole's emphasis on mediational activities, he cites Dewey and other theorists to argue that artifacts are simultaneously material and ideal -- hence the "duality of human consciousness" (Ibid, 117). Of particular concern herein is the cultural-historical approach's recognition of the temporal aspect of cultural mediation in which human ideas create new worlds that have continuity and permanence comprised of a remembered past, present, and future in an extended continuum. Addressing the social origins of higher psychological functions, Cole observed that "Humans are social in a sense that is different from the sociability of other species. Only a culture-using human being can 'reach into' the cultural past, project it into the future, and then 'carry' that conceptual future 'back' into the present to create the

sociocultural environment" (Cole 1996, 186). In seeking to explicate his own theory of activity, Cole acknowledged other scholarly treatments of schemas, scripts, cultural models, situations, narrative, and environment to reinforce that material (or social) practices are also simultaneously mental structures or representations. In articulating a supra-individual unit or envelope of analyses, Cole's cultural-historical psychology treated human cognition as the emergent outcome of transformations within and among several developmental domains: phylogenetic history, cultural history, ontogeny (life of the individual), and microgenesis (history of moment-to-moment lived experience). Since these domains operate with different scales and pace, the heterochrony among genetic domains provides essential resources for human mental functioning and development (Ibid, 183). Genetic coding and hereditary development place palpable constraints on an organism that is perpetually interacting with a culturally constituted environment providing the meditational means, tools, or artifacts for transforming both self and world via prolepsis, or the presently existing representation of a future act via cultural mechanisms for bringing "the end into the beginning" (Cole 1996, 82-83).

MEMORY AND THE PAST. As already emphasized, human beings don't live in the world in general, they live in particular instantiations of their general humanity that are always time, space, and place specific. It is memory that bestows the sense of temporal succession as well as the power to abstract coherent unities from the elision of momentary precepts (Crites 1997). Memory and anticipation, the present of things past and the present of things future, are tensed modalities of the present itself. As such, memory plays a critical role in the elaboration of an authentic cultural psychology of time and space. While some early Western philosophers such as Plato proposed the recollection (anamnesis) of a previously acquired eidetic knowledge

vice a particular (personal or mythical) past, later thinkers such as Nietzsche stressed either the virtues of forgetfulness or, in Heidegger's philosophical work, a prolonged effort to overcome that same forgetfulness of Being. With notable exceptions, such as Yates' (2001) seminal work on arts of memory and important contributions by Bergson, Husserl, and James on the pervasive role on memory in experience and consciousness, memory studies were underrepresented in philosophical and psychological literature until a mid-twentieth century revival of interest sparked a veritable boom in scholarly works emphasizing personal and social representations of the past (see Radstone and Schwarz 2010; Erll and Nünning; Erll 2011). Within psychoanalysis, Sigmund Freud employed an archaeological metaphor to liken the layering of information in mind to the layers of history in Rome (where traces of remote epochs mix with recent remnants of the metropolis) and believed everything in mental life was somehow preserved rather than obliterated by time (Freud 1961, 16-20; Cole 1996, 173). Freud's early work with patients' recollections of childhood sexual trauma concluded that visual images from childhood were memory distortions (vice accurate pictures) allowing patients to avoid facing what really happened. The central idea was that conscious recollections were inevitably distorted by a person's wishes, desires, and unconscious conflicts, with the goal of psychoanalysis being to uncover hidden reality, fills gaps in memory, and undo the baneful pathogenic effects of forgetting. As Freud began to emphasize the importance of the unconscious and of infantile sexuality, he abandoned seduction theory in favor of a science of interpretation that made meaning out of memory in the service of the present. Freud also contended that as children move from oral to anal stages they learn to control time with transitional objects that facilitate formation of a subjective past, present, and future. Freud concluded later in life that both time and the "timeless unconscious" were ultimately unknowable (Terdiman 2010).

Similar to the psychology of time, many important insights for cultural psychology can be drawn from experimental and theoretical research in human memory studies. This includes British psychologist Frederic Bartlett's oft-cited 1932 monograph entitled *Remembering* which postulated that memories are imaginative reconstructions of past events and the experience of remembering is shaped by the rememberer's "attitude" or expectations and general knowledge of what should or could have happened in a recollected event. Bartlett's emphasis on the subjective experience of "remembering" rather than "memory" highlighted that human agents actively listen, select, modify, or rigidify particular versions of the past. Memories are thus complex constructions rather than passive, literal, or preserved recordings of experiential information, with the implication that memories are less about the past than present interests and conflicts (Bartlett 1932). As such, memories are essential to maintenance of a "working self" since a person's self-representations are organized around the interplay of constructive memory retrieval and current goals in creating and remembering experiences. Recognizing that nearly everything we do or say depends upon smooth and efficient operation of memory systems, it is evident we do not simply store and retrieve computerlike bits of data or judgment-free snapshots of past experiences, but rather we hold on to their meaning, sense, and emotions. Bartlett was also concerned with social dimensions of memory since memories of specific individuals are fundamentally influenced by the social context and overall social organization providing a persistent framework for detailed recall. Hence, Bartlett emphasized that active processes of remembering involve an "effort after meaning" woven by memory's fragile power and the imaginative relationship between memory and reality (Schacter 1996).

As demonstrated extensively in psychological research (see Schacter 1996) memory processes are fragile and partially dependent on the conditions of their encoding (i.e., events as

experienced), rehearsal (typically involving multiple instances over time), and retrieval (especially the reason and circumstance of recall). Culture inserts itself at each of these key junctures in memory processing and is inseparable from them. For what we remember, how and why we remember, the manner in which memories morph and take on different characteristics (details, intensity, semiotic meaning) over time, and the occasion of their use in recall are dependent on cultural resources as well as brain processes. Encoding is the process for transforming something a person sees, hears, thinks, or feels into a memory and the attention paid to ongoing events has a major impact on subsequent memories for them – similar to the critical role played by attention in time cognition. The making of temporal records depends on the specialized system called working memory that holds small amounts of information for brief time periods and employs a different network of brain structures than long-term memory systems (Ibid). To establish durable memories, incoming information must be thoroughly encoded by associating it meaningfully with knowledge already existing in memory. In this manner, encoding allows us to integrate new information into what we already know which in turn shapes what we select and encode; for things that are meaningful to us, we spontaneously elicit the kind of elaborations that promote later recall. Our memory systems are built so that we are more likely to remember what is most important to us. We remember only what we have encoded, and what we encode depends on who we are – our past experiences, knowledge, and needs all having powerful influence on what we retain (Schacter 1996). The hippocampus is especially active in encoding novel events while the left inferior prefrontal cortex plays an important role in deep or elaborative encoding. Our recollections are largely at the mercy of our elaborations as only those aspects of experience that are targets of elaborative encoding processes have high likelihood of being subsequently remembered. The core cognitive act of visual imagery mnemonics – i.e.,

creating an image and linking it to a mental location – is a form of this deep, elaborative encoding (Ibid). Endel Tulving's encoding specificity principle observed that the specific way a person thinks about, or encodes, an event determines what "gets into" an engram (or enduring change in the nervous system), and the likelihood of later recalling an event depends on the extent to which a retrieval cue reinstates or matches original encoding (Tulving and Thomson 1973; Schacter 1996). Every time we recall or "rehearse" a memory, it is re-encoded while being affected by circumstances of its recall, which in turn affects subsequent rehearsals over the life course. Given the interdependence between encoding and retrieval, what matters most is whether a retrieval cue reinstates a person's subjective perception of an event. Because understanding of ourselves is so dependent upon what we can remember of the past, it is troubling that successful recall depends so heavily on availability of appropriate retrieval cues. Of course, experiences are not always preserved, for sometimes relevant engrams have weakened or become blurred and the brain engages in acts of "construction" during retrieval processes that mix memory traces with our general knowledge of events in the world (Schacter 1996).

Just as we experience and remember time on different scales, cycles, or isolated streams – vice a conventional or absolute linear continuum that requires effortful processes like inference – it makes little sense to talk about a general faculty of memory since we have diverse memory systems. In the 1970's and 1980's pioneer memory researchers such as Endel Tulving and Daniel Schacter came to realize that rather than a single or unitary faculty of mind as long assumed, memory is comprised of a variety of distinct and dissociable processes and systems (Tulving 1972; Tulving and Schacter 1990; Schacter 1987, 1990). Contrary to previous beliefs, memories are neither stored in any single location nor are they distributed throughout the entire brain. In Antonio Damasio's theorization, there is no single area in the brain that contains

engrams of particular past experiences; rather, there are various convergence zones with any retrieved memory arising from a temporary constellation of activity in several distinct brain regions, a form of reconstruction with many contributors (Damasio 1989, 1990, 1994; also cited in Schacter 1996). The medial temporal region (which contains the hippocampus) works cooperatively w/ regions toward rear of brain where engrams are stored, including areas in the parietal and occipital cortices, forming distributed networks that allow us to encode and recall recent experiences. A retrieval cue combines with an engram and forms a new emergent entity, the recollective experience (Schacter 1996). The medial temporal region also plays an important role in the consolidation process for a limited time following an event, with longer-term storage of memories occurring in cortical networks associated with different kinds of information. In the complex tapestry of remembering, conscious activities during waking probably conspire with unconscious happenings consolidated during sleep to shape and sculpt the stories we tell about our lives. Because our knowledge of past situations and events is usually activated so seamlessly, we may be unaware that inferences creep into our memories. Recognizing the importance of the retrieval environment in molding recollective experience, our ability to distinguish memory from imagination hinges on recall of accurate source information, with the frontal lobes playing an important part in remembering when and where past experiences occurred within the episodic memory system. For Schacter, "the fragility of memory is partly attributable to the fact that the seemingly straightforward task of remembering the what, where, and when of our past depends on subtle interactions among different processes of which we are only dimly aware, and over which we have little control" (Ibid, 132).

While French philosopher Henri Bergson (1911) distinguished conscious remembering from learned habits that influence behavior unconsciously, Tulving (1972) introduced the

important distinction between episodic and semantic memory systems. "Episodic memory" is uniquely human and allows us to recollect specific situations or incidents encountered in our pasts, while "semantic memory" is a vast network of associations and concepts – containing both conceptual and factual data – that underlies our general knowledge of the world, to include our stable, declarative, and accessible knowledge of the environment that provides relevant information about current situations from past states of affairs (Tulving 1972). According to Schacter, "when functioning smoothly, the brain systems that support episodic and semantic memories allow us to recognize objects in the world, to travel in time, and to construct our life stories. But when they are disrupted by brain damage, we are afforded a glimpse of the building blocks from which we build the tales of our past that confer coherence and meaning on our day-to-day lives" (Schacter 1996, 154) (For recent work on episodic memory, see Michaelian 2016). Additional memory systems include "procedural memory," which allows us to learn skills, acquire habits, know how to do things, practice largely unconscious behavioral routines, form expectations, and respond to priming cues. A further distinction is between "implicit memory" afforded when past experiences unconsciously influence our perceptions, thoughts, and actions and "explicit memory." Implicit memory operates in both the conceptual and perceptual domains (with priming intimately related to perception) and does not involve source information, suggesting that brain systems supporting implicit memory were likely in place before those supporting explicit memory (Schacter 1987, 1992). A particular form of implicit memory is body memory (vice memory of the body), akin to what Bergson (1911) termed "habit memory" and what Merleau-Ponty (2013/1945) celebrated as the embodiment of all experience, or the body as "habitual." Philosopher Edward Casey has distinguished between performative, traumatic, and erotic forms of such remembering, noting that habitual body memories are pre-

reflective and presupposed in human experience, forming a tacit, pre-articulate dimension of experience (Casey 1987). Representing the active co-immanence of past and present, body memory does not typically dominate but rather recedes from the clamor of present moments and belongs to latent or tacit dimensions of our being. While fragmented, the lived body forms a material condition for the possibility of remembering, regularly orienting and substantializing time and memory in its corporeal customs and practices (Ibid). Opposing the traditional bias that assumes recollection is inscribed via linguistic or textual tools such as narratives, Paul Connerton (1989) has similarly emphasized the importance of embodied or incorporated practices and "habit memory" in recollecting, sustaining, and conveying social memories through ritual performances. In order to be experienced as a memory, retrieved information must be recollected in the context of a particular time and place with reference to oneself as a participant in the episode. Tulving argued that this kind of experiential remembering depends on episodic memories that allow us to recall explicitly the personal incidents uniquely defining our lives as subjective rememberers (Tulving 1983).

While we perpetually exist within a life-world sub-served by the lifeline of memory, remembrance is always serving the here and now. Though re-collecting the past, memory has a biological function to the extent it organizes and informs present and future behavior. For the way one remembers an event depends upon one's purposes and goals at the time of recall, suggesting an inherent difference between "remembering" and "knowing" the past. Moreover, what has happened to us in the past determines what we take out of our daily encounters in life; memories are records of how we have experienced events, not replicas of the events themselves (Schacter 1996). Experiences are encoded by brain networks whose connections have already been shaped by previous encounters with the world. This preexisting knowledge powerfully

influences how we encode and store new memories, thus contributing to the nature, texture, and quality of what we will recall of the moment. Whether employing an "observer" or "field" perspective, our subjective experience of remembering is thus constructed from influences operating in the present as well as from information stored about the past (Ibid). Though we may also project pieces of memory into non-human machines, texts, and artifacts by "off-loading" the burdens of forgetting and recall, we construct our sense of ourselves as well as our autobiographies from fragments of experience that continue to change over time. In this manner, understanding whom we are and whom we will become depends on memories that may fade, change, or even strengthen as time inexorably passes. It is from this ongoing dynamic between time and memory that our autobiographies, the stories we tell about our lives, are born and nourished (Schacter 1996). The integral connection between memory processes and the construction of self-identity – especially the salience of self-continuity and personal identity maintained through recall of past experiences identified with self-image – is a generic human trait nurtured within a culturally constituted temporal orientation assumed as a necessary condition. Since the human life course unfolds and is recalled through spatial movements and relations, memories are also deeply tied to specific places where events occurred and affective associations conjured in mind. As such, a culturally constituted spatial orientation is equally important in understanding how memory processes effect the tensed modalities by which culture influences mind in the momentary interfaces between past, present, and future.

Autobiographical memory is a particularly important form of recollection that combines episodic memory (i.e., specific life episodes), semantic memory, and autobiographical knowledge (conceptual, generic, schematic knowledge of one's personal history) in constitutive and self-constructive acts of recall (Williams and Conway 2009). Autobiographical memory is a

subtype of episodic memory involving construction of a plausible account combining various experiences with the faint cloth of records of consciousness. Conway and Rubin (1993) have postulated there are three kinds of hierarchically arranged autobiographical knowledge – event-specific knowledge (lowest), general events (medium), and lifetime periods (highest) – that subsequent studies have shown may serve different functions and be mediated by different underlying brain systems. Conway and Rubin also proposed that no single representation or engram stored in memory has a one-to-one relationship with mental experiences or the recollection of one's past; instead, such experiences are always constructed by combining bits of information from each of the three levels of autobiographical knowledge (Ibid). Recognizing that structure and complexity lurk beneath the surface of normally seamless recollections of past occurrences, the constructive nature of autobiographical memory weaves together life stories, personal myths, and biographies providing narrative continuity between past and future.

According to Katherine Nelson (1996, 2001), autobiographical memory emerges between three and six years of age in concert with language use and people begin experiencing such memories at approximately three and a half years. While basic memory forms are oriented to the present and future vice the past (Nelson 1988, 1993), autobiographical memory establishes a sense of personal history in a social world where others have their own unique personal histories. In this regard, autobiographical memory is always supported, scaffolded, and shaped by experience in the surrounding culture; in the end it is highly personal and idiosyncratic, but never escapes its social and cultural boundaries (Nelson 2001). Autobiographical recall demonstrates our capacities for self-reflection, sense of personal agency and ownership, and ability to represent a continuous self who endures through time. Autobiographical remembering is thus embedded in affective, interpersonal, sociocultural, and historical contexts as improvised selves

are created in present contexts to serve psychosocial, cultural, and historical purposes (Barclay 1999). This autobiographical remembering forms the core of personal identity as self works with memory in an interdependent system in which memories can be altered, distorted, and fabricated. Since sequence and duration are basic temporal properties, autobiographical memory and the sense of a continuing self over the lifespan are constituted through the same process whereby events, scenes, and activities are sequentially ordered, located with respect to a present now, and related to each other via scaffolding devices such as calendars and narrations (Nelson 2001). Autobiographical memories comprise the content of the self, enable and constrain what the self can become, and locate the self in sociohistorical times (Williams and Conway 2009). The life story is a succession of events that are causally and intentionally related through reconstructive processes in a general narrative combining several lower-level lifetime periods and relevant general events through some temporal schemata (Larsen, Thompson, and Hansen 1999). Employing frames supplied by our imaginative engagement of the past, autobiographical memories constitute the self (Rubin 1996), represent distinct personhood through "owned" experiences (Klein 2001), construct a narrative self via recall of facts and episodes from personal past (Neisser 1993), and comprise the "self system" of current goals and semantic knowledge (Conway 1996). Overall, the developmental literature suggests that having a sense of self is a precondition for entertaining episodic memories as autobiographical (Boyer 2009).

Culturally, social groups construe connections between self and others in different ways as the past is constructed, retrieved, or distorted as part of various identity projects leading to cross-cultural variations in autobiographical memories. Examining how the social environment in which a child grows up influences establishment, maintenance, quantity, and quality of long-term event memories, Leichtman, Wang, and Pillemer (2003) found differences in the content

and style of autobiographical remembering in Chinese, Korean, Indian, and North American adults and children correlating with the degree to which children's early environments stress independence versus interdependence (see also Pillemer 1998, Wang 2001). Highlighting the role of cross-cultural differences in narrative styles, self-construal, development of emotion situation knowledge, and beliefs about personal past, the authors concluded that adults who grew up in independent cultures tended to recount earlier, lengthier, and more detailed childhood memories than do adults who grew up in interdependent cultures:

> Autobiographical memory may serve different functions in societies that hold different views of the self and the ideal social world. In individualistic Western cultures, personal memories serve as a forum for solidifying relationships, in addition to confirming the unique attributes of the individual. In contrast, interdependent Eastern cultures that discourage excessive focus on and talk about the self rely on other methods of valuing the individual and ensuring that social bonding takes place. In such cultures, empathy based on implicit understanding and shared points of view that are communicated nonverbally may take the place of explicit dialogue about the personal past … Cultural values affect how people talk with the children about the past, organize information about the self, understand emotion, and consider the importance of personal memory. These factors contribute to differences in autobiographical memory among adults … The repeated, detailed reconstruction of events in narrative and thought that occurs in individualistic cultures is likely to create a different autobiographical perspective and organizational structure from the more seldom, sparse, and didactic reconstructions that occur in collectivist cultures. This prediction is supported by cultural differences in the degree of access that adults have to early memories and the accompanying differences in their self-construals and early narrative environments. (Leichtman, Wang, and Pillemer 2003, 92-93)

Miller et al similarly concluded that Chinese mothers discussed past events with their children for different reasons than European-American mothers (Miller, Wiley, Fung, and Liang 1997; cited in Reese and Farrant 2003). Hayne and MacDonald have also documented how indigenous Maori, with a strong oral tradition stressing ancestry and heritage, remembered childhood experiences several months earlier than white European Pakeha New Zealanders – suggesting that cultural belief systems, values, and different parental reminiscing styles impact remembering

(Hayne and MacDonald 2003). In the *Handbook of Cultural Psychology* (2007), Wang and Ross similarly compared how Western and East Asian conceptions of memory and selfhood contributed to different patterns in the genres, style, content, specificity, accuracy, focus, emotional valence, type of imagery, and directive function of recall in autobiographical memory. Whereas Western subjects with an autonomous and independent conception of selfhood established the meaning, purpose, and value of their existence by recollecting and identifying distinctive personal experiences with past selves, East Asian subjects with an interdependent and relational self-construal defining an individual's place within a network of relationships, social roles, duties/obligations, and community membership attended to, perceived, and retained more contextual information in their environment. Such differences presumably reflected participants' goals and beliefs at the time of encoding, sharing (rehearsals), and retrieval. Based on their findings of systematic cross-cultural differences in the content of autobiographical memories, Ross and Wang concluded that "culture contributes to how, when, what people remember, and whether they judge remembering to be important at all … Cultural influences take place in the larger context of setting the goals and purposes of remembering, in the interpersonal sphere of daily mnemonic practices and exchanges, and at the individual level of shaping cognitive schemas and memory strategies. As both a system and a process of symbolic mediation, culture manifests itself in memory construction via multiple pathways" (Wang and Ross 2007, 662).

An important fact about human cognition is that many of our thoughts entertain objects and situations that do not exist. For even if the past can never be fully recaptured, memory serves an adaptive function and the idea of mental "time travel" highlights the ability to free ourselves from immediate constraints of time and space while re-experiencing the past and projecting ourselves into the future. Suddendorf and Corballis (1997, 2007) have argued that

mental time travel and foresight (i.e., the imaginative construction of possible outcomes of present situations) evolved as unique capacities less about the past than current decision making since our store of accessible situations and experiential material provides organisms with a range of experiences against which to compare present situations and select beneficial or preferred courses of action. Even forgetting is an economical response and adaptive feature since we are better off forgetting trivial experiences than clogging our minds with inane details and trying to remember everything that has ever happened to us. In the aging process, memories become less accessible with passage of time as we encode and store new experiences that interfere with our recall of previous ones and there is diminution in the strength of connections among neurons representing particular experiences. Aside from loss or impairment of certain memory subsystems associated with brain damage or disease, memory is subject to significant biases and distortions as evidenced by prolonged debates over purportedly repressed memories and the fallibility of eyewitness accounts (Schacter 1996). Studies of so-called "flashbulb memories" of socially shared moments and real-life traumas have shown that memories of emotionally traumatic events are generally persistent and often impressively accurate, but still subject to decay and erosion. While troubling that life stories can be subject to profound distortion, especially since the memories give rise to stories that stay with us from cradle to grave – tying us to the places we have been and the people we have known – we do not live in wholly fabricated, self-serving fantasies, for the broad contours of our lives are fundamentally accurate (Ibid).

While our memories of discrete mental states and events – and our ability to recast, reorder, abstract thematic coherencies, and form symbolic webs from them – are unique features of the human brain, memory is ultimately a sociocultural achievement because we never escape the ways in which culture thoroughly infiltrates our renderings of past, present, and future

(Ferrarotti 1990). And if culture influences how individual minds employ memories in service of present and future projects, then it is equally important to examine how societies similarly encode, rehearse, and recall events through collective representations, monuments, architecture, art, and ritual (see works on social memories by Connerton 1989, Fentess and Wickham 1992, and Terdiman 1993). Scholars have sought to bridge the "individual" and "cultural" aspects of memory by focusing on individual creation of cultural and historical representations through the role of memory processes in construction of self-identity, shared cultural norms and concepts, and historical awareness. Directly addressing the transmission of memory through culture, seminal works of Maurice Halbwachs (1980, 1992) on "collective memory" were indebted to both Durkheim's view of time as a social or collective achievement and French philosopher Henri Bergson's emphasis on time as the central problem of philosophy. For Halbwachs, whose conception of collective memory is widely evoked but poorly understood, we are never alone and our memories remain collective while springing from shared ideas and conceptions recalled to us through others: "We must from this moment on never have lost the habit and capacity to think and remember as a member of the group to which we all belonged, to place ourselves in its viewpoint and employ the conceptions shared by its members" (Halbwachs 1980, 26). Though we often deem ourselves the originators of thoughts and ideas, feelings and passions, they are usually inspired by some group. For the succession of even our most personal remembrances is partially explainable by changes in relationships to various collective milieus. According to Halbwachs, society is broken into a multiplicity of groups, each having characteristic durations, and there are as many collective times as there are distinct groups. Even within modern society there is no single, unique, or universal time but rather several times in varying degrees of correspondence. The thoughts and events of individual consciousness can only be compared and

relocated within a common time because inner duration dissolves into various currents whose source is the group. Even our physical surroundings bear the imprints of ourselves and others since collective memory unfolds within a spatial framework that is never outside of lived or conceived space. Although Halbwach's notion of "collective memory" is generally taken to mean that societies or other human groups maintain memories – that is, encode and retrieve events to serve particular goals, similar to individuals – scholars such as Wertsch (2009) have (re)interpreted collective memory to describe the way people in groups construct shared representations of the past. Halbwachs himself insisted that his notion of collective memory was more than convenient metaphor, but his usage suggested that he recognized memory "in" the group rather than memory "of" the group. Borrowing from Vygotsky's concept of mediation, Wertsch concluded that Halbwachs' collective memory approximates "distributed memory" (Hutchins 1995) since recollections are distributed socially and instrumentally through involvement of active agents and instruments, signs, or tools that mediate remembering such as calendars, written records, computers, and narratives. Recalling Bartlett's similar distinction between remembering and memory, Wertsch saw human mental processes as mediated action and preferred to speak of collective remembering vice collective memory (Wertsch 2009) (See also June 2017 issue of *Culture & Psychology* 23 (2) devoted to collective memory; see essays by de Saint-Laurent; de Saint-Laurent et al; Brockmeier; Brown and Reavey; Wagoner; Obradovic; Nicholson; Awad; Glaveanu; de Luna; and Zittoun).

Rediscovery of Halbwachs' writings has also spurred interest in the critical role played by religious and secular rituals in enacting and re-enacting social memories (See Casey 1987, 1993; Davis and Starn 1989; and Irwin-Zarecka 1994). A cursory glance around most public arenas discovers various mnemonic cues and representations "reminding" us that the physical

and social environment is embedded with culturally constituted memories being incessantly formed and reformed through expressive acts of intentional beings. For memory always memorializes – however fleetingly, inconsistently, or inadequately – since remembering commemorates the past and redeems the perishing of particulars in a selfsameness that conspires in the present to persist into the future. Edward Casey (1987) has remarked that commemoration always involves the mediation of a commemorabilia that is juxtaposed between commemorator and the commemorandum, or that being commemorated. As intensified remembering, commemoration constructs the space and continues the time in which the commendably inter-human will be perduringly appreciated. In contrast to situating and stabilizing effects of place, ritual is an action-oriented, collective, dynamic affair requiring direct participation and bodily performance within a determinative matrix that is predominantly temporal vice spatial. By overcoming affects of anonymity and spatio-temporal distance, commemorative rituals solemnize by communalizing participants in a ceremony via interpersonal and committed action. Through the co-action and compresence of ceremony, rituals honor the past and revivify the present by combining sameness and permanence over time with the capacity to modify or evolve into the future (Ibid). In this manner, commemoration enacts van Gennep's (1961) three-phased rites of passage as well as Victor Turner's (1966) concept of liminality (no-longer and not-yet) by connecting participants to historical actors and events. Emerging from the "betwixt and between" of ritual time, participants are transformed through reincorporation of memorialized figures and events that serve the present purpose of commemoration. Borrowing from object relations theory, ritualized memories are thus non-private and non-solipsistic, with the inherent alterity of commemoration being ineluctably interpsychic as well as intrapsychic. And if commemoration connects and body memory anchors existence, then place memory locates it by

situating one's memorial life and giving it a name and local habitation. Places are congealed scenes for remembered contents that bring together disparate realities and dispersed things into a provisional unity. Through attachment to place as arena of action, mourning establishes an internal memorial to lost others. Whether memorialized in stone or other artifacts, monuments establish extendedness in space matching comparable distention in time. Via concrete emplacement, being-in-place is a modalization of being-in-the-world (Casey 1987).

For cultural psychology, what we encode, rehearse, and retrieve in memory partially depends on who we are and the dispositions we have brought forward. Since remembering is an active construction, our present goals and purposes influence what and how we recall or modify stored memories. The cultural psychology of time treats memory as comprised of multiple sub-systems and types forming a basis for the self's persisting identity over discrete episodes. An active, fleeting and constructive constellation of traces, fragments, and cues that serve present purposes, memory shapes both our past understandings and our future prospects. Bringing together unique constellations of ourselves and our recollective pasts in momentary here's and now's, memory involves the raising and proffering of content-filled forms that are both fleeting and fragile. Whether through autobiographical recall, bodily performance, ritual enactment, or narrative trope, memory is permeated by culture.

THE PRESENT. Since our access to the past via memory processes ultimately serves the construction of an expanded "Now" via formation of a temporal landscape within shifting field(s) of consciousness, "the present" moment assumes peremptory importance in articulating a cultural psychology of time. Indeed, while under-theorized in cultural psychology, per se, conceptualizations of the "present," "present moment," or "now" instantiate (and literally

embody) all of the key tenets of a sub-discipline founded on incommensurability of stimulus situations, intentional minds and worlds, distinctive mentalities, selective activation of innate heterogeneity, interpenetration of culture and mind / objectivity and subjectivity, contentful forms, existential uncertainty, selfways, psychological pluralism, situated practices, and particularizing existence as affirmation of pure being. For the "now" is when the human mind and being "presents" himself or herself to the world of experience, meaning, and affect. For insights into composition of the human present, we must turn to neuroscientists and social interactionists who have articulated how the "present" arises and then recedes in our consciousness. Results from experiments on the neurocognitive machinery of human time converge on the value of approximately two to three seconds for the subjective or pragmatic present in which the structure of lived experience is laden with awareness of past and anticipation of future (Poppel and Bao 2014). These experimental results have been buttressed by an extensive literature from select phenomenologists and social interactionists who have explicated the profound significance of "the present" for understanding the temporal character of human consciousness. Bergson (1911) was among the first to argue that real duration was a pure and simple fact of experience and that past and future only exist in present moments eliding into each other. Bergson's notion of the inner and subjective perception of time – his characterization of "inner duree" as qualitatively differentiated but unsegmented temporal movement (i.e., non-spatialized psychological time) – was supplemented by social and "concerted" times as well as culturally established times that were measurable in social units (Sharron 1982). Elevating individualistic and subjectivist intuitions over logical reasoning, Bergson embraced our direct perception of inner time as the ultimate source of knowledge about self and free will.

American psychologist William James was influenced by Bergson's writings on time and memory and elaborated the notion of a "specious present" that is temporally extended and encompasses some part of an immediate past while having both forward- and rearward-looking elements. Rather than an instantaneous now or punctuate point on a timeline where past and future meet – i.e., a mathematical representation of time – James' specious present was the experienced Now of non-punctuate, non-zero content spread over a range of still "present" time of some seconds in length bracketing the instantaneous now and including fringes of just-past and soon-to-be. In *The Principles of Psychology*, James observed that "In short, the practically cognized present is no knife-edge, but a saddle-back, with a certain breadth of its own on which we sit perched, and from which we look in two directions into time. The unit of composition of our perception of time is a duration, with a bow and a stern, as it were – a rearward- and a forward-looking end" (1890, 609; cited in Andersen 2014, 28). In the constant process of becoming, personal construction of events-in-time takes place in a constantly disappearing present incorporating fading memories from the past and imagery-guided expectations for the future. For James, whose pragmatism relied upon experience as the ultimate arbiter of truth, memory processes operating within a "stream of consciousness" on the "nucleas and fringes" of awareness allow for integration of "present" and "past" leading the construction of "future-in-the-present." Remarking on the flow of time, James noted that "Its content is in a constant flux, events drawing into its forward end as fast as they fade out of its rearward one, and each of them changing its time coefficient from 'not yet,' or 'not quite yet,' to 'just gone' or 'gone,' as it passes by. Meanwhile, the specious present, the intuited duration, stands permanent, like the rainbow on the waterfall, with its own quality unchanged by the events that stream through it" (James 1890; cited in Arstila and Lloyd 2014, 310). Incorporating perception, duration, and

memory, consciousness requires the ability to hold fast to multiple ideas separated in time as well as successive contrast or change between distinct sensations spanning at least two such moments in order for change to be noticeable.

Philosopher Edmund Husserl adopted James's and Hume's radical empiricism and phenomenological focus on things as they appear to consciousness without explanatory reference to physical reality or psychological methods. Following James in extending the immediate moment of experience to the past and future, Husserl described the elementary temporal structure characterizing all intentional processes of human consciousness into which past, present, and future impressions are fused in the flow of ongoing impressive phases without intrinsic segmentation of experience (see Husserl 2014/1887; Mensch 2014; Gell 1992). Husserl's views on time evolved over decades leading to publication of the *Phenomenology of Internal Time Consciousness* (1966/1887) wherein he exposited the horizon of a temporally extended present or field that is successively updated with perceptual beliefs relating to the proximate past and anticipated near-future. Abandoning the view of a knife-edge present between past and future duration, Husserl further distinguished between "retentions" -- a perspective view of present experience through the vantage point of a 'now' moment which slips forward while past phases are inexorably pushed back -- and "reproductions," which are active constructions, recollections, or remembered replays of a past event disconnected from the now moment. Similarly, Husserl distinguished between "protentions" – a perspective view of proximate future emerging out of the present now – and imagined fantasies about future events detached from the present moment (Mensch 2014). Whereas "retention" or "primary memory" holds traces of all experiences as "just past" for a brief fading moment, "protention" describes the immediate anticipation of the "just next." While the retentional chain can be described as an already-having of an already-

having of an original impression, the protentional chain as inverse is a having-in-advance of a having-in-advance of a future impression. In Husserl's model of internal time consciousness, the subjective character of time retains a uniformity of structure and all contents of consciousness (including awareness of time's passage) are subject to this temporal structure wherein each passing moment undergoes sliding transformation toward the past as time flows in characteristic body-bound rhythm. Upon this flow are superimposed both subjectively motivated shifts in attention that slow it down or speed it up as well as externally imposed changes in awareness. Impressions are the origin of consciousness of time but retention is needed to capture fully the experience of change or constant alteration of contents in the now as well as departure of impressions into the past. With expiry of the now, this retention is itself retained, and so on serially in a continuous modification of dying away or shading-off that marks our experience. The result is a fixed continuum of retentions with each later point being retention of every earlier point – i.e., a chain of retentions of retentions of retentions of some original impression along with concomitant anticipation of future protentions. Consciousness flows because of the retentional and protentional transformations of the impressions we receive. Time with its contents appears to advance from the future, pass through the present, and depart into pastness. Our momentary consciousness of the living present is marked by these continuous transformations: retentions are present awareness of what is flowing away while protentions are present awareness of what is flowing toward. We are always self-aware or conscious of the just-past, our present, and our just-about-to-come states (Ibid).

It was Husserl's lifelong challenge to reconcile self with the temporality of consciousness and to provide a satisfactory account of both pre-reflective consciousness and reflective self-awareness. Regarding experience of self, a person is always "here" in the spatial center or zero-

point of his/her environment, the point from which near and far are measured. Phenomenologically, "here" is defined by the perspectival unfolding of objects surrounding the person as he/she moves through the locative world. Situated between retained past and anticipated future, the person also finds himself/herself at temporal zero-point with fleeting 'now' always accompanied by ephemeral 'here'. Rather than an abstract point on a constructed timeline, now is constituted as a fixed form through which time appears to flow and moments well up as present and actual. Both Husserl and Merleau-Ponty agreed that time and subject were inseparable, with Merleau-Ponty emphasizing the role of embodied subject as constraint and constituent of everything known or done. Since 'here' and 'now' are fantastically elastic concepts, the body or "material me" defines a personal event horizon in a world of relations and concerns (Arstilla and Lloyd eds. 2014, 453-454). Just as boundaries of the body create a unique and fluid spatial field, a personal here and a material me, so also the body innervates a temporal window or embodied Now in which subjective time warps in response to urgent priorities of the material, biological self. For Marc Wittman (2014), awareness of the body is awareness of passing time as action, emotion, and subjective time meet. In a river of time metaphor, Husserl's viewpoint would be standing on a bank watching time flow by (i.e., objects of perception moving past a fixed Now) versus floating in a river along with time as it passes by the landscape (i.e., personal Now moving through fixed terrain of objects or events) – the distinction between current forms of retentionalism and extensionalism, with both maintaining that the subjectively experienced present is not a punctuate phenomenon (Arstila and Lloyd 2014) (See also Wittman 2016).

George Herbert Mead examined time in the last months of his life in *The Philosophy of the Present* (1932) and embraced Bergsonian thinking on durations as "continual sliding of

presents into each other. The present is a passage constituted by processes whose earlier phases determine in certain respects their later phases. Reality then is always in a present. When the present has passed it no longer is" (Mead 1932, p. 28, cited in Valsiner 1993, 26). For Mead, every human being's psychological phenomena are constrained by present experiences that include use of past memories and imagination of the future within that present. Mead's social constructionist perspective envisioned a constantly progressing temporal horizon within which a person synthesizes "sensuous stimulation" with "imagery from past experiences" through ongoing person-environment transactions performing service for the present:

> If we could bring back the present that has elapsed in the reality which belonged to it, it would not serve us. It would be that present and would lack just that character which we demand in the past, that is, that construction of the conditioning nature of now present passage which enables us to interpret what is arising in the future that belongs to this present. When one recalls his boyhood days he cannot get into them as he then was, without the relationship to what he has become; if he could, that is if he could reproduce the experience as it then took place, he could not use it, for this would involve his not being in the present which that use must take place. A string of presents conceivably existing as presents would never constitute a past. (Mead 1932, 30; cited in Valsiner 1993, 26)

In Mead's broader outline of a theory of action (1932, 1934, 1964), human acts are understood as emerging events that constitute the present with a past and future horizon. Similarly, personal identity is constituted over time through the actor's temporal perspective as well as encounters with the perspectives of 'generalized others' leading to construction of a common social time.

Focusing on the time-locked individual person within his or her social surroundings, the sociogenetic perspective in developmental psychology emphasizes construction of personal experiences within the present with help of reconstructive memory, goal-setting, and problem-solving functions. For Avery Sharron, "There is an inevitable effect of this sociocultural and natural environment on the individual perception of time. People are not born into a vacuum, but

into an existing order, in which nature and culture interact. Inner time, therefore, is influenced by significant others, and it is nurtured in society, thus having certain culture-oriented elements. Concepts of time, then, change from one society to the next on the personal phenomenological level. The main point, however, is that inner times can be concerted regardless of this sociocultural influence" (1982, 80). Alfred Schutz (1967, 1973, 1989) later relied upon Bergson's notion of inner and subjective perception of time to present a symbolic-interactionist alternative to the structuralist views of Sorokin and Merton (1937). In Schutz's work, an action gains meaning when as a unit of internal time consciousness it is lifted reflexively out of the stream of experience and integrated with the total context of experience. The temporal structure of the "life world" is formed as prior contexts of meaning help determine present experience and future expectation. And since the stream of experience of alter ego proceeds similarly with one's own, the life worlds of ego and alter possess the same temporal structure and permit emergence of an inter-subjective "world time" (See Bergmann 1992, 83-85).

CONSCIOUSNESS. When Augustine turned attention towards subjective vice metaphysical time in his *Confessions* with the famous quote, "What Then is Time? If no one asks me, I know. If I want to explain it to a questioner, I do not know," he presaged long-standing debates over relationships between the temporal structure of experience and consciousness itself (Arstilla and Lloyd eds. 2014). Within the extensive philosophical and psychological literature on consciousness, select theorists have postulated that human temporality is born out of, if not identical to, our conscious awareness (see McInerny 1991). For Norman Denzin, "Thoughts, thinking activity, occur within a continuous, ongoing stream of consciousness which is unique to each individual, always moving, sensibly continuous, selective in content, present in transitive

and substantive forms, with moving horizons and fringes of shifting, reflective awareness. By thinking, we move through time … Consciousness is always experienced in relationship to the body … Consciousness, minding behavior, is embodied experience" (Denzin 1982, 38-39). While temporal competencies in laboratory conditions reveal shocking disparities, multiform and inconsistent time judgments, and lack of clockwork timepiece in brain, our sensory impressions and effervescent states of awareness (both sensations and reflections) comprise an intricate and nuanced temporal field involving perception, inference, reasoning, etc. And since survival depends on our ability to track complex processes and anticipate change, our awareness of subjective time seems to ground conscious life and meld personal experiences with environmental demands. Whether one endorses the naïve view that stream of consciousness inherits the structure temporal properties of neural events (Phillips 2014) or temporal relations in the environment, or adopts the perspective that temporal contents result from constructive processing in the brain (Dennette 1991, 2009; Grush 2005, 2008; Molder 2014), the "Now" of awareness contains immediate consciousness of temporally extended phenomena like change, motion, duration, sequence, and order. In this regard, subjective time is the mind's continuous update of conditions unfolding in purportedly objective time (Arstila and Lloyds eds. 2014). Though much debated, Dennett's multiple draft model of consciousness (1991, 2009) – a constructivist exemplar – contended there is no sharp boundary between conscious and nonconscious processing and opposed the notion of a special locus in the brain for consciousness and temporal processing. Rather than "Cartesian theater," the brain is like multiple drafts of a paper being simultaneously updated and revised by many different people.

Other theorists have related the emergence of consciousness with homeostatic conditions in the mind-brain-body. For instance, Hartcollis and others have equated the experience of time

with experience of a feeling self entity unfolding in and over time: "Inner time and duration is virtually indistinguishable from this awareness of the self, the experience of the self as an enduring, unitary entity that is constantly becoming" (Hartcollis 1983, 17). Kiverstein (2009) similarly noted that time consciousness and experience of self are manifestations of the same underlying process. For Metzinger (2004, 2008), time is not a property of an external world but rather arises from continuous visceral and proprioceptive input from the bodily self, which is the material substrate for our mental self, functional anchor of phenomenal consciousness, and experiential basis for generation of a world that is present in the continuous flow of time. Given the tripartite (past-present-future) structure of time, Lloyd (2002) concluded that analyses of functional neuroimaging data generally support the view that time consciousness (flow of events and of newness) can be mapped onto brain functions. Dainton (2009) further examined several models for how individual phenomenal "Nows" are processed to generate the experience of continuity within our perception and flow of time. And while "how" and "where" time is processed in the brain remains unresolved, with no consensus emerging on psychological and neurophysiological mechanisms, Wittmann recently concluded that empirical evidence points to the insular cortex as a primary candidate for the neural basis of human time consciousness (see Wittmann 2014).

As we have seen, it is through the temporal structure of consciousness (i.e., subjective time) that a realization of self can emerge as an enduring and embodied entity. Despite lack of scientific consensus, Craig (2009a, 2009b) recently exemplified ongoing fascination with finding the seat of consciousness in mind-brain processes associated with temporal processing (see also Wittmann 2014). Reviewing available evidence, Craig (2009a, 2009b) concluded that conscious awareness of self's complex feeling states is based on a posterior-to-mid-anterior progression of

bodily representations and integration with cognitive and motivational information culminating in the anterior insula. These processes enable a feeling for the homeostatic condition of body and self, the material me, expressed as immediate needs and desires, which guide decision making and initiate behavior. According to Craig, the anterior insula builds a unified meta-representation of homeostatic feelings constituting the experienced self at any moment. A succession of meta-representations of the self across time provides a continuity of subjective awareness, a series of elementary emotional moments. Our experience of time is created by these successive moments of self-realization as well as temporal integration of emotional and visceral processes linked to the interoceptive system. Physiological changes form an internal signal to encode passage of time and duration of external events (Craig 2009a, 2009b; Wittmann and van Wassenhove 2009; Wittmann 2014). In this model of consciousness, the insular cortex of primates is identified as the primary receptive area for sensory activity representing the physiological condition of the body, and representations of this homeostatic afferent activity provide the basis for self-awareness and serial emotional moments across time (Craig 2009a, 2009b). Unity of the present moment is a fundamental property of consciousness and subsumes several temporal thresholds in subsecond ranges (30 ms and 300 ms) relating to biochemical processes as well as integration of sensory information into both perceptual gestalts and conscious representations of approximately two to three seconds duration providing the logistical basis for our temporal experiences (Poppel 2009, Poppel and Bao 2014).

In his 2004 book entitled *Mind Time,* Benjamin Libet summarized decades of experimental research and surgical work on the human brain that pioneered new insights into temporal relations between neural events and human experience. Libet is most famous for his discovery that we unconsciously decide to act well before we think we've made the decision to

do so (Libet et al 1983). Relying upon both electrical instrumentation and human self-reporting, Libet found that the human brain begins to initiate and prepare for a voluntary act about 400-500 msec before the person becomes consciously aware of his or her intention to act, suggesting that conscious awareness may be preceded by unconscious processes. While a conscious mental event does not initiate the volitional process (since brain initiates unconsciously), intention to act appears about 150 msec before execution of the motor act, leaving sufficient time for the conscious function to intervene and stop or veto the process so that no act occurs. Hence, for Libet, while this "time-on" feature means that our conscious experience of the sensory world is delayed up to 500 msec, and that conscious thoughts arise unconsciously, free will can ultimately still control the outcome (Libet 2004). While unconscious mental processes are unique for a given individual and characterize one's self – similar to one's conscious mentations – the crucial point is that we have conscious control over actual performance of our unconsciously initiated volitional processes; hence, we are responsible for our conscious control choices, not for unconsciously initiated urges that precede our conscious decisions. Though unconscious processes precede and/or play a predominant role in the production of our conscious life – complicating our awareness of living in the present – subjective experiences also involve referral of responsible brain activities into images or thoughts that give a conscious order and meaning to the complicated neural activities that elicit them. The fact we ordinarily experience being conscious in a continuous manner can be explained by overlap in appearance of multiple conscious events, and the physiological requirement of a delay for development of awareness may provide an opportunity for unconscious cerebral processes to modify contents of the sensory cortex (See June 2002 issue of *Consciousness and Cognition* for commentaries on Libet's work).

Libet also made the important observation that – depending on what one was just thinking about – the brain is in a different "start state" as different information is partially activated, different associations primed, and different rationales and consequences constructed (Libet 2004). One decides what to do based on "what one is" – mentally speaking, in terms of one's knowledge, goals, values, and beliefs – which consists in part of information in memory that plays a role constructing alternatives, etc. Commenting upon Libet's seminal work, Stephen Kosslyn (2004) noted "We are not simply accumulators of environmental events, filtered by our genetic make-ups. We bring something novel and unique to each situation – ourselves." Kosslyn further queried whether we are "proximally responsible" for the effects of every aspect of what one is on what one does – i.e., can we choose, based on what we've chosen to become, to override some impulses and express others (Ibid). Citing Penfield's dated (1958) proposal that the "seat of consciousness" is located in medially situated subcortical structures, Libet nevertheless celebrated the overwhelming evidence that mental, conscious processes are related to and dependent upon specific structures and functions of brain – i.e., that the physical brain and its significant neuronal activities are essential to and mediate our nonphysical conscious subjective experience. Libet further employed neurologist Antonio Damasio's (1999) notion of a "core self" continuously generated as a result of one's ongoing sensory experiences to contend that our "conscious mental field" unites enduring attributes of personal identity despite significant and extreme changes in the content and capacities of our conscious experience (Libet 2014). Libet also flatly rejected the reductionist view popular with many scientists and philosophers and instead argued that the nonphysical nature of subjective awareness (including feelings of spirituality, creativity, conscious will, and imagination) was indescribable and unexplainable by physical evidence alone – i.e., that conscious mental phenomena are not

reducible to nerve cell activities (Libet 2004). According to Libet, there is nothing in neuroscience or modern physics that compels acceptance of determinism or reductionism. Rather, self and soul are emergent phenomena of brain activity, which becomes painfully clear when debilitating illnesses such as Alzheimer's disease or brain damage result in loss of selfhood and personal identity. Towards that end, Libet cited novelist Saul Bellow in highlighting the non-reductionist emergence of human consciousness:

> In the greatest confusion there is still an open channel to the soul … it is our business to keep it open, to have access to the deepest part of ourselves – to that part of us which is conscious of a higher consciousness, by means of which we make final judgments and put everything together. The independence of this consciousness, which has the strength to be immune to the noise of history and the distractions of our immediate surroundings, is what the life struggle is all about. The soul has to find and hold its ground against hostile forces, sometimes embodied in ideas which frequently deny its very existence, and which indeed often seem to be trying to annul it altogether. (See Wieseltier 1987, Bellow 1987; cited in Libet 2004, 215)

These contributions by Libet, Kosslyn, Damasio, and Bellow substantiate cultural psychology's emphasis on conditional, optional, or discretionary aspects of mind – the "what one is," soul, or self brought to every experience – that are primed and activated through participation in symbolic and behavioral inheritances of particular groups. For besides mandatory or fundamental aspects of human psychology – psychic unity making us imaginable to one another – we are truly always somewhere in particular, giving partial expression to our pure being. Through unique unconscious and conscious events emergent in our temporal horizon of consciousness, we reconcile human variety with common humanity by selectively and differentially activating, institutionalizing, and rationalizing the heterogeneous complex of inherited psychological processes and forms that universalize us (Shweder 1991, 1993).

THE FUTURE. The ability to conceive and pursue future-oriented action (maintain future time perspective) is a vital aspect of human practice and important differentiator in any cultural psychology of time (Haith et al, 1994; Zaleski 1994; Karniol and Ross 1996). For cultural communities provide different resources and competing visions for the meaning and value of short- and long-term future goals. Cultures provide motivational preferences that drive future oriented-actions and structure the individual's psychological field as past, present, and future intermix in the autobiographical life course. For projecting oneself into the future demands a sense of continuing personal, social, and cultural realities as well as effortful construction of a self across time, space, and social worlds. Human behavioral control critically depends upon both imagined consequences of actions in the here and now and executive planning functions in the human mind-brain. Dennett (1995) suggested that such planning involves a two-stage process of the generation of variability (imagination) and selection (comparison) of possible courses of action (Moore and Lemmon 2001).

The French philosopher Guyau (1890/1988) believed that consciousness was a side effect of goal-oriented behavior and conceived of time, intentionality, psychological future, and goal realization as occupying and co-determining our present mental processes (Zaleski 1994a). Other early research emphasizing the role of futurity within psychology included Lewin's (1948) emphasis on the role of goals, plans, and aspirations; Gillispie and Allport's (1955) comparison of adolescents' thinking about the future in 10 countries; investigations of adults' future orientation (Rakowski 1979, de Volder 1979); inquiries into anticipation (Neisser 1976) and foresight capability (Bandura 1986); and work on the significance of future orientation and goal-directed behavior (Oppenheimer 1987) (see Nurmi 1989, 1994). Our future orientation is intimately related to motivation, planning, evaluation, and control (Nurmi 1994). From fantasy

to concrete planning, human beings project their thoughts and plans into the future via cognitive representations that move from unspecified cravings at covert representational levels to elaborate motivational goals and behavioral plans. Future time perspective (FTP) is an important personality characteristic since people differ in short- and long-term time perspectives as well as degrees of self-imposed delayed gratification. And while future perspective is open and undetermined, it is informed by past knowledge and present contingencies (Zaleski 1994a; Lens and Moreas 1994). Our anticipated future is an integral part of the psychological present and a key premise of motivational psychology. For temporal focus provides a meaningful framework for social and cognitive approaches to motivation since individuals may be pulled to act by recollections of the past, driven by current contingencies, or pushed to behave by conceptions of future or pursuit of proximal or distal goals (Karniol and Ross 1996). Motivation reflects an interweaving of one's present into the fabric of one's past and the prospects of one's future and individuals differ in their focus on selective parts of the temporal horizon while engaging in an ongoing, internalized "re-interpretive temporal dialogue" that allows them to reshape memories and to mold their expectancies (Rotenberg 1987, p 74; cited in Karniol and Ross 1996).

Both individuals and social communities exhibit biases towards past-, present-, or future-orientations informed and propelled by assessed degrees of predictability and controllability as needs and motives conspire in behavioral interactions between people, nature, and sociocultural environment (Nuttin 1984, 1985). Studies have demonstrated clear cultural differences in control orientation as people from individualistic cultures prefer "primary" control while those from collectivistic or group-oriented cultures prefer "secondary" control vectors over behavioral and social outcomes (Essau 1992; Trommsdorff 1986, 1994). Other studies (Bouffard 1981; Seginer 1988; Seginer and Halabi 1991; Morsbach 1990) have shown notable intercultural

differences in hopes and fears, optimism, extension of future orientation, and control beliefs (see Kreitler and Kreitler 1994; Zaleski 1994b). Since a person's future orientation develops and changes throughout the life span according to experiences of self-environment relations in a given sociocultural context, it is necessary to examine relations between future time perspective, control orientation, and sociopolitical changes (Trommsdorff 1986; see also Seginer 2009).

The ability to understand, infer, and anticipate actions and reactions of self and others is an adaptive skill requiring at least a naïve theory of intentional action. During the first two years, children learn simple temporal sequences and begin anticipating what comes next. Between ages of three and five children begin to use knowledge of goal plans to interpret and anticipate actions and experiences of others. Preschool children at about four years begin to show considerable skill in using planning knowledge and communicating expected outcomes (Trabasso and Stein 1994). Language in the context of discourse provides means for adults to reference the future and for children to express their expectations. In everyday conversations, parents talk with children about past and future events and temporal understanding develops within a narrative discourse of storytelling and time-based referential systems. Development of a child's future orientation is facilitated by language via grammatical makers, conjunctions, tense, and aspect as conversants begin to address the past-present-future continuum (Moore and Lemmon 2001; Hudson 2001). Relational terms such as "before" and "after" depend on cognitive understanding of seriation and reversibility. The time concept is itself a social construction conveyed to children through language: "The child alone cannot *discover* time, because (unlike concrete objects) it is not an entity that exists to be discovered. Rather, conceptions of process and change have led different societies to conceptualize time in different ways, and those ways are conveyed to children through language forms" (Nelson 1986, 288;

cited in Hudson 2001, 55). More than any other aspect of mind and behavior, language is a complex skill that lives in time and must be carried out under serious temporal constraints. Temporal expressions are an indispensable part of language use and characterize situations as being in past, present, or future, and events as either ongoing or completed. Predication, or guessing what comes next, plays a central role in language learning (Bates et al 1994).

More complex future-oriented behavior is dependent upon causal thinking, knowledge about human intentionality, and understanding the continuation of plans of action. While grounded in experiences of the past, future-oriented planning organizes, guides, and anticipates behavior. In this manner, causality and planning provide the medium through which we bind the past to current actions in the present that are motivated by future outcomes and purposes (Trabasso and Stein 1994; Atance and O'Neill 2001). Markus et al (1990) have suggested that individuals bring the future into the present by creating images of possible selves, representations of how they might act, look, or feel in the future, with imagined end states motivating current behavior (Karniol and Ross 1996). In "An Essay on the Principles of Human Action," English Romantic critic William Hazlitt (1969/1805) first proposed a developmental account of the extended self focused on the self's projection into the future that contrasted with Locke's account based on self-conscious recollection of the past. For Hazlitt, relations to future selves are based on imagination or simulation unlike causal relations to present and past selves depending on sensation and memory (Barresi 2001). Employing a sociocultural perspective that takes activity as a unit of analysis (see Leont'ev 1981) involving active, dynamic, and mutually defining contributions from individuals, their social partners, and historical traditions and materials, Barbara Rogoff (1994) viewed planning as a process of transforming possibilities for anticipated events. In this conception, developmental thinking involves learning to plan in advance of action

or flexibly anticipating constraints and opportunities while adapting to circumstances during action (Rogoff 1994). According to Rogoff's contextual or transactional approach, planning unfolds, emerges, and evolves rather than merely results from selection and application of stored plans. In this theorization, human planning, communication, work, and play are directed within the present toward general purposes of the participants. Planning thus occurs in the service of endeavors involving prior and anticipated events and cannot be severed from goals to be accomplished or the history of an activity. In short, planning is a process of flexibly and deliberately devising means to accomplish interpersonal and practical endeavors (Ibid).

Recalling William James' (1950) characterization of 'mental' life – i.e., "The pursuance of future ends and the choice of means for their attainment are thus the mark and criterion of the presence of mentality in a phenomenon" (cited Shweder 2006, 731) – we return to the realization that intentional beings (psyche) live in intentional worlds (culture) populated by concrete particulars and domain-specific, subject-dependent artifacts. Since there is no context-free environment, person and stimulus are mutually bound and psyche refers to "patterns of motivated involvement, subjective states responsive to and directed at our mental representations of things" (Shweder 1991, 101). Forever negotiating emergent temporal horizons – the construction of "future in the present" -- human beings in culture pursue purposeful psychological activity directed towards goals, plans, and expectancies bounded by imagination.

NARRATIVE AND LIFE COURSE

SECTION NOTE #1: This section contends that human development is the transcendental absolute of time in ontogenesis since human beings are born, develop, grow, decline, and die and

the fate of that universal condition in lived human history is the meta-narrative of cultural psychology. For cultural theorizations of human development itself – the anthropology of our extended existence in time – present preferred or alternative models that individuals partially accept or revise while coloring the interdependent "facts" of hereditary markers and psychobiological trajectories with sociocultural achievements. Recalling that our innate human architecture is unfinished, this section reviews Friedman's research suggesting children develop temporal sensibilities by expanding upon perceptual arrows of time, early biological timers, and endogenous sensitivities; sequencing actions and conforming to temporal expectations in the caretaker environment; applying context-sensitive practical times in everyday thinking and linguistic constructions; and employing social and historical time patterns to order memories through cultural technologies. The repudiation of Piaget's theory of cognitive development is contrasted with cultural psychology's focus on custom complexes in the emergence of developmental time and timing. Key scholars such as Valsiner and Bronfenbrenner have highlighted the co-active and bi-directional nature of development through coordination of settings, customary child-rearing practices, and caretaker psychology. This section also observes that contemporary developmental science has moved away from reductionist, positivist, and deterministic paths and embraced relational metatheories founded on dynamic relations between active individuals and biosocial contexts. Gottlieb coined the term "probabilistic epigenesis" to describe the dynamic interplay between genes and experience while arguing that qualitative changes in development can be bi-directional or non-linear and result from heterochronic relationships between subsystems having different rates and involving critical periods, windows, and discontinuities. This section further notes that pioneering scholars in life span developmental psychology such as Baltes and Buhler assumed lifelong adaptive processes co-

constructed by biology and culture across the entire life course and characterized by growth, maintenance, loss, selection, optimization, and compensation in adaptive capacities. Recognizing plasticity within ontogenetic pathways, cultures segment physiological development into socially-defined, age-graded phases denoted by culturally prescribed expectations that incorporate bodily changes and impose meaning onto events such as birth, puberty, menopause, death, etc., defining the contours of biography.

Human development is the transcendental absolute of time in ontogenesis since human beings are born, develop, grow, decline, and die and the fate of that universal condition in lived human history is the meta-narrative of cultural psychology. For cultural theorizations of human development itself – the anthropology of our extended existence in time – present preferred or alternative models that individuals partially accept or revise while coloring the interdependent "facts" of hereditary markers and psychobiological trajectories with sociocultural achievements. Contending there is no *tabula rasa,* cultural psychology asserts that our heterogeneous collection of psychic structures are selectively activated, brought "online," or suppressed in historical experience while cultural learning represents a refashioning of what is inherited or built in. Through incessant growth and decline of organism and person, we encounter the enabling and constraining outcomes of exchanges with social others, cultural ideas, and practices. And through engagement with physical and linguistic artifacts and immersion in the traffic of symbols and meaning systems that give interpretive valuations to the life course, we create or acknowledge segmentations and transitions recognizing our individual and communal histories. A cultural psychology of time must address emergence of the human time sense, fundamental questions about the nature of human development, conversance with the ways human beings

mark and remark upon their biological and sociocultural journeys, and appreciation for the signal importance of human narrative, storytelling, and autobiography for constructing and maintaining the viability of temporal worlds. For cultural psychology must investigate how structures in the human mind (domain-specific modules, knowledge, expertise, language) interact with processes in environment (birth, growth, maturation, decay, compensation, loss, death, etc.) to produce symbolic and storied forms (life cycle rituals and rites of passage, life course periodizations, autobiographical selves, narrative accounts) that intersperse cultural influences throughout every aspect of developmental processes. For people and cultures not only experience and comment upon life cycle transitions but also develop abstract conceptualizations of those pathways through normative or countervailing exemplars. In a very basic sense, as biological "facts" and sociocultural achievements, human developmental processes, life course markers and trajectories, and storytelling practices exist in all cultures but assume radically different specifications under different conditions and cultural traditions.

As previously noted, our innate human architecture is incomplete and unfinished. We do not awaken in the world with a sophisticated time sense but rather gradually build up that sense by experiencing and conceptualizing the manifold varieties of temporal experiences. According to William Friedman (1990, 1992, 2000, 2005, 2008), who has published extensively on development of time sense in children, infants begin to show incipient awareness of and attunement to temporal patterning in very brief slices of time during the first months of life and gradually acquire an impressive knowledge of the temporal structure of their environment. Rather than a single dimension passing uniformly in all places, time is initially bound up with space and speed and infants cannot logically relate succession to duration. During socialization processes children are tacitly trained to conform to temporal expectations of their immediate

caretaker environment and then broader culture as they learn to internalize schedules, coordinate activities, and prepare for events. Moving from perceptual arrows of time in infancy with early biological timers and endogenous sensitivity to duration of events, children gradually learn about the temporal structure of the world by responding to temporal patterning of stimuli and sequencing actions well before acquiring a mature sense of time measurement. Children move from representations of brief novel events to longer periods between ages of one and three, typically understand terms of succession and duration and establish rank ordering of durations by age four, and gradually acquire the basic idea that time is measurable (Friedman 1990, 2008).

During language development, young children demonstrate correct tense as early as two and a half years old and begin using markers of pastness and futurity (Ibid). However, Gell (1992) has contended that, despite past tense constructions, children possess only an egocentric versus a "true tense" perspective of time as linear extension until age six. While children code for aspect even before true tense, they show wide cross-cultural divergencies in language-specific sequencing and learning of those constructions (Ibid). Moreover, sentence-level semantics of particular utterances – coded for tense, modality, and aspect – are subordinated to requirements of particular kinds of discourses, suggesting that a child's grammatical constructions in relation to a variety of pragmatic discursive frames multiply with wider types of social interactions. Citing Givon's (1982) analysis of Creole language (in which sequence, facticity, and duration are posed as primordial requirements of human communications), Gell suggested that – rather than an endogenously determined concept, hard-wired natural language universal, or sociologically determined outcome – time talk emerges from pragmatic-functional universals relating to discourse rather than strict cognitive universals (Gell 1992).

Regarding the temporal horizon, Nelson (1996) has argued that the past-present-future distinction is a social construction learned by children as young as four years old who link past events to temporal locations without adult understanding of annual time patterns. Between four and six years of age children expand conceptual understanding of how past and future relate to present and learn to differentiate days, weeks, etc. while developing flexible patterns of daily activities. Although young children lack knowledge of personal and social time patterns to order memories, their past-present-future division and appreciation of historical time becomes increasingly meaningful from eight years old into adolescence with rapid growth in the number and scale of temporal patterns. During middle childhood, an individual typically begins to understand time as a concept in and of itself and grasps the increasing uniformity of time-based constructions while showing the ability to adapt to complex temporal environments. Building representations that capture meaningful temporal relationships and patterns, children begin to use calendars and other cultural tools to structure time and to plan activities (Nelson 2000, 2001).

This emergence of time sense in children is somewhat variable since a child's unique history of mental operations can influence developmental timing along with age-related limits in brain development and information processing capacity (Friedman 2008). Overall, research findings suggest considerable differences with the genetic epistemology of Piaget, who dedicated an entire book to explaining how perception of time is derived from perception of movements in space (Piaget 1970; Droit-Volet 2014). In Piaget's theory of cognitive development involving directional change and progressive phases of increasingly generalized thought processes, a child advances from early intuitive, concrete, content-filled, undifferentiated, egocentric, visible, and context-dependent thought to abstract, private, interiorized, self-reflective, differentiated, decentered, context-free thought processes – i.e., from preoperational thought to formal

operations (see Gell 1992). Within classical Piagetian theory, the core of what develops consists of logical operations or structures that can eventually be applied with equal facility and skill to any problem regardless of its content – hence, towards de-contextualization. Tapping into a 'pure core' of cognition discoverable through abstract thought mechanisms, logical operations are privileged over content. In an important series of experiments in 1970 on development of time sense in children, Piaget postulated the following stages: sensori-motor, before two years of age; pre-operatory I (three to six years of age), when children learn to order events into series; pre-operatory II (seven to eleven years of age), when children learn to coordinate series but fail to conserve; and operatory (approximately twelve years of age), when children coordinate series with reference to an abstract notion of duration. However, other researchers could not validate Piaget's findings cross-culturally and even Piaget himself had to acknowledge his ostensibly universal stages of development were not manifested uniformly in all cultural settings (Gell 1992). French psychologist Fraisse (1964) pointed out that, in contrast to Piaget's late childhood development of abstract relationships, children rapidly learn to handle time in social interactions and employ a body of symbolic language and non-homogenous, process-linked, time-reckoning concepts in daily life to coordinate activities. Critiquing Piaget's attempt to identify cognitive abilities in isolation from specific contexts of application, Gell (1992) asserted that social and practical life uses a battery of time-handling constructs (regardless of technological advancement) and time is only sometimes conceptualized as an abstract dimensional continuum. For Gell, the homogenous duration posited by Piaget was a myth outside of a purely technical or laboratory context and Piaget's operatory time was not identical with physical/mathematical time. Rather than a unitary construction, practical time – or application of thinking ability to everyday contexts – is diverse, non-homogeneous, and context-sensitive via frames of reference.

Hence, pedagogical milieu likely determined outcomes of Piaget's testing procedures rather than biological processes determining morphogenesis of general intelligence (Gell 1992).

In contrast to Piaget, cultural psychologists have embraced a person's involvement in various custom complexes (ideas, activities, practices) that reveal the categories, principles, or 'mentalities' for becoming a competent member of a group. While approaching social learning as activation or refashioning of inherited complexity, or elaboration of innately-given categories through cultural participation, cultural psychology recognizes the critical importance of habitual, automatic, and pre-conscious social behaviors. Cultural psychology thus shares with Whiting and Child's "custom complex" (1953), Lewin's "life space" and "life history" (1936; 1951), and Bourdieu's "habitus" (1977) an appreciation for the developmental process of becoming less conscious and less reflective. Highlighting specific forms of knowing, thinking, feeling, wanting, and doing, cultural psychology studies constituted or compiled experiences, which Geertz dubbed "experience-near" concepts in contrast to explicated or "experience distant" concepts. "It is assumed in cultural psychology that acts of interpretation and representation can take place so rapidly and unconsciously that they are experienced by informants or subjects as indistinguishable from consciousness itself, thereby creating the naïve realist illusion that acts of consciousness are unmediated or direct" (Shweder and Sullivan 1993, 507).

HUMAN DEVELOPMENT. Lamenting the neglect of temporality in traditional psychological approaches, cultural psychologist Jaan Valsiner (1993) viewed human development as a process of construction of structure within the present while facing the future irreversible time of the developing organism. Entailing the emergence of novel forms of qualitatively new character, developmental processes are inseparable from the active making of

distinctions and constant partitioning of the field of organism-environment relationships, which leads to time-locked constraining for further development of the organism. The only way any person can experience time is through a presently ongoing interaction with the world. The notion of present itself is a mental construction of our minds since life involves unstoppable movement towards constructing a future that instantly (as present is instantaneous) becomes past (Ibid). In our cultural reflections upon time-bound experiences, however, we can further distinguish a temporal horizon by superimposing upon the flow of our personal experiences a language-aided scheme of relative stability. Language use, or semiotic mediation, is set up so as to overcome ever-present uncertainty by way of generalization, which language concepts entail by fusing two aspects of time, that of personal experience and that of generalized abstraction. (Paralleling the symbolization in transitional experiences making time perceptible and cognizable, Homans (1989, 2000) treated language and culture as surrogate representations of lost intimacy in grieving and mourning; Sullivan 2017, personal communication).

> In the human case, persons participate in their own future construction by internalizing semiotic means that serve as reducers of the uncertainty, which is guaranteed by the ongoing life experiences. As a side effect, these semiotic means allow the developing persons to construct reflective abstractions about the world, themselves, and their relations with that world, without retaining the notion of irreversible time. It is the construction of these time-freed reflections that operate as organizing conditions in the ongoing developmental process. In some sense, human beings have created for themselves semiotic constraints that allow them to cope with the irreversible time by constructing relatively stable time intervals. In order to cope with ongoing fluid uncertainty, human beings construct reflections of time as if it were well organized into interval units, each of which is homogeneous in its temporal duration. As a result, functional (but illusional) certainty is constructed by a person's mind through homogenization of heterogeneity within the temporal domain. (Valsiner 1993, 16)

Recognizing psychobiological pathways as well as the irreversible draw of ever unfolding futures -- the basic fact that human existence unfolds in and through times that the organism co-produces throughout the life course – cultural psychology addresses developmental

time and timing by embracing the mutual contributions of both individuals and the social contexts in which they live (See Goodnow et al 1995; Tudge et al 1997; Turkewitz and Devenny 1993; Jessor et al 1996; Rogoff 2003; Shweder et al 2006). For instance, Valsiner (1994) has examined the "co-construction" process through which an individual's "personal culture" of symbolic meanings is intimately intertwined with a community's "collective culture" (i.e., received interpretations available from the ancestral past). From the extensive literature on child-rearing practices in anthropology and human development studies, notable contributions include the early works of Benedict (1955) and Mead (1935); Levine's work on parental goals (1974); Whiting and Whiting's six-culture study (1975); Super and Harness' "developmental niche" model (1986); Vygotsky's "zone of proximal development" in which a child develops through guidance and constructive play (see Wertsch 1985; Valsiner 2006; Daniels et al 2007); Weisner's "ecocultural" niche/model (1984) with activity settings; Worthman's "developmental microniche" as the spatiotemporal envelope of states and conditions experienced in course of development (1994); Berry's "ecocultural model" (1995) emphasizing the environment as a communication medium for child development; Cole's work on "cultural practice theory" and mutual interweaving of multiple time scales in the embedding of microgenetic and ontogenetic phenomena in personal life courses in the context of cultural-historical and phylogenetic processes (Cole 1989, 1995a, 1995b, 1996, 1997); Wertsch's scholarship on semiotic mediation, dialogicality (ala Bakhtin), and multiplicity of "voices" (Wertsch 1998, 2001); Rogoff's "supra-individual" sociocultural entity (2003); and Magnusson's holistic-interactionist model treating individuals and dynamic person-environments as organized, functioning totalities characterized by patterning of structures and processes in persons as well as immediate (situation), proximal, and distal environments (Magnusson and Stattin 2006).

Urie Bronfenbrenner (1979) applied Lewinian theory and "psychological ecology" to child development and social change in elaborating his "ecology of human development." Bronfenbrenner conceptualized multi-person systems of interaction into a broader "ecological environment" conceived as a vested arrangement of structures each contained within the next: the "microsystem" (complex of relationships between a person and environment in immediate setting containing the person – place, time, physical features, activity, participants, roles); "mesosystem" (interrelations between two or more settings in which a person actively participates); "exosystem" (one or more settings not involving the person as active participant but including events that affect or are affected by the person's setting); and "macrosystem" (consistencies in form and content of lower-order systems at level of subculture or culture as whole, including belief systems or ideology) (Ibid; see also Bonnes and Secchiaroli 1995, 53-58). The microsystem, mesosystem, exosystem, and macrosystem each have multiple time scales that varyingly complement or compete with one another in this nestled system of structures. These systems generally correspond to biological, psychological, socio-historical, and cultural levels of analyses and reflect the manifold nature of time experiences and conceptualizations. Bronfenbrenner's (1979) ecological theory of development contended that different social structures simultaneously operate to constrain a cultural member's development and set up socially defined boundaries providing opportunities to construct individualized life pathways along normalized routes (See also Bronfenbrenner and Morris 2006). In subsequent elaborations, this bioecological model has sought to encompass continuity and change in biopsychological characteristics of individuals and groups over the life course, across successive generations, and through historical time. Three successive levels of time include "microtime" (continuity and discontinuity in ongoing episodes of proximal process), "mesotime" (periodicity

of episodes across days and weeks), and "macrotime" (changing expectations in larger society within and across generations) (Elder and Shanahan 2006).

Other notable contributors on the emergent, dialectic, co-actional, bi-directional nature of development include Vygotsky's emphasis on a person's interactions with cultural-historical worlds, learning through interactions with more competent others, and framing of development within contexts that are socially created at local and societal levels (Vygotsky 1978; Wertsch 1985; Daniels et al 2007), and William Stern's personology of person-Umwelt relatedness (Stern 2010; Lamiell 2003, Valsiner 2005). From Vygotskian and Bakhtinian perspectives, identities (or selves) are psychocultural and psychosocial formations that develop as individuals and groups engage in activity in a lived world with "history-in-person" capturing the evolving temporality of people and time (See Bakhtin 1981; Holland and Skinner 1997). While Dewey (1911) assessed that mind and character require a cultural medium to develop, Janet's sociogenesis (see Valsiner and van der Veer 2000) further captured the social foundations of developmental processes and Mead's (1964) symbolic interactionism viewed development of mind, meaning, and consciousness as a social process premised on the reciprocal nature of person-social-environment relationships and creation of a symbolic world shaping behavior. Super and Harkness (1997) noted there are three frequent conceptualizations of the relationship between a child and the cultural environment: a stage peopled by a cast of characters with assigned roles and tasks; a community of practice in which person and environment are inseparably woven together; and/or guiding ideas, particularly culturally shared ideas held by parents and other caretakers. Combined, it is the cultural coordination of settings, customary practices, and caretaker psychology that creates the cultural structuring of child development. Other prominent themes include the conveyance of messages in cultural media, the differential

effects of culture-specific practices and activities; and development as a form of participation. The indexical property of language also provides a link to models of socialization that emphasize the powerful socializing impact of tacit organizations of time and space along with their associated routines and distributions of persons. Additionally, child rearing practices reflect the specific time and place – i.e., historical moment and geographic positioning – of their enactment.

Overall, contemporary developmental science has moved away from ill-framed and methodologically flawed research in the split (i.e., real versus epiphenomenal, nature versus nurture, internal versus external, maturation versus learning, continuity versus discontinuity, etc.), reductionist, and positivist paths of previous historical eras and embraced relational metatheories founded on dynamic relations between individuals and contexts (Lerner 2006, 5). Recent researches have emphasized that regulation of development occurs though mutually influential connections among integrated levels of developmental systems ranging from genes and cell physiology through individual mental and behavioral functioning to social, cultural, ecological and historical factors in ontogenesis. Individual and context become part of the same molar unit of analysis as temporality is fused into levels of organization comprising the ecology of human development. While developmental regulation facilitates and constrains opportunities for systematic change, the potential for plasticity at both individual and contextual levels (varying across time, place, and environmental conditions) is a fundamental strength of all human development (Ibid, 3). Developmental thought over the past several decades has thus increasingly focused on the extent to which human development is embedded in biosocial and cultural contexts that are often taken-for-granted and pre- or unconscious in a person's experience (Rathunde and Csikszentmihalyi 2006, 468). While developmental outcomes are rooted in physical and social circumstances, a person can wield significant self-regulative control

over attention, experience, and growth with increasing age and experience. Personal development also varies across time and place as social practices place powerful constraints on paths to becoming a person. Rather than viewing the individual as dependent variable propelled deterministically along the life course by external forces (i.e., independent variables such as genetic programs, early environments and stimulations, social and cultural contexts, etc.), recent approaches have emphasized the active, purposeful role of the individual in helping to shape his or her developmental trajectory. The experiential perspective of Rathunde and Csikszentmihalyi, for instance, "recognizes the fact that human beings come into the world exceptionally immature and must depend on a supportive social context to develop their full potentialities. The social context, in turn, expects the growing individual to display certain minimum competencies before he or she can be accepted as a 'person'. In addition, each culture evolves expectations of optimal personhood that serve as the ideal goals of individual development" (Ibid, 509). Though cultural systems maintain and perpetuate themselves by controlling developmental processes during the life span, the developing person negotiates sociocultural affordances and constraints and leverages representational and regulative processes to optimize a personal course of development through constructive and selective activity (Brandtstadter 2006, 555).

Gottlieb and others have convincingly argued that development is more than a sequence of stages or accretion of new forms and functions and that all qualitative changes in development occur as a result of heterochronic relationships between components and subsystems having different rates of development (Shanahan, Valsiner, and Gottlieb 1997). Gottlieb (1970, 1991a, 1991b, 1992) coined the term "probabilistic epigenesis" to describe this dynamic interplay between genes and experience in the canalization of behavior. In Gottlieb's formulation, development does not proceed in a simple linear direction, proceed out of necessity, or remain

domain specific. Rather, the developmental process is driven by both endogenous and exogenous sources and is a product of internal and external events that are not easily predictable. Recalling Gould's (1977) theory of punctuated equilibrium in which timing leads to qualitative changes in organization that are an inevitable outcome of relationships between components, biology requires that time be conceptualized as having a direction. But the result of changes in hierarchical and horizontal structures can either enable or constrain developmental processes and outcomes since structural and functional contributions to experience can also be bidirectional, nonlinear, and involve critical periods, windows, and discontinuities. And the organism is an important contributor to its environment, leading to an endless search for identifying particular functions as innate or acquired, hard-wired or constructed – distinctions dependent upon readily identifiable *a priori* sources for development. But allocating something to genes or any other default category doesn't explain how "innateness" is brought about. Rather, consideration of the indirect nature of development flows from appreciation of the role of timing in producing nonobvious outcomes (Turkevitz and Devenny 1993). Overall, a developmental psychobiological systems approach seeks temporal description of activity at the genetic, neural, behavioral, and environmental levels of analysis with bidirectional effects among all four levels. What is actually realized during the course of individual psychological and behavioral development represents only a fraction of possibilities, and the notion of "equifinality" allows for variation in pathways leading to common developmental endpoints (Gottlieb et al 2006, 221).

Life span developmental psychology examines individual development and lifelong adaptive processes from conception into old age and assumes that ontogenesis is co-constructed by biology and culture extending across the entire life course vice being completed at maturity (Baltes et al 2006, 569). While sequencing in the life span gives temporal priority to earlier

times and life events, adaptive changes can be open and multidirectional and each period of the life span (infancy, childhood, adolescence, adulthood, old age) makes unique contributions to the organization of past, present, and future outcomes. Life span researchers have highlighted individual and cultural variations in what is considered successful or healthy as people seek to maximize gains and minimize losses. The biological architecture of life is incomplete and advancing age widens the gap between biological potentials and individual-cultural goals, meaning that ontogenetic development varies markedly by historical-cultural conditions. And life span changes in allocation of resources to different functions highlights the interactions between growth, maintenance, and loss as well as the processes of selection, optimization, and compensations in adaptive capacities. Some processes are cumulative and continuous while others are discontinuous and innovative, showing little connection to prior events. Ontogenetic development is also local, specific, time-bound, and never fully adaptive, so there is no pure advance or loss. In modern ontogenesis, nature itself is biological and cultural and both categories are subject to dynamic and interactive changes as well as systematic transformations:

> Biologists have perhaps led the way in moving research away from unilinear, organismic, and deterministic models of ontogenesis to a theoretical framework that highlights the contextual, adaptive, probabilistic, and self-organizational dynamic aspects of ontogenesis … Similarly, cultural psychologists and anthropologists have succeeded equally in convincingly demonstrating that human ontogenesis is not only strongly conditioned by culture, but that the architecture of human development is essentially incomplete as to the culturally engineered pathways and possible endpoints. (Baltes et al 2006, 644)

Notable figures in life-span developmental psychology include Baltes' work on development in the latter years of life, which necessitated accounting for decline as well as gain, and the combinatory process of selective optimization and compensation during the aging process (Baltes and Baltes 1993; Baltes and Staudinger 1996; Baltes 1997; Baltes et al 2010); studies by the Vienna Psychological Institute in the 1920's; Charlotte Buhler's emphasis (1935,

1968) on systemic functioning at different periods, especially mid-life changes, and the uniqueness of the life course of each individual; Riegel's work on the dialectical nature of developmental progress and importance of "asynchronies" between physical, historical, social, biological, and psychological trajectories (1976); and Erikson's psychodynamic approach to delineation of age-related life stages that emphasized the dynamic, synthetic nature of developmental transformation and mutual integration of personality, biology, and culture (Erikson 1994, Erikson and Erikson 1998). Most of these theorists critiqued Piaget's claims regarding universal stages and development of formal thought, and instead focused on individual-socioecological frames of reference and the uniqueness of individual persons, the concreteness of their life circumstances in time and history, and the possibility of novelty in development ensuing from dialectical contradictions between persons and external forces. Resonating with Geertz's "incompleteness" hypothesis – "Culture provides the link between what men are intrinsically capable of becoming and what they actually, one by one, in fact become … we become individual under the guidance of cultural patterns, historically created systems of meaning in terms of which we give form, order, point, and direction to our lives" (Geertz 1973, 44-52) – lifespan developmental psychology has endorsed the replacement of "stratigraphic" with "synthetic" or "interactionist" frameworks.

Cultures variously imagine the human life course in temporal and spatial terms, to include the segmentation of physiological and social development into discrete demarcated phases denoted by culturally prescribed expectations and transition rituals. Through such means, social collectives incorporate bodily changes and impose order and meaning onto seemingly "chaotic" events – such as birth, puberty, menopause, death, etc. – that might otherwise threaten the integrity of the life cycle. In the arena of ceremonial action, for instance, especially "rites of

passage," van Gennep's three-fold process of separation, transition, and (re)incorporation is described in resolutely spatial, or more exactly, placial, terms (Van Gennep 1961). Notions such as frontiers, borders, crossroads, and landmarks indicate points of passage, and threshold is where movement from one place (or form of being) to another is effected. Timing and timeliness are also defined differently in various cultures and under different historical circumstances. In particular, the timeliness of certain life transitions depends upon different societies' cultural constructions of the life course as well as established norms governing individual and familial obligations. For instance, the definition of adolescence as a distinct stage emerged in a specific historical time period and "middle age" crisis is a relatively recent invention (see Shweder 1998). Such transitions represent processes of individual change within socially constricted timetables (Hareven 1991). In life course theory,

> The life course as a *concept* refers to a sequence of socially defined, age-graded events and roles that defines, in large measure, the contours of biography. A sociocultural perspective gives emphasis to the social meanings of age. Birth, puberty, and death are biological facts, but their meanings in the life course are social facts or constructions. Age distinctions are expressed in expectations about the timing and order of a transition, whether early, on time, or late. The life course can be historically linked to specific transitions and to the meanings of cohort status. (Baltes et al 2006, 667)

The study of the human life course thus incorporates life-span concepts of human development (such as Erikson's psychosocial stages or Baltes' processes of selective optimization with compensation), theorizations of life histories and socialization of the self (such as Mead, Lewin, Vygotsky, etc.), and studies of human aging and temporal trajectories (see Elder, Jr. and Shanahan 1996). Baltes has emphasized that lifelong adaptive processes are cumulative, innovative, and discontinuous; that age-graded influences in dependency years lend to history-graded influences in adulthood; and that biological resources decline over the life span while cultural resources increase (Baltes 1993, 1997; cited in Elder and Shanahan 1996, 670-

671). Paradigmatic principles include the lifelong nature of development and aging; embeddedness, shaping, and construction of individual life courses within opportunities and constraints of history, place, and social circumstance; variable timing in developmental antecedents and consequences of life transitions, events, and behavior patterns; and interdependence of social-historical influences through shared networks and relationships (Elder and Shanahan 2006). Human development is a co-active process in which sociocultural, biological, and psychological forces interact over time.

Via cultural canalization, constraints reduce the unmanageable excesses of uncertainty in person-environment relationships and specify routes that development might follow. Consistent with Valsiner's (1987) co-constructionist perspective, there are both synchronic and diachronic constraints: "synchronic constraints" are multilevel and systemic organizers of personal lives that occur at a given time and context, while "diachronic devices" entail 'feed-forward' constraining of the person's possible future acting or thinking. For instance, the culture canalization function of any prescribed ritual antedates the life course that is being dramatically altered by it at the culturally appointed time. Thus, an adolescent's entrance into a cycle of transitional rites of passage is prescheduled, even before the child is born. These types of cultural canalization devices are called diachronic because they operate over historical time and are made available by distributed collective memory that transmits them across generations. The diachronic constraints pre-organize the psychological development of a person over one's life course; diachronic canalization devices set up the collective-cultural-structural background for the functioning of the synchronic canalization processes. They also set up socially shared knowledge about human development as manifested in specific cohorts. Life cycle periodization or segmentation is itself a diachronic canalization device, for every society uses some general scheme of life-cycle

categorization for defining similarity groups. Meanings linked with these groups entail value-laden expectations that are made visible through the prescription of social rituals at culturally expected life transition points (births, birthdays, initiation rites, weddings, funerals). Categorization by age may coincide with accentuated biological development periods or it may take into account cognitive developmental factors, since any kind of semiotic basis can be arbitrarily used to segment the life course.

The whole human developmental process is worked out within a specific collective-culture that sets historical and ideological parameters around its social structures, groups, and individuals as they exist and develop. Culture provides the conceptual frameworks and tools with which individuals construct personal meanings. Religious beliefs, expectations of what is valuable and desirable, and cultural norms of behavior place ideological and conceptual parameters on patterns of development within a specific culture. Culture further provides stories and narratives that assign meanings to objects, events, and relationships. A culture itself is open to environmental influence and able to undergo change because of its temporal/historical and ecological location. Within the ideological and normative boundaries of the collective-culture, specific social structures constrain personal development and define the roles and developmental tasks that are appropriate for age-sets and other classes of persons (Berger and Luckmann 1966). Some active constraints bring special dimensions from family and collective cultural history to a person's here-and-now construction of personal cultural knowledge. Regardless of the strictness of cultural norms and roles expected by social structures, individualized acceptance of socially approved routes of development is neither automatic nor inevitable as individuals personalize their existence in time and space. Under the conditions of bidirectional culture transmission, a

person may elect to follow the socially pre-organized and personally constraining organization of an event, or he/she may transform that event into a novel, personalized form.

Human development is thus multidirectional and necessarily contextualized. From the multiple possibilities available in a culture and the multitude of possible life course trajectories, persons active in their specific contexts construct their individually unique life courses. Each person's internal version of the social meaning attached to an experience can be said to constitute "personal culture," and this sense of the life course agrees to a greater or lesser degree with a narrative form that fits the expectations circulating with social discourse (Gergen and Gergen 1986). New settings for personal development are likely to be pre-organized by externally given lifecycle markers and specific action constraints the social structure lays down as appropriate. Hence, individualized life courses are constructed with different bifurcation points and different possible branching pathways within the same social structure, for heterogeneity of social canalization in societies guarantees the synchronic coexistence of specializations (Magnusson and Stattin 2006). Collective culture is never harmonious, but includes a multitude of differentiated "voices" that attempt to canalize personal cultures in institutionally designated directions. Internalization and externalization involve reciprocal cyclical processes by which the person operates on semiotic material, the signs that stand for objects and events within the meanings the collective-culture constructs and uses to represent its realities. The potential multi-directionality of development across the life span is constantly being actualized at a given point in irreversible time by semiotic construction of personal sense. While the route that is lived out by a given person may seem unidirectional from the viewpoint of that individual, multiple possibilities for a person's development always exist. The person is an active co-constructor all through life, operating with the help of self-generated goals, intentions, and interpretations. It is

during bifurcation points that microgenetic change can drive ontogenetic transformation, and reorganization of some aspects of the collective culture (Lerner, Perkins, and Jacobson 1993).

SECTION NOTE #2: The remainder of this section further probes the significance of "self" constructs and human narrative – topics that were introduced in Chapter 1 – for a cultural psychology of time. Recognizing that experience is already an incipient story made coherent by memory, cultural psychology views narrative as a primary vehicle for aligning proto-patterns in our temporal constructions and for transforming innate heterogeneity into a culturally informed mind constitutive of the storied processes making us unique. For Bruner, narrative is an intrinsically cultural mode of thinking and we become the autobiographical narratives we tell about our lives as partial authors and active shapers of outcomes. Containing the temporality of experience in a unity of form, narratives cumulate over time and render the self a work in progress continually and circumstantially being revised and retold to meet the needs of new situations and enterprises. Kant contrasted the unknowable transcendental ego with the empirical ego that distinguishes one person from another and accompanies conscious awareness of an "I" or self manifested in time through subjective perception and objective introspection. This section reviews similar versions by James, Neisser, Nelson, and Lemmon and Moore of a temporally extended self entailing representations from different moments in time providing a common semantic thread for (1) self as subjective and intentional "Experiencing I" gleaned through exploratory actions and direct experience; and (2) objective and re-presented sense of "Continuing Me" incorporating unknown and unexperienced happenings, non-present previous or possible future experiences, and pretense of play – the "there" and "then" vice "here" and "now." Rather than autonomous Cartesian agent having ontological or epistemological priority,

the self is a product of language, discursive praxis, and signifying practices. Through narrative emplotment, we organize and seek accommodation with reality in ongoing quest for integrity and completeness. Ricoeur posited that narrative is a semantic innovation bringing concord to the "aporia" charactering our experience of time and redescribing reality since storytelling involves selectivity, rearrangement, and refiguration. This section also observes that personal storytelling is probably a cultural universal as narrators customize accounts in relation to here-and-now social contingencies and participate in networks of situated practices while relating personal "life stories" to idealized "cultural life scripts" or "biographical schemes" presenting simplified representations of the order and (age-graded) timing of events in a normative life course. Psycho-socially situated and materially enabled, stories form part of a broader sociomaterial ecology scaffolding human thought as mental states and narrative practices reinforce one another. Whereas theorists disagree whether narratives impose fractious order and *a posteriori* meaning on otherwise unruly and non-narrative streams of impressions, or elaborate the quasi-narrative rooted in tensed modalities of action latent in experience, people awaken to consciousness in society with an enveloping musicality already infused with cultural forms.

NARRATIVE. Just as human development paths, childcare practices, life course segmentations, and life cycle rituals are examples of content-filled cultural forms emerging from the interaction between heterogeneous structures in mind and bio-social processes in environment, so too is human narrative one of the primary vehicles for aligning proto-patterns existing in our temporal constructions of experience. While cultural theorizations of human development and preferred life course models give conceptual, language-mediated form to our extended existence in time, narrative organizes and imbues meaning to passages and events in

storied propositions that people may partially accept, resist, reject, or revise. A cultural psychology of time recognizes that biochemical rhythms, emergent temporal horizons in consciousness, life experiences, external events, and environmental happenings may already present themselves as quasi-narrative sequential and durational realities, but further investigates how narrative practices (re)configure and interpret episodes into meaningful wholes. That is, a cultural psychology of time acknowledges that the incipient roots of narrative may already be present in both our mental apparatus and the world experienced by a conscious observer, but formal properties of narrative thought are only discovered and elaborated through content-enriched theories, stories, scripts, devices, and recounted episodes that provide parameters of meaning for ongoing exegesis of self and others.

In this regard, theorists from diverse disciplines have examined the structural or form-like character of narratives. For instance, the mechanics of narrative were systematically studied by early Soviet literary theorists who explored the abstract tools that gave stories a familiar structure rather than focusing on the meanings conveyed therein. Propp's *Morphology of the Folktale* (1968) later examined functions and agents in Slavic fairy tales while American Northrop Frye's *Anatomy of Criticism* (1957) provided schemes and categories for analyzing the formal components and genres of Western literature. Additional contributors included the semiotic analysis of narratives by the French structuralist school based on Saussure's linguistic theory, especially Barthes' (1977) examination of narrative as a structure of binary oppositions formed by operations of metaphor and metonymy; attempts to combine structuralist analysis with phenomenological processes such as consciousness and intentionality; Ricoeur's (1984, 1985) focus on narrative achievements via 'event' or contingent action; Sarbin's (1986b) exposition of 'narrative psychology' as the study of ways people make sense of their world through stories as

well as his adoption of contextualism as a root metaphor for understanding human conduct (Sarbin 1986a); Gergen and Gergen's (1986b) review of temporal assumptions in psychological and developmental theories implying a 'non-objective' narrative code; studies of the role of narrative in psychoanalytical therapy (Schafer 1981a, 1981b, 1992; Spence 1986); Bruner's (1962, 1986) work on the 'library of scripts' available in culture as repertoires of understanding and the opposition between paradigmatic reasoning and narrative modes of thought; and Bahktin's notion of 'chronotope' as a synthesis of the regularities of time and space in literary novels (See Murray 1995 for review of these authors). The relevance of these treatments – similar to other contentions made herein – is that we employ common features of thought and action by activating, populating, (re)creating and (re)configuring a priori sensibilities or heterogeneous complexes of mind in the service of specific meaning-making projects and pursuits combining both memory and imagination. That is, narrative discourse – whether spoken, written, or merely thought – certainly exhibits structural properties, but rather than a subset of tools for understanding time and space as containers in which events occur, narrative actually creates the time-space junctures of its choosing and helps bring into existence cultural beings and realities that are told and retold.

For an attribute that may be uniquely human is consciousness of ourselves as temporal beings – beings with a history – whose present existence is powerfully shaped by recollections of the past and anticipations of the future (Hinchman and Hinchman 1997). Human ontogeny from birth to death becomes the substance of life stories that incorporate temporal and spatial themata in an ongoing quest for narrative integrity and completeness (see also Wouk 2010 on the distinctive contribution of human consciousness – "the second Big Bang" – and history as time consciousness, or evaluation of existence in time, to the cosmos; Sullivan 2017, personal

correspondence). These narratives integrate personal, social, and historical experiences in complected tales that form the life worlds of individuals and communities. Through narrative emplotment, we organize, integrate, and seek an accommodation with reality (Ibid). In this regard, narrative humanizes our experience of time, making its passage meaningful for us; it gives order and direction to events as well as personal and collective experiences that otherwise might be perceived as random or isolated (See Booth 1961; Martin 1986; Mitchell 1981; Polkinghorne 1988; Cohler 1982; and Hinchman and Hinchman 1997). Containing the temporality of experience in a unity of form, narratives also demonstrate the efficacy of human agency, the potential for self-transformation, and the embeddedness of human experience in memory and representations of the past. Deploying familiar elements of scene, act, agent, agency, and purpose, narrative thought involves structuring the world in terms of characters who perform intentional actions in settings using particular means. Highlighting the human interpretive understanding of other human beings and emphasizing meaning-making and generative human creativity, narratives thus occupy a particularly important place in the "toolkit" of human cognition and are as distinctively human as upright posture and opposable thumb and forefinger (Bruner 1990). Narrative is therefore an interpretive tool emphasizing the active, self-shaping quality of human thought, the power of stories to create and refashion personal identity. Neither imposed *a posteriori* on a non-narrative thing-in-itself nor serving as mere embellishment, commentary, or incidental accompaniment, narratives are constitutive of human identity and action. Dependent upon our continuity of experience through time, narratives orient our actions and choices in light of imaged futures and reconstructed versions of the past. As noted by Fivush and Haden,

> If narratives are a critical link between memory and self, then it becomes apparent that the roles of language and social interaction are paramount. By their very

> nature, narratives are culturally prescribed forms for organizing events through canonical linguistic frameworks. Although events in the world may be organized in space and time, it is through narrative that events take on human shape and human meaning. Narrative forms allow for more complex organization and understanding of experienced events through the provision of subjective evaluations of what occurred and the formation of thematic relations among events separated in time and space but linked through personal meaning making … " (Fivush and Haden 1991, viii)

Jerome Bruner has emphasized that our autobiographical selves are continuously made and remade over time through cultural lenses (Bruner 1990, 1991, 1993, 2003). Rather than employing narratives to convey an existing deep sense of self, we are both expressions of our cultural and developmental history and come to express that history through creation of our narrative being. There is no such thing as an intuitively obvious and essential self to know, for our self-making stories cumulate over time as we constantly construct, reconstruct, and revise a self to meet the needs of new situations, circumstances, and enterprises. According to Bruner, the self is teleological with intentions, aspirations, and goals; reliant upon selective remembering to adjust the past to demands of our present and anticipated future; oriented towards reference groups and significant others; possessive and extensible, adopting beliefs, values, and objects as aspects of its own identity; experientially continuous over time and circumstance despite striking transformations in its contents and activities; sensitive to where and with whom it finds itself in the world; and coherence seeking and guarding, eschewing dissonance and contradiction through highly developed psychic procedures (Bruner 2003, 213-214). Furthermore, no autobiographer is free of questions about which self is being composed from what perspective and for whom. For any autobiographical account is only one version or way of achieving coherence – it may end but is never completed. Narrative seems to be our natural way of using language to characterize our ever-present deviations from the expectations of living in a human culture. Profoundly relational, selfhood is created and recreated through narrative and is a product of our telling vice

an essence to be mined in the recesses of subjectivity. For human beings (re)constitute, (re)situate, and (re)make themselves as unfolding stories and narrative agents in incessantly reconfiguring worlds based upon repertoires of cultural-historical options and redactable storytelling tools, tropes, and genres (Benson 2001).

Bartlett (1997/1932) recognized that narrative plays a special role in human cognition and social relations and that cultures differ in preferred structures of narrative and myth (see also Carrithers 1991 and Donald 1991). More recently, David Herman (2013) contended that narrative is a socially, culturally, and materially embedded instrument of mind with "narrative worldmaking" involving both "wording the story" (i.e., process of interpreting narratives) and "storying the world" (i.e., stories as means for making sense of experience itself). Borrowing from Vygotsky's concept of "psychological tools" and the social mediation of thought by material structures, natural environments, and human-designed artifacts, Herman argued for the mind-extending and mind-enabling role of narrative and the critical role of storytelling in distributing intelligence and extending cognition. Psycho-socially situated and materially enabled, stories form part of a broader sociomaterial ecology that affords and scaffolds human thought (Ibid).

A prerequisite for self-referential narrative is recognition of a self that is continuous but constantly changing, a self that retains some enduring psychological essence or identity that is unique and distinct from others who are similar in kind but possess separate subjectivities (James 1890). Through his notion of personal identity and selfhood based on individual consciousness, John Locke in the 18th century was one of the first Western thinkers to consider how we come to acquire the concept of an identical but changing self (Barresi 2001). Though Hume believed, in contrast, that the notion of an identical extended self was an illusion, more recent thinkers have

sought to elaborate robust versions based on temporality and narrative. Kant had contrasted the unknowable transcendental ego with the empirical ego that distinguishes one person from another and accompanies conscious awareness of an "I" or self manifested in time through subjective perception and objective introspection (Wikipedia, *Critique of Pure Reason*). The memory researcher Endel Tulving (1972, 1983) coined the term "autonoesis" or "autonoetic consciousness" to describe our conscious recollection or re-experiencing of a specific happening from the past, contemplation of one's present existence, or attentiveness to future prospects. Dependent on processes in the prefrontal cortex, autonoesis involves the capacity to consider the self's extended existence throughout time (Nelson 2003; Wheeler et al 1997). This ability to think of oneself as a persistent entity requires recognition of the self's physical, psychological, and social continuity (Moore and Lemmon 2001). Building on Eric Neisser's concept of the "Extended Self" as one of his five kinds of self, Lemmon and Moore et al (2001) conceived the "Temporally Extended Self" (TES) as covering past, present, and future and entailing identity between self representations from different moments in time providing a common semantic thread. Echoing William James' (1963/1892) distinction between the self as subjective sense of "I" and objective sense of "me" (McAdams 2003), the TES is premised on the subjective, phenomenal, experiential, and intentional self as experiencer ("I") as well as the self as an object of thought ("me") (Moore and Lemmon 2001).

Outlining an experiential framework for development of a self-conscious self-concept from infancy to middle childhood, Katherine Nelson (1996, 2000, 2001, 2003, 2004) explored how a child comes to think of himself or herself as a unique individual among a world of persons with a past and a future. Through six years old, children participate in narrative discourse with parents about past, present, and projected future states while developing an understanding of how

the self's experiences are both similar and dissimilar to others (Nelson 2003). Consistent with the TES concept, this process begins with emergence of an "Experiencing I" through exploratory actions and direct experience and eventually leads to construction of a "Continuing Me" in which the child supplements direct experience with accounts of unknown and unexperienced happenings via temporal representations of other places, other people, and other worlds (Nelson 2001). The experiencing self lives in the present and incorporates Neisser's (1997) ecological self and interpersonal self. An important transition between two and five years of age supports a new subjectivity that is realized through projection in time of an autobiographical or represented self that endures over a life span. This latter self – the Continuing Me – is analogous to Neisser's (1988) concept of extended self and is a specific human collaborative construction facilitated by language and social reflections resulting in a continuous, differentiated, changeable self. Emerging language functions facilitate talk about past and future, self and other, and provide scaffolding for construction of this continuing self. Incorporating talk about attitudes, emotions, mental states, motivations, etc. of self and others – what Bruner (1990, 1994) termed the "landscape of consciousness" – present experience is surrounded by non-present previous experiences, possible future experiences, and pretense of play and stories in an ongoing construction of world models, known and imagined.

Children typically begin to show a real self-consciousness that extends through time between the ages of three and four years old (Baressi 2001). Toward the end of the fourth year of life, children have typically acquired an awareness that present self is connected to other stages of self in a continuous sequence linking past events to current decisions for future benefit (Lemmon and Moore 2001). Though very young children lack a unified temporal framework to represent systematic relations between past and present states, development of episodic memory

and autonoetic consciousness is linked to development of temporal perspective-taking which also requires the ability to engage in self-conscious reflection and reasoning (Ibid). The emerging self is culturally constrained and the product of a specific social environment endowed with certain sensibilities and intelligences. According to Nelson, "In contrast to the restricted reality of the Experiencing I, the Continuing Me implies a broad awareness of the there and then – the not-present specifics of the past and future, the others of the world, and other places that have been experienced and might be experienced by the self or by others" (Nelson 2001, 22).

Gradually, the self in this developmental process becomes extended in time and space with a self-consciousness that situates itself in specific cultural and historical space-time. Incorporating spatial, temporal, and social dimensions of the extended self, narratives weave together accounts of events in terms of sequences of actions that are temporally and causally related and bring together the landscape of action and landscape of consciousness while crystallizing experience into a whole that can be reconstructed and reflected upon. Cognitively, self-understanding moves from the level of action and feeling to reflective self-awareness to a shared reality as multiple versions of self are constructed for different audiences. The continuing or extended self has continuity with past as well as imaginatively constructed future and incorporates an overall cultural scheme or mythology constituted in terms of roles, myths, rules, and relationships comprising the cultural-historical self. Nelson has proposed six levels of "self understanding" – physical, social, cognitive, representational, narrative, and cultural – delineating a child's growing social and cognitive awareness and capacity for new levels of mental representation and reflective thought from post-natal to five to seven years of age. Depending upon the successive ability to make increasingly distinct contrasts with other aspects of the world, development eventuates in a culturally saturated concept of self, an

autobiographical memory self with a specific self-history and imagined self future that reflects the values, expectations, and forms of the embedding culture (Nelson 2003).

Gergen and Gergen (1997) have argued that possession of personal identity depends on the reflexive and diachronic capacity to relate fragmentary occurrences across temporal boundaries. Concerned with states of active becoming vice passive being and possessing no inherent directive capabilities, a "self narrative" is an individual's account of relationships among self-relevant events across time. This self-narrative is a construction undergoing continuous alteration as social interactions progress and an individual makes himself/herself intelligible as an enduring, integral, or coherent identity. In contrast to traditional theories of identity by Erikson and others, Gergen and Gergen did not believe an individual arrives at a stabilized state of mind, achieved condition, or "true self"; rather, the developing individual develops a capacity for self-understanding and for communicating that understanding creditably to others. Never purely a private matter, individuals perform social acts that render accounts of the self that are both inherently stable *and* continually changing (Ibid).

While reviewing Augustine's *Confessions,* Paul Ricoeur (1985, 1988) concluded that literature through narrative brings concord to the discordance and "aporia" charactering our experience of time. Through invention of a plot, narrative is a semantic innovation that synthesizes, harmonizes, and gathers together heterogeneous and disparate elements while bringing something new into the world through language. According to Ricoeur, narrative structure redescribes rather than describes the world and does not simply mirror reality since storytelling inevitably involves selectivity, rearrangement, redescription, and simplification of elements (Carr 1997). In his three volumes of *Time and Narrative,* Ricoeur captured the dialectic between pre-narrative and narrative forms and articulated the important role of

emplotment and refiguration of experience. Since our telling is included in the reality told, we are both experiencers and narrators (Ricoeur 1985, 1988; Kerby 1991, 1997). As human action is inherently teleological, the story of an individual life usually plays off of one or more historically and socially transmitted narratives, which serve as prototypes for elaboration of personal identity (Carr 1997). Or, as Ricoeur has noted, "time becomes human to the extent that it is articulated through a narrative mode, and narrative attains its full meaning when it becomes a condition of temporal experience" (1984, 3). Framed differently, "Who one is, from the perspective of narrative theory, is inseparable from the way that its overall course is emplotted and interpreted by oneself and others" (Hinchman and Hinchman eds. 1997, 119). Storied representations of separate life episodes and events carry their own time encodings, plotlines, and tenses and some attempts to construct imaginative representations of reality are strong enough to support coherent generative views of the world in which all pieces fit together structurally and functionally. Recalling Goodman's (1978, 1984) observation that "people make visions and true visions make worlds," it is apparent that the "worlds" we remember generate appropriate and characteristic representations of time (Michon 1998).

Personal stories are seriations – temporally-ordered, evaluated accounts – that people tell in ordinary conversations in which they recreate remembered experiences from their own lives. And personal storytelling is one of the processes by which memories are made collectively and carried forward in time. Explicitly self-referential, personal stories are especially rich carriers of cultural messages about self, emotion, and morality as well as narrative itself. And while cultures differ in literacy levels, personal storytelling is probably a cultural universal found in various guises and forms in every viable cultural community (Shweder et al 2006). But since narrative storytelling is a situated practice emerging from the particular circumstances in which

they are told – vice merely a repository for disembodied library texts – variability is inherent as narrators constantly customize their narratives in relation to here-and-now social contingencies. Instantiating interpretive frameworks in personally relevant terms, people construct with others a culture-specific understanding of their experiences and participate in complex and shifting networks of narrative practices characterized by systematic variability and cross-cutting redundancy (Ibid; see also Miller, Fung, and Koven 2007). In this regard, our micronarratives are typically "nested" within, and inseparable from, cultural macronarratives that shape their possible outcomes and meanings (Hinchman and Hinchman eds. 1997). Reflecting the critical role of narrative in human cognition, self and memory are intertwined in each person's construction of a life story or narrative embedded in sociocultural frameworks that define what is appropriate to remember, how to remember it, and what it means to be a self with an autobiographical past (Fivush and Haden 2003). Via the symbolic mediation of signs and symbols, cultural forms or models act as vehicles that shape and inform the developing individual's cultural knowledge and notions of self (Holland and Skinner 1997). For narratives of self-in-place cannot emerge in abstraction from the human and natural communities in which we reside since a community's stories offer members a set of canonical symbols, plots, and characters through which they can interpret reality and negotiate or even create their world. As Barthes noted, "There does not exist, and never has existed, a people without narratives" (Barthes 1997; cited in Hinchman and Hinchman eds., 235).

Self-narratives are connected to shared cultural models of a person's development and "cultural life scripts" are idealized, simplified representations of a person's normal course through major life events (childhood, marriage, work, parenthood, etc.). For Bernsten and Bohn (2009), the content of an individual life story is constrained by cultural norms that influence what

we think of as important from the perspective of telling a life story. Those collective norms or life scripts are defined as culturally shared representations or expectations about the order and (age-graded) timing of life events in a prototypical life course as normatively described by a culture (Ibid). This formulation borrows from Schank and Abelson (1977)'s concept of a script as a general knowledge structure that organizes the way we think about a recurrent everyday event or series of events that unfold in specific order. Transmitted across generations, life scripts are culturally significant transitional events along with their expected timing and sequencing. Whereas a life story is personal and belongs to a specific individual's autobiographical knowledge, the life script is a culturally shared part of our semantic knowledge. Recalling Habermas' (2007) cultural concept of biography and Nelson's emergence of "cultural self" as a prerequisite for constructing an autobiography, the life script consists of sociocultural temporal frames, cultural myths, and collective memories (Bernsten and Bohn 2009).

Luckmann has similarly described the "biographical schemes" that link stretches of a typical individual's life to transcendent historical times (Luckmann1991). As elements of the social stock of knowledge transmitted in socialization, biographical schemes trace an individual's life paths through social and historical worlds. Consisting of formulaic versions of obligatory or possible lives or parts of a life, along with some instruction on how parts are put together to form whole lives, biographical schemes form the basis for individual projects and provide scaffolding for partial and full reconstructions of a life course for legitimatory, instructive, or other purposes. Through these categorical and interpretive schemes by which human beings order their course of life prospectively and retrospectively, individuals reconstruct, narrate, and legitimate their lives to others and to themselves. In reflection and retrospection, in

planning and projecting, in reconstructing and legitimating, biographical schemes are superimposed on the routines of daily life as explicit constituents of personal identity (Ibid).

Building upon cultural life scripts or biographical schemes, McAdams' life-story theory of identity formation adopted Erikson's (1980/1959, 1998/1982) distinction between self and identity and Habermas and Bluck's (2000) work on adolescent development of temporal, biographical, causal, and thematic coherences in autobiographical remembering and narrative understanding (McAdams 2003). While self is many things, identity is a life story and individual differences are linked to social motives, personality characteristics, and mental well-being.

> Identity takes the form of a story, complete with setting, scenes, characters, plot, and themes. In late adolescence and young adulthood, people in modern societies begin to construct the personal past, perceive the present, and anticipate the future in terms of an internalized and evolving self-story, an integrative narrative of self that provides modern life with some modicum of psychosocial unity and purpose. Life stories are based on autobiographical facts, but they go considerably beyond the facts as people selectively appropriate aspects of their experience and imaginatively construe both past and future to construct stories that make sense to them and to their audiences, that vivify and integrate life and make it more or less meaningful. A person's evolving and dynamic life story is a key component of what constitutes the individuality of that particular person, situated in a particular family and among particular friends and acquaintances, and living in a particular society at a particular historical moment. Life stories develop over time, and although identity itself does not become a salient psychosocial issue until adolescent years, the origins of life-story making and telling can be traced back to early childhood, and traced forward to the last years in the human life course. (McAdams 2003, 187)

Recalling William James' (1892/1963) distinction between the subjective sense of "I" and the objective sense of "me" and Erikson's conception of self-as-me as an integrative configuration of self-in-the-adult world, the life story incorporates both synchronic (integration of sometimes conflicting roles and relationships in the here-and-now) and diachronic (integration of self elements separated in time and brought meaningfully together in a temporally organized whole) dimensions (McAdams 2003). Embodying the vicissitudes of human intention organized in time, people tell stories in all human cultures and the very concept of a story exists to be told in a

social context (Ibid; Bruner and Feldman 1996; Ricoeur 1981). As noted by McAdams, "Life stories mirror the culture wherein the story is made and told. Stories live in culture. They are born, they grow, they proliferate, and they eventually die according to the norms, rules, and traditions that prevail in a given society according to a society's implicit understanding of what counts as a tellable story, a tellable life" (McAdams 2003, 200). In the modern world, the self is also a reflexive project that a person is expected to "work on," develop, improve, expand, and perfect. Complex and multifaceted, the human self contains many layers of depth and changes relentlessly over time while individuals are strongly urged to find some coherence and to fashion a self that is more or less unified and purposeful within the discordant cultural parameters that situate their lives (Ibid; see also Giddens 1991; Rubin 2002; Neisser and Fivush 1994; Nelson 1988; Thorne 2000; Rosenwald and Ochberg 1992; and Denzin 1989)

And whereas narrative theorists disagree whether narratives impose order and meaning on otherwise chaotic and unruly streams of impressions, sensations, memories, and inner states (view that stories only impose a factitious order and sense on data, oftentimes with moralizing or political implications -- See Ricoeur 1985, 1988; Barthes 1977; White 1987; Novitz 1987; Mink 1978), or rather develop, articulate, and elaborate the quasi-narrative that is already latent in experience (view that life itself has an implicit narrative structure rooted in temporality, that consciousness grasps its objects in an inherently temporal way, that narrative order is not an *ex post facto* addition, but an intrinsic part of human action, essential to understanding it – See Crites 1971, 1986, 1997; Carr 1986; Kerby 1991, 1997), it is clear that narratives mediate between self and world. While siding with the latter group of theorists, this dissertation endorses Kant's contention that mind pre-structures experience through inherent temporal sensibilities, ever-renewing temporal horizons of consciousness, and psychobiological dispositions for

processing sensory inputs – i.e., the mind's quasi- or proto-narrative capacities for encountering the world – but insists that the form and content of human temporality forever intermix in our order-making and sense-making attempts to render experience meaningful. Through storytelling we integrate our temporal horizons and thereby constitute stable, coherent identities on both personal and communal levels. And the plurality of stories that different cultures and subcultures may tell about themselves can serve self-legitimizing and unifying functions.

Carr (1997) has contended that, rather than mere sequence, life events constitute a complex structure of temporal configurations that interlock and receive definition and meaning from within action itself. For the means-end structure of action displays some of the beginning-middle-end features that the discontinuity view says is absent in real life. Carr disagreed with Louis Mink's (1978) famous distinction that stories are not lived but told and rather contended they are told in being lived and lived in being told. Employing both a retrospective and prospective grasp, "Narrative is not a description or account of something that already exists independently of it and which it merely helps along. Rather, narration, as the unity of story, storyteller, audience, and protagonist, is what constitutes the community, its activities, and its coherence in the first place" (Carr 1997, 20). Crites has similarly argued that the formal quality of experience through time is inherently narrative. Creating a world of consciousness and orienting the human self, stories give qualitative substance to the form of experience because it is itself an incipient story. Consciousness grasps its objects in an inherently temporal way and temporality is retained in the unity of experience while memory bestows a sense of temporal succession as well as the power to abstract coherent unities from the succession of momentary precepts (Crites 1997). The decisive distinction between past, present, and future characterizes experience and demands tenses in language use. In the inner form of any possible experience,

the present moment exists in inseparable union of three tensed modalities (past-present-future) requiring narrative forms for both expression and internal coherence. As constituted in a conscious present, experience has a narrative form through the present of things past and the present of things future. This realization does not demand any particular conception or metaphysical status of time; rather, different notions of time are implicit in cultural forms of different historical traditions since every culture offers interpretations of this temporality (Ibid).

For Paul Anthony Kerby, human speech acts are the locus for production of a human subject. Rather than construed as a pre-linguistic or substantial entity having ontological or epistemological priority and merely employing language, the self is a product of language and constructed as a result of discursive praxis and the implied subject of self-referring utterances (Kerby 1991, 1997). In his *Phenomenology of Perception* (2013/1945), Merleau-Ponty stressed that "now" is not atomistic but variable and dependent upon one's perspective, since experience is over-determined and has an unfolding richness before one's reflective grasp. The human body is a site of narration and site of ascription for the subject of a personal narrative (Kerby 1991, 1997). As sign or symbol vice metaphysical entity, self is a continually felt possibility or anticipation of expression, and through narrating or being narrated the self acquires its sense of communal historical being and situatedness (Kerby 1997).

Reflecting the integral and constitutive role of language, the self is given content, delineated, and embodied primarily in narrative constructions or stories. In this manner, self arises out of signifying practices rather than existing prior to them as an autonomous or Cartesian agent (Hinchman and Hinchman 1997). Narrative is the privileged medium for understanding human experience that is paradigmatically temporal and historical, for through narrative emplotment our lives and selves attain meaning via acts of self-narration that are not only

descriptive of self but fundamental to emergence and reality of that subject. Our history constitutes a drama in which we are the leading character performing roles through recollective and imaginative configuring of our autobiographical acts. Self-narrative is thus an interpretive activity vice simple mirroring of the past (Ibid). While accepting Crites' important insights on the quasi-narrative quality or incipient story of human experience, Kerby holds past (memory) and future (anticipation) together as a condition of possibility for stories we tell of ourselves. Life is inherently a narrative structure that we make explicit when reflecting on our past and possible futures. Generated and given unity through its own narratives, the self reflexively comes into being in its own narrational acts. Rather than some pre-cultural or pre-symbolic entity captured in language, "I am only insofar as I express myself" (Kerby 1991, 41).

Thus, while mediating between self and world, narrative plays an integral role in creating our multiple and ever-changing versions of those same selves and worlds by bringing together form and content, structure and experience, in the construction of our mental lives. A cultural tool providing myriad possible permutations for interpreting and cohering our existence in time, narrative and storytelling emerge in human maturation and are constitutive of human identities through personal instantiations of biographical schemes, life scripts, life stories, and temporally extended selves. As one of the primary contentful forms whereby human beings impose order on fractious events that may also present themselves in quasi-narrative forms through the temporal character of past-present-future consciousness, narrative is both representative of the psychic unity that makes us imaginable and to one another and reflective of the storied processes that make each of us singular, unique, and unprecedented.

SOCIAL COORDINATION

SECTION NOTE: This section explores the fate of time as a transcendental absolute in collective social groups and human cultures. While temporality is constructed by individual minds immersed in basic perceptual and conceptual processes – and consciousness aligns multiple representational modules structuring interoceptive, memorial, and purposive inputs – intersubjective sociocultural time shifts to deliberative and reflexive acts of meaning-making and imagination along four dimensions. Regarding *biological time*, cultures variously mark, remark upon, segment, and signify life cycle transitions from birth to death through symbolic rituals correlating biological, biographical, and social timetables. For *psychological time*, the relatively few studies investigating cross-cultural differences in basic perceptual processes suggested similarities in cognitive capacities and biological underpinnings despite few methodologically rigorous intercultural comparisons of temporal perspectives. Regarding *socio-historical or social time*, extensive literature has addressed coordination, entrainment, and patterning of religious, agricultural, and labor-related activities; coordination of social interactions through clocks, calendars, and schedules mimicking seasonal cycles or standardized measurement systems; and reification of time as unified, all-pervasive framework observed in most but not all societies. Inter-subjective time is constitutive of everyday life via synchronization of streams of body-bound rhythms when interlocutors are placed in parallel courses and share face-to-face, reciprocal experiences. Concerning *objective time*, the study of time reckoning systems within anthropology has been ripe with dichotomies such as Evans-Pritchard's "Ecological time" and "Structural Time," Levi-Strauss' "hot" and "cold" societies, Leach's "alternating" reversals between polar opposites, Eliade's 'profane' and 'sacred' time, and Geertz's "motionless present"

of Balinese institutional types versus repeating "durational time." Whether such binarizations exaggerated select aspects of time reckoning or identified irreconcilable metaphysical constructs, all cultures encounter recurrent cycles and unique series; form representations of environmental regularities; elaborate upon temporal horizons endemic to consciousness; segment and symbolize the life course; account for time's arrow and time's cycle; allocate temporal resources; differentiate social episodes and generational epochs; (re)produce local times and temporalities; render experiences meaningful through storytelling; reconcile spatiotemporal discordances through religio-mythical imaginings; and memorialize and rehearse social memories through ceremonial rituals. Demonstrating that culture and psyche are mutually constitutive, ethnographies highlight common existential circumstances and functional needs as well as incommensurable stimulus situations among cultures inhabiting unique sociocultural habitats, sharing distinctive mentalities, and exhibiting similar response differentials.

While temporality is constructed by individual minds immersed in basic perceptual and conceptual processes sensibilizing the form and content (i.e., specificities) of cultural experience – and consciousness aligns and attunes multiple representational modules with contingent and successive dynamical processes in environment to create a temporal horizon structuring interoceptive, memorial, and purposive inputs – intersubjective sociocultural time shifts to deliberative and reflexive acts of meaning-making and imagination derived from our membership and participation in cultural groupings. Probing the fate of time as a transcendental absolute in human cultures, we move from the subjective time of individuals whose temporal predications are thoroughly penetrated by biographical and cultural particulars to the times of social groups and collectives whose paths and projects refashion the broader temporal

scaffolding of existence. While those broader sociocultural scaffolds find expression in processes of both being and becoming, we move decidedly from "timing your mind" in the phenomenological immediacy and flow of experience to "minding your time" via cultural contributions to individual and communal representations of time. Moreover, cultural psychology probes the temporal constituents of those multiple diverse psychologies and psychological pluralisms celebrated by cultural psychology in its simultaneous embrace of both psychic unity and cultural relativism, or universalism without the uniformity.

Recalling Gell's critique of Durkheim's "Social Time" and "Social Space" (see Chapter 1 of this dissertation), Rodney Needham's (1963) critical introduction to Durkheim and Mauss' *Primitive Classifications* acknowledged the authors' contribution to highlighting classification schemes in sociological inquiry and rendering key aspects of social life intelligible. However, Needham sharply criticized Durkheim and Mauss's central argument -- that the individual mind lacks an innate capacity to construct systems of classification possessed by every society and that society itself is the model for such classifications -- as logically fallacious and methodologically unsound. Though Durkheim and Mauss focused on the contents of thought and conceived of mind as a system of representations in which categories or classifications originated in social organization, their formulation failed to account for the capacities of mind as a system of cognitive faculties. For Needham, the notion of space, for example, first needed to exist in the mind before social groups could be perceived to exhibit in their disposition any spatial relations that can be applied to the universe. If mind was simply a collection of ideas, varying from culture to culture, the study of those ideas could never expose the origin of fundamental categories of the human mind that contribute to ordering reality in every culture and at every period. Moreover, while different peoples could conceive of time and space differently, no

comparative study could yield the origin of the categories of time and space – i.e., societies may classify by different principles, but the study of those classifications can never show how the faculty of classification originated. While the individual mind cannot construct, absent from education and social learning, a complex classification of collective representations that society inherits from a long history, Needham contended that this in no way implied that the individual mind lacks an innate faculty of classification (Ibid). Rather, Needham believed it was difficult to conceive how an individual might even apprehend a classification unless the mind was inherently capable of operations by which classes are constituted. Rather than possessing an innate capacity to classify, the human mind demonstrates an innate ability to learn to classify (Ibid). Remembering Kant's and Shweder's admonition that content without form is meaningless, we can conclude from Needham's insightful analysis that Durkheim and Mauss made this very mistake by treating only the contents of collection representations but not the individual cognitive capacities of mind that give form to such representations that are, in turn, historically accumulated, instrumentally distributed, and available to individuals via their membership in self-monitoring groups. As such, the study of intersubjective times in society must accept that mind and culture, person and environment, temporal intuition and abstract concept, make each other up and are not reducible apart from the form-content fusions populating our personal and collective mentalities.

Conceptions of time in different cultural traditions can be examined on four general levels or dimensions accounting for variations: (1) biological time, referring to events such as birth and death, endogenous cycles, oscillations and rhythms, and entrainment of biological processes by micro and macro external pacers; (2) psychological time, or individual subjective time incorporating phenomenal experiences, time horizons, and temporal perspectives (goals,

achievement orientation, etc.); (3) socio-historical or social time, meaning the organization of social life through temporal regulations, time allocation, punctuality, pace of life, and temporal rules that Hall (1959) described as "silent language"; and (4) objective time, or mental representations of the flow and structure of time (cyclic or linear, repetitive or non-repetitive, etc.) (Richelle 1996; Helfrich 1996). Helfrich (1996) noted that every culture has developed preferred positions on these four dimensions and the resulting value preferences determine how time will be construed within a specific culture or group. On the biological level, Smith et al (1961) provided a sample intercultural comparison of a variety of life cycles in various cultures with different lengths and character of age phases and the relation of biographical time to social timetables, suggesting segmentation and signification of life cycle periods and transitions from birth to death through symbolic rituals is a defining characteristic of every cultural tradition. It notable that all cultures mark, remark upon, and symbolize such transitions through diverse practices consonant with their unique traditions and sociohistorical tensions. Demonstrating that culture and psyche are mutually constitutive, sociological studies and ethnographic accounts thus highlight common existential circumstances and functional needs as well as incommensurable stimulus situations among cultures inhabiting unique sociocultural habitats, sharing distinctive mentalities, and exhibiting similar response differentials.

Regarding psychological or subjective time, there have been few studies treating cultural differences in perception of time, particularly among supposedly "clockless" people. Doob's (1960, 1971) comparison of urban and rural people in Jamaica as well as Helfrich et al's (1991) study of Japanese and German university students on short duration time estimations produced inconclusive or negative results, with the latter effort suggesting that – while social pace of life was contingent with cognitive evaluation of short-time events – the basic perceptual processes of

temporal differentiation were unaffected, implying that experience or sensation of "pure time" did not differ across cultural groups. When Gay and Cole (1967) employed special testing procedures to study the Kpelle people of central Liberia, who have no word for time, the unexpected results showed the same or greater accuracy in time estimations as Western counterparts. Robbins, Kilbridge, and Bukenya (1968) later performed the same test with rural and urban Bagandans of Uganda and similarly found that both groups were often more accurate than Western subjects. As such, the limited cross-cultural work on internal time estimation suggests general similarities (vice significant cross-cultural differences) in cognitive capacities and biological underpinnings. Other projects attempting to measure the time sense of a people, or how they use time in daily life, have struggled with the methodological bind that study of subjective time amongst so-called primitive peoples requires "sympathetic understanding" of native personal and cultural meaning systems. Hence, a 1960's study of future orientation of the Chagga and the Bondei peoples of Tanzania by Ostheimer with time metaphor and tartan tests of achievement orientation devised in the United States by Robert Knapp with undergraduates provided inconclusive results, with similar problems encountered in an Australian study of delayed gratification among aborigines (Ostheimer 1969; Knapp 1958; cited in Edlund 1987). In his review of these studies Matthew Edlund (1987) concluded that studying subjective time perspective demands full understanding of how people in a culture work and think; since conceptualizations of both subjective and objective time, particularly sub-classifications, vary greatly from culture to culture, more variance should be expected on subjective time.

Even intra-cultural studies such as Philip Zambardo's examination of five factors identified in personality differences in attitudes towards present and future and a separate study among group differences in attitudes towards time by Zambardo and Alexander Gonzales

utilizing 11,000 responses from readers of *Psychology Today* confirmed significant variation in subjective time perspectives among respondents sharing similar cultural backgrounds (Zimbardo and Gonzales 1984; Gonzales and Zimbardo 1985; cited in Friedman 1990). A study by Coser and Coser (1963) within the United States and between the United States and United Kingdom stressed individualistic orientation towards the future and identified four types of dominant and deviant time orientations in American society (cited in Bergmann 1992). James Jones' (1988, 21-38) review of cultural differences in temporal perspectives and associated goal-setting, value placement, attitudes, and behaviors found that present and future time perspectives typically merge, overlap, and fundamentally intertwine among groups and subgroups within a culture. In addition to Luhmann's (1982) work on utopianism and time horizons, numerous sociological treatises have discussed "social time" as constructed within and by social collectives, to include how time perspectives and orientations – especially future time perspectives – are formed through social participation (Gurvitch 1964; Gosden 1994). Overall, there have been few satisfactory, methodologically rigorous intercultural comparisons in anthropology, sociology, or cultural psychology on time horizons, orientations, or perspectives that address how this critical aspect of individual psychology is reflected in sociocultural differences. Given cultural psychology's reciprocal investigation of both the psychological foundations of cultural communities and the cultural foundations of mind – "the study of all the things members of different communities mentally experience (know, think, want, feel, value), and hence do, by virtue of being the kinds of beings who are the beneficiaries, guardians, and active perpetuators of a particular cultural tradition" (Shweder et al 2006, 719) – this represents a fertile area for further research.

Regarding socio-historical or social time, there is an extensive literature on "sociology of time" (see McGrath 1988; Adam 1990; Bergmann 1992) addressing coordination and patterning of temporal activities within social systems. This literature attests to the fundamental propensity to entrain or coordinate (however strictly or loosely) the inter-subjective times of social participants to facilitate religious, agricultural, political-economic, labor-related, commercial, militaristic, administrative, and leisurely activities. Beyond Durkheim's formulation of a collective social time outside individual consciousness, or views of time as a "social fact" (Sorokin and Merton, 1937) or social representation (Moscovici 1981; Thomas and Helfrich 1993; cited in Helfrich 1996), theorists have explicated the importance of time scales, historical narratives, and interpretive schemas for legitimizing and managing social change (Luhmann 1982). Sociological analyses have also highlighted the importance of time variables to social planning, work schedules, labor systems (Thompson 1967), political control, and the "entrainment" of human actions in collective forms. While time is often treated as a medium in which social life happens or a scarce commodity to be allocated, authors such as Giddens (1984, 1991) have employed concepts such as "structuralization" and "distanciation" (presence and absence) to "temporalize" or bridge the gap between human behaviors and social structures. Of even greater significance for the cultural psychology of time are voluminous works detailing coordination of human social activities through time reckoning systems such as clocks (Landes 1983; Dohm-van Rossum 1996), calendars (Zerubavel 1981, 1985), and schedules / timetables (Young 1988; Young and Schuller 1988), which may rely upon abstract, standardized measurement systems and technologies or naturally occurring seasonal or agricultural cycles (Nowotny 1975, 1989). Recalling Cole's emphasis on the importance of objects and tools (to include language) for mediating psychological development, the emergence of abstract time

reckoning mechanisms has dramatically changed the organization and flow of human social activities. Several works have also examined how individual (biographical) time horizons are formed in conjunction with various social time scales and temporal orders (See Luckmann 1983, 1991). Thus Leitner's (1982) comparative analyses between social time orientation, cultural world-views, and temporal construction of biography demonstrated how modern abstract timekeeping has facilitated subjectivization of time and elaboration of unique individual histories within shared, divisible time perspectives (Bergmann 1992). Collectively, these sociological studies suggest that temporal structures and processes do vary fundamentally in different cultural contexts and testify that innate capacities only find expression in particularized cultural experiences.

Noting the late 18th and early 19th centuries emergence of a conception of time as a unified, all-pervasive framework for temporalization of experience, Bender and Wellbery (1991) borrowed the term "chronotype" from Mikhail Bakhtin – who coined it from Einstein's physics to designate the fusion of temporal and spatial structures in narrative genres – to describe models or patterns through which time assumes practical or conceptual significance. Chronotypes are temporal, plural, and constantly being made and remade at multiple individual, social, and cultural levels. In this formulation, reality like fiction is a text and time is fabricated in ongoing process rather than a social given. Noting the untenability of any strict distinction between subjective and objective worlds, Bender and Wellbery spoke of multiple times vice time that are asynchronously produced by physical circumstance, historical events, social placements, and expectations of family or other communal units. Rather than a single medium of consciousness or unified movement in history, time is intrinsically manifold and numerous chronotypes intertwine to make up the fabric of existence (Ibid). Moreover, time is constitutive of human life

in society via synchronization of two or more streams of consciousness and body-bound rhythms when individuals are placed in parallel course(s) and share face-to-face, co-related, and reciprocal experiences (Luckmann 1991). While inner time has its "location" in the body of an individual human organism, inter-subjective time is located in social interactions while social categories of time have no comparably concrete location. Thus, the time of original, pre-predicative, pre-categorical subjective consciousness differs from concretely experienced inter-subjective time governing daily social life and from the time of abstract social categories or stock of knowledge having virtual existence in minds of society members. The time of everyday life is socialized inter-subjective time and rests on synchronization of rhythms of inner time among social interlocutors. In immediate face-to-face social exchanges the abstract, socially objectivated categories of time – which serve to regulate large-scale and anonymous organizations as well as temporal aspects of social interactions – provide external temporal settings but still require constant "tuning in" by social actors (Ibid).

Robert V. Levine (1996) has asserted that pace of life is the single most significant distinguishing factor in the social time of cultures. In a study on pace of life in six cultures (Taiwan, Japan, Indonesia, Italy, England, and United States) employing three indicators of tempo – interest in clock time via accuracy of bank clocks, average walking speed, and work pace via speed of postal clerks filling stamp requests – in the largest city and one medium-size city in each country, consistent cross-national and within-national differences were observed. The results demonstrated there are strong and consistent differences among nations in their paces of life and that these differences are relatively stable across all measures. Levine's subsequent study of 28 countries and a separate study by Dapkus (1985) confirmed these findings and demonstrated that pace of life permeates the entirety of inter-subjective experience and is a

defining element of social time differentiating one culture from another (Levine 1988, 1996). These studies attest that experience and organization of temporality contributes to the pluralism of multiple diverse psychologies instantiating comprehensive, global, and universal truths in descriptive, local, and time-bound knowledge (Shweder and Sullivan 1993; Shweder et al 2006).

Within the history of anthropology, numerous ethnographies have documented Helfrich's (1996) fourth dimension differentiating cultures: objective conceptions of time, or mental representations of the flow and structure of time. These include Bohannon's work (from the structuralist/functionalist school) among the Tiv agricultural people of central Nigeria who lacked an equivalent word for "time," a calendar, or an accurate system for measuring objective, continuous, and homogenous time but possessed a shallow historical genealogy, five-day week, and means for distinguishing time when socially useful – suggesting it would be false to conclude the Tiv are "timeless" or "cannot keep time" (Bohannan 1967). Other exemplary ethnographies of time included studies of the Mursi of Ethiopia by D. Turton and C. Ruggles (1978), the Ainu of Sakhakin Island by E. Ohnuki-Tierney (1973), and the Saulteaux of Canada by Irving Hallowell (1937). These scholarly works documented annual agricultural cycles, the solar/lunar year, time reckoning, seasonal variations, time measurement, conceptions of ancestral past, the diurnal cycle, and different calendrical systems (Friedman 1990). Despite lack of an abstract, continuous, and homogeneous measure for time, each culture used multiple natural and social reference systems to organize and coordinate temporal activities and relationships. Contrasting indigenous Saulteaux renderings of time with those prevalent in modern Western societies, Hallowell's theorization of "behavioral environment" and time/space orientations highlighted that human cultures differ in their reliance upon naturalistic cycles, local phenomena, units of measurement, or more abstract time-reckoning systems to order social life and

coordinate collective activities. Such cultural differences have profound and transformative effects on the psychological outlook and functioning of members of those societies.

> For the Saulteaux … temporal orientation depends upon the recurrence and succession of concrete events in their qualitative aspects – events, moreover, which are indications, preparatory symbols and guides for those extremely vital activities through which the Saulteaux obtain a living from the country which they inhabit … All these means of temporal orientation are *local*, limited in their application to the immediate future, the recent past, immediate activities, phenomena known and dealt with in their own environment. Beyond these all is vague and loosely coordinated temporally. In Western civilization similar undifferentiated experience of time remains, but it is also transcended by abstract quantitative measures which enable us to think far differently about it. We can think in terms of abstract units of temporal duration; of a day in terms of hours, detached from the phenomena themselves, or of a month as a variable unit of time made up of a certain number of days. Time conceived in this abstract fashion, in continuous and quantitatively defined units, is the basis of an intellectual order of temporal concepts available for use as a standard of reference, or measurement, for all classes of events. Time assumes for us an autonomous character and we are free to manipulate temporal concepts instrumentally, without constant reference to specific events. Thus we can think of it as infinitely divisible, a means for coordinating activities of all sorts with great precision. It likewise makes possible the measurement of exact temporal intervals and the rate and speed of moving objects. These contrasting differences in the temporal orientation of Saulteaux culture and of Western civilization undoubtedly imply profound differences in the psychological outlook which is constituted by them. Such differences are not functions of primitive mentality or racial make-up. They are a function of culturally constituted experience. In these terms our temporal orientation in Western civilization is likewise a function of experience in a cultural tradition with radically different patterns and entirely different historical roots. (Hallowell 1955, 233-235)

In the history of anthropology, the study of time has been ripe with dichotomies or binarizations such as cyclical vs. linear, qualitative vs. quantitative, reversible vs. irreversible, tradition vs. history, stability vs. change, cold vs. hot, etc. In his *Nuer Time Reckoning* (1939) Evans-Pritchard distinguished between "Ecological time," or the set of process-linked time-reckoning concepts derived from Nuer adaptations to environmental conditions and production tasks, and "Structural Time," or 'motionless' time as represented in organizational forms of Nuer social structure denoting an arrangement of roles or political units in an idealized genealogical

space-time. Claude Levi-Strauss (1963, 1966, 1969) distinguished between "hot societies" that recognized historical time as a linear progression of events and "cold societies" that were closed, static, unreceptive to change, and prone to externalize their historicity as a threat imposed by foreign influences. Levi-Strauss further incorporated the Saussurean distinction between "diachrony" and "synchrony" into his own structuralist model of mind in order to discriminate the passage of linear time from mythic and ritual manipulations that seek to recreate the past or overcome / annul the effects of time. In another binary formulation, Edmund Leach (1961; see also Gell 1992) claimed that primitive peoples thought of time as a simple, discontinuous oscillation between opposites, a repetition of reversals between polar opposites (such as night and day, life and death) that are experienced as "alternating" rather than cyclical. Combining the idea of repetitious time with Van Gennep's three-stage model of rites of passage, Leach differentiated between the secular or 'profane' time of linear temporal movements and the 'sacred' time of world-restoring rituals when time is purportedly reversed or inverted. In his influential essay on "Person Time and Conduct in Bali" (1973/1966), Clifford Geertz observed that the Balinese conceptualized one another as "generalized contemporaries" or exemplars of social or institutional types rather than consociates with shared, intimate biographical experiences (Gell 1992, 69-77; see also Schutz 1962, 1967). According to Geertz, all conceivable people were present "simultaneously" on Bali as person-types permanently represented by their tokens rather than as living historically unique lives in non-repeating 'durational time'. Geertz linked this concept of a person to a 'detemporalizing' notion of time in a "motionless present, a vectorless now" (Geertz 1973, 404). Although the Balinese also used a lunar-solar calendar as well as the modern Gregorian calendar for various purposes, Geertz

highlighted the traditional Balinese permutational calendar designating qualitative "kinds" of days rather than a scheme for time measurement.

The validity of these time dichotomies has been contested by subsequent critics charging that anthropologists either highlighted selective aspects of multi-faceted forms of time reckoning in the societies considered and/or inaccurately elevated those aspects into metaphysical constructs suggesting the societies recognized unique or distinctive forms of time. Thus Barnes (1971) contended that Levi-Strauss's account of "synchronous" time was ambiguous and could be interpreted as genuinely immobile or merely cyclical (i.e., periodic). Gell likewise concluded that Levi-Strauss confused the time of his own abstract anthropological models (i.e., synchronous time) with the chronological time of contingent historical events:

> The idea of periodic 'repetition' unavoidably implies the idea of linear temporal extension. What 'synchronic structural models' of the Levi-Strauss type display is not immobile synchronic time, present contemporaneously in all its parts, but the diachronic recurrence of structurally identical but numerically and chronologically distinct exchange-events, i.e., diachronic non-change. The 'synchronous' time of which Levi-Strauss speaks is in fact quite conventionally linear and irreversible, and hence in no way distinct from 'diachronic' time. The contract between synchrony and diachrony in Levi-Strauss's writings has less to do with distinct types of 'time' than with the contrast between models and reality, structure and events, essence and accident. All these can be perfectly intelligibly discussed without invoking the concepts of synchrony and diachrony at all, still less any need for the revision of any orthodox temporal metaphysics. (Gell 1992, 24-25)

In a discussion of the Ke of eastern Indonesia, Barnes (1974) meanwhile refuted Leach's notion of alternating time while arguing that pre-technological societies did in fact embrace a cyclical yet non-geometric (i.e., non-circular) representation of time that is repetitive yet irreversible – i.e., non-cumulative repetitiveness rather then to-and-fro alternation. Though concurring with Barnes' critique of Leach, Gell dispensed with "cyclical" constructs altogether by arguing that such typologies of time or collective representations can be better understood as repeating event

tokens along a linear-progressive time axis. Thus, socially established periodicities in agricultural cycles, the seasons, and human life cycle events were viewed as periodic realizations of expectable sequences of events. Detailing his own analysis of time reversals in Umeda ritual, Gell (1992, 37-53) concluded that the supposed clash between synchrony and diachrony was actually a contrast between classification systems (or synchronous relations between categories in a classification system unaffected by time) and real world processes, not between irreconcilable features of reality. For Gell, rather than "reversing" time, rituals such as the Umeda *ida* ceremony manipulate processes in a symbolic way in order to enforce a normative path for events and to bestow order and meaning to the flux of experience. Howe (1981) disagreed with Geertz's proposition that Balinese attitudes toward time and person were non-durational and contended that the Balinese also conceived of liner-progressive time even when utilizing their traditional calendrical system. Dr. Ward Keeler (see Gell 1992, 74-75) similarly chastised Geertz for providing a distorted view of Balinese time-keeping practices and noted that the Balinese used various temporal classifications in different contexts for different purposes. Block (1977), meanwhile, acknowledged that Geertz vividly conveyed the guiding principles informing Balinese culture but concluded that Geertz paid inadequate attention to how the Balinese calendar – separate from ritual time-handling schemes serving as instruments of power and influence – was used for coordinating social actions for specific practical purposes.

Other critics such as Roger Keesing (1994) have argued that variability of time concepts across languages and cultures has been exaggerated and everyday conceptualizations of time confused with cultural constructions of cosmology, ritual, and myth. Based upon his analysis of speech among the Kwaio people of Oceania, Keesing proposed that certain temporal concepts such as "when" and "now" are present in all cultures and languages (Wierzbicka 2005, 261). In

Time and the Other: How Anthropology Makes Its Object (1983), Johannes Fabian contended that uses of time in dominant paradigms of Western anthropologists promulgated political inequalities and power relations by consigning the anthropological "Other" – i.e., the "savage," the "primitive," the "underdeveloped" – as an object of discourse to the "there and then" as opposed to the "here and now" of the anthropologist, thus denying the coevalness of different, conflicting, or contradictory forms of consciousness (See also review by Munn 1992).

Regardless of whether these conceptual dichotomies or broader theorizations of time favored by anthropologists have accurately captured the prevailing ideas in indigenous societies, they have likely oversimplified both the variety of internal temporal experiences and purported differences with other cultures. In particular, the concrete-abstract dichotomy becomes less convincing when compared to psychological time, temporal orientations, and competing representations of time within cultures. Indeed, the availability of formal abstract Western time-reckoning systems (i.e., clocks, schedules, timetables, scientific physical-mathematical theories, etc.) may be insufficient for distinguishing our contemporary experiences of time from those of traditional cultures. Recognizing the manifold ways that time is represented and conceptualized via series of unique, nonrecurrent events – to include elaborate ways of structuring time in cultures such as the Balinese – it is perhaps more appropriate to conclude that people of all cultures encounter world(s) made up of both unique and repetitive events and that all cultures form representations of environmental regularities and use them to achieve orientation and meaning. While time pressures, pace of life, and regulation of time patterns do differentiate societies, probably all groups of people have conventional ways of describing temporal regularities, all tend to remember past times by coincident events, and all attend to both recurrent cycles and unique series. Hence, given prominent studies by Leach, Levi-Strauss, and others, it

is apparent that objective time (vice clock time) does exist in primitive cultures but is measured in social and natural rather than mathematical terms, and that it is more appropriate to speak of shifts in the meaning of time in different cultures rather than subsume them in abstract models. This does not mean that cultures are all the same or that they experience or conceive of time similarly, or that we should discard seminal theories offered by scholars such as Mircea Eliade (1969, 1954/1949, 1959b, 1994) on sacred / secular time and purportedly cyclical views of life possessed by primitive cultures that symbolically nullify time through ritual and seek to live in an "eternal present" (Friedman 1990). Instead, it is more prudent to appreciate the relative weighing and predominance of certain aspects of temporal percepts and concepts – ritual time, social time, work time, story time, etc. – that are found in all cultures in different forms and degrees of practice.

The above-mentioned ethnographies of time also reinforce the repeated theme of this dissertation that structures and forms – the binarisms, structuralist dichotomies, alternations, and cyclical periodicities seemingly found in natural and cultural rhythms – are always fused and found with specific contents distinguishing the lifeways of particular cultural groups. That is, they demonstrate in their likenesses and differences the very "universalism without the uniformity" posited by cultural psychology. Through their symbolic conceptualizations, cultures everywhere seek an accommodation between mental representations or structures in mind and putative temporal regularities or structures in (naturalistic and social) environments through creation of embodied, instantiated, and contentful forms of temporal existence. Cultures must do similar things: they must amplify and elaborate upon the temporal horizons and perspectives endemic to human consciousness; segment and symbolize the human life course; account for linear (time's arrow) and repetitive (time's cycle) processes in organisms and in nature; explicate

reasons and valuations on time's manifold forms and expressions; coordinate social rhythms and activities; organize political-economic schedules; allocate, budget, and economize temporal resources; employ artifacts, tools, technologies, kinship, and linguistic systems in incorporating sociohistorical inheritances and externalizing thought; differentiate significant social episodes and generational epochs; produce and reproduce local times and temporalities; confront facticities of inevitable death and loss; render experiences meaningful through storytelling and narrative tropes; consolidate and reconcile temporal and spatial discordances through religio-mythical and cosmological imaginings; associate microsocial and macrosocial outcomes of time's passage; attune social processes to successive and durational contingencies and/or reify time as an objective medium; and instantiate, memorialize, commemorate, distribute, and rehearse individual and social memories through monuments, ceremonial rituals, and foundational mythologies. For it is still the case that no one lives in the world in general. Ultimately, ethnographies of human time reckoning highlight common existential circumstances and partially shared human conditions but nevertheless present us with incommensurable stimulus situations across cultures. And since each culture or group inhabits a unique historical-geographic niche populated by denizens living unique biographical and sociocultural lives, we must recognize the distinctive mentalities – i.e., one mind, many mentalities – characterizing our ways of life, modes of being, and responses to cognitively undecidable dilemmas.

In her essay on "The Cultural Anthropology of Time," Nancy Munn (1992) commented that we are our own productions in some sense always "in" the socioculturally/historically informed time of our activity and our wider world and yet we make, through our acts, the time we are in. For even Durkheim separated the "social time" of collective representations – the morphology of cognizable units imposing itself on all minds – from the "personal time" of

subjective consciousness (undifferentiated flow of passing duration). Whether considering the rhythmic activity of Minkowski's (1927) time reckoning and Evans-Pritchard's oecological time or the "static" time of Whorf's Hopi language and Geertz's detemporalization of Balinese social structure (i.e., non-perishing present of stereotyped contemporaries), such views do not adequately account for people being "in" cultural time as well as perceiving and conceiving it. For Munn, time reckoning was not only constituted in conceptual reference points or codified systems of timing capturing repetition and growth, but also in actors "attending to" such reference points as part of projects that engaged past and future in the here-now space-time present. Social actors not only exist in time but construct such time(s) via symbolic (meaningful and meaning-forming) action in which people ongoingly produce both themselves as spatiotemporal beings and the space-time of their wider world. Munn relied upon Bourdieu's theory of practice (1977) and notion of "habitus" (the body's tacit temporalization as a go-between self and world) for envisioning how an actor is experientially anchored within a present that engages both past and future horizons in one "context of meaning." Munn contended that the past-present-future relation is intrinsic to all temporalizations as people operate in a present always being infused with pasts and futures (Husserl's retentions and protentions). Munn's notion of temporalization viewed time as symbolic process continually being produced in everyday practices; people are "in" the sociocultural time of multiple dimensions (sequencing, timing, past-present-future relations) that they form in their projects.

Through the lenses of sociology and anthropology, the social coordination of time – how human beings experience, perceive, conceive, construct, and synchronize temporality in social life – reinforces the intimate interweaving of nature and culture in the texture of our lives. Through involvement in collectively shared interpretive frameworks, people participate in

different cultural practices affording differential expertise, domain knowledge, cognitive strategies, and mental states. Traversing biological, psychological, social, and cultural dimensions of time, we experience countless present moments while embracing and signifying the many times we recognize and produce. We are denizens of multiple objective temporal worlds in which the partiality of our cultural prejudices, time-bound traditions, and points of view makes it possible for us to see and illuminate other temporal planes of existence while also transcending our particularities through movement and imagination (Shweder 1991). For time permeates the entirety of our existence – from moment-to-moment parsing of consciousness to acts of recall and planning to numerous daily social interactions to elaborate constructions of cultural scripts and models. As Shweder noted, "it is a supposition of cultural psychology that when people live in the world differently, it may be that they live in different worlds" (Ibid, 23).

REVISITING THE CULTURAL PSYCHOLOGY OF TIME

SECTION NOTE: This section summarizes key takeaways from Chapter 2 such as the fate of time as a human universal in sociohistorical existence; cultural psychology's acceptance that mind simultaneously brings time to experience, extracts time from environmental regularities, and cognizes or abstracts time from bits and fragments of mental process; the perennial fusion of form and content in temporal representations; the manifold and constructed nature of time; the forwarding of one's psychological past and projection of future goals and plans in present moments; coincidence of consciousness with the temporal structure of cognition; permeation of culture throughout sensory and representational processes; human development as a record of our unique temporal accomplishments and life course significations; reflexive emplotment of

selves over time through narrative practices; and the peremptory importance of being "here" and "now."

This chapter has considered the fate of time as a transcendental absolute in individual minds immersed in sensory-perceptual-representational processes and temporal horizons of consciousness; the fate of time as a transcendental absolute in theories of human development, symbolization of the life course, conceptualizations of self, and narrative practices; and the fate of time as a transcendental absolute in social formations and cultural ideas and technologies. Examining whether the human mind brings time to its experience of the world via innate mental furniture, extracts temporality from the rhythms and regularities of the external environment, or cognizes and constructs temporal horizon through patterning of consciousness and engagement in the world, the cultural psychology of time simultaneously endorses each established option. For the formulation adopted herein views time as a property of our sensory, perceptual, and representational processes in engagement with a world predicated upon cultural experiences. This dissertation accepts the Kantian view that time is an inherent sensibility of mind and equates that sensibility to cultural psychology's psychobiological dispositions and heterogeneous complexes that are shaped and transformed by cultural experiences. From the phenomenal immediacy of perception, intuitions and concepts allow us to cohere and relate representations that accumulate over time and space in forming our picture of the world. For both Kant and Shweder endorsed the persistent fusion of form and content in translating physiological and psychological potentials into empirical realities. This cultural psychology encompasses the phenomenological emergence of past, present, and future immediacies as well as near- and long-term conceptual representations of time. In the perpetual exchange between person and world,

the mind brings its evolved and unfinished equipment while the ecological and social environment affords repetitive and non-repetitive occurrences, successions and durations, cultural inheritances and sociohistorical tools for rendering meaningful our material and symbolic existence. This cultural psychology of time involves ongoing interplay of person and world, psyche and culture, in memorial acts, embodied practices, time reckonings, coordinated social activities and expectancies, calendrical systems and clock times, imagined futures, human development practices, ritualized life courses and segmentations, time-space cosmologies, relatable biographies, self conceptions, and narrative tales that mediate between mind and dynamically changing events in the external world. Our temporal sensibilities include specification of our neural networks, attentional resources, present moments, and temporal horizons that are thoroughly penetrated by culture and exhibit persistency as well as plasticity. Beyond the mental architecture we bring into the world, or the socio-material ecologies found within that world, the cultural psychology of time and space documents the meanings we construct through lived cultural experience to enable, constrain, canalize, and signify the trajectory of a singular, particularized, specifiable, and unique human life.

Rather than a degraded image of an elusive eternal plenum, human temporality is a property of everyday experience that combines psychobiological timers and rhythms with cultural contributions that are essential for psychological development and functioning. Time is as manifold as its cultural expressions since there is no singular sense organ or locus in the brain and we construct temporality as we perform action and engage in activities with others. Reconciling sequency and duration, mind is attuned to temporal patterns in the environment and selectively attends to features as well as familiar patterns conditioned by previous biographical and acculturated experiences. Since time as experienced is not a unified concept deriving from

event order, the mind/brain must cope with temporal contingencies as well as produce a rich phenomenology of conscious time constructions. Psychologically, time is many things, such as the flow of internal and external events, a framework for localizing memories, the patterns we build into our representations, and coordinates we use for reckoning where we are in the present (Friedman 1990). Though temporality is embedded in the totality of conscious life, our subjective experience of time is subject to unruly relativity and is full of disunities and dissociations (Lloyd and Arstila 2014). While timing is multifaceted, inconsistent, and variable, we usually seem oblivious to such incongruities among temporal cues because temporal experience is remarkably uniform in appearance. Embodied and embedded, our subjective time and temporal coordination with the world is a complex and continuously updated amalgam of perceptions and judgments. For our lives are full of time-dependent processes. Moment by moment, our subjective time is dependent on brain states as well as timing cues in the external world (Ibid). Given the plurality of subjective times and their loose relation to objective progressions or physical measurements, their variation under different behavioral circumstances, and the inherent comparativeness of rates and rhythms, time means different things to different people (Arstila and Lloyd 2014).

Individuals are also constantly performing precise timing tasks in movement and language. Our temporal experience of the present moment is colored by the psychological architecture we bring forward from the past as well as by the plans, goals, orientations, and imaginings that we project into the future. And our memories and expectancies always serve our present purposes. Memory itself is a constructive process that intermixes previous encodings and rehearsals with our evolving knowledge of the world and our search for meaning in the here-and-now. For we never truly recapture the past but rather reconstruct it through fragile traces

that fade and change over time. Cultural denizens live in a perpetually eliding "now" or "specious present" with recollected pasts and anticipated futures in a temporal horizon that simultaneously looks backward and forward. For many theorists temporality is coincident with consciousness itself since the past-present-future temporal horizon is formed in a dynamic and ceaselessly changing mental landscape. As past and present elide into successive instants, we orient human behavior towards events and activities in the near and distant future.

Culture permeates these matters through and through. For cultural influences – conceived in terms of encompassing developmental, ecological, environmental, and biographical means – contribute to human temporality in a myriad of ways ranging from momentary perceptions and actions to constructions of individual and communal pasts and possible futures. Culture influences how we think and what we think about; how and what we remember and recount; the needs and motivations that propel us forward; and how we construct temporality and experience the conscious present. Of course, people in different cultures also conceptualize time differently and varyingly use temporal structures to orient, organize, coordinate, and synchronize social activities. Even when indigenous cultures fail to reify time as a conceptual noun, they codify time in linguistic markers and embrace the vagaries of temporality in their practical and ritualistic endeavors. Via naturalistic rhythms or elaborate psychological tools and scaffolds like clocks and calendars, cultures distinguish themselves by how they use, value, and experience the times they construct. But the cultural psychology of time is far more than merely characterizing how people in individualistic or collectivistic cultures perceive, remember, or conceive of time, for it involves understanding how the human mind-brain is formed and shaped though cultural and temporal means.

As children grow, they learn to recognize temporal distinctions in language and thought and gradually begin to construct elaborate temporal worlds that are both shared and unique to their individual possessors. Human development is a record of the unique temporal accomplishment that becomes a person. And each culture or group creates conditions or zones of proximal development wherein parents, caregivers, and social others nurture a child's development in and through time. The human life course is variously demarcated and parceled out through normative models that individuals partially subscribe to as they negotiate life's transitions and mark or remark upon significations in time. For biography (which is itself a cultural artifact) is a record of our unique existences in time and place. People imagine their selves as extended over time and craft life stories, weave together shards of memory, and fuse the seams of episodes and happenings into narrative accounts. Time is a constructed dimension and we must live in the temporal worlds we build (Friedman 1990). As Lawrence E. Sullivan has observed,

> … Humans bring a unique and enriching quality of existence to the cosmos, on account of their distinctive quality of consciousness – combinatory, open-ended, expanding narratives open to self, other, world. Human (time) consciousness is a significant and participatory world-creating ingredient that does not leave the world (Ricoeur's aporia) the same but instead signs it with its own significance, not least of which is the generation of time as a perceived experience with dimensions, past, futurity, narrative, etc. (2017, personal communication)

So what does it mean to be here and 'now' – in this moment, at this time, for this 'specious present', within this biographical and historical window, between this fading and fleeting temporal horizon, along this chronogeographical path, upon this time-space juncture? It means to bring forward a mind-body assemblage that has been hereditarily evolved over thousands of years as well as culturally formed and developed from the first post-birth caretaker moments onward. It means to synchronize indigenous biochemical rhythms and timers along

with cultural markers and environmental cues. It means to bring forward a perceptual-conceptual-motoric self that has perpetually been attending and attuning to social and environmental affordances and that is poised by mental and bodily memories that are selectively activated to interpret current conditions, serve present purposes, and propel us forward. It means to incorporate homeostatic, interoceptive, proprioceptive, and neural events in the brain in an unfolding temporal structure of eliding past-present-future consciousness and to experience a phenomenological 'now' that is unprecedented and that will never, ever appear again. It means to carry forward and continually re-craft conceptual categories and temporal expectancies – to include coordinated activities, sequenced scripts, and even objectified 'clock time' – that have been socioculturally honed and validated. It means to converge structures and capacities in mind, dynamical processes in the environment, and content-filled images and material productions that we create, sustain, and temporalize in our engagement with a world that is both alike and different from every other world. To be in the 'now' means to exist and persist in an ontological and teleological trajectory that promises both linear certitude and non-linear cyclicity. It means to celebrate or lament what we have been while we imagine and pursue what we will be in a fleeting, passing manifestation of what we are. It means to piece together the fragmentary contributors of experience in a unified whole that perpetually must be reconstructed over and over again until 'nows' cease to exist with our own extinguishment. Fortunately, even then, cultures provide resources for imagining what lies beyond our own individual eschaton.

CHAPTER 3

WHERE WE ARE: THE LOCATEDNESS OF HUMAN PSYCHOLOGY

INTRODUCTION

Following a graduating scale from person to society, this chapter proposes a cultural psychology of space tracing the fate of this transcendental absolute through an individual's perceptual and representational processes; through an individual's perpetual engagement with sociophysical environments; through co-specification of space and time in place, and embodied emplacement as the human condition of being-in-the-world; and through the anthropology of space as cultures inscribe themselves, territorialize, and imagine space while building material expressions of cognitive ideas, relations, and conceptions. The first section of this chapter draws from psychological studies of spatial perception and contends that our visual, auditory, haptic, and kinesthetic systems conspire to produce our sense of space. Similar to time, there is neither a single faculty in brain responsible for space, nor a determinate "thing" called space apart from the perspective of a "knower." Rather, as Kant asserted, space inheres in our sensibility and pre-structures experience but is knowable only through cultural predications that fuse form and content in concrete objects of knowledge. The chapter next explores person-environment transactions through situational, ecological, and environmental psychology and argues that thinking and doing always involve the mind's interactions with physical environments, social others, material structures, cultural representations, and rules for appropriate behaviors, expectancies, scripts, and meanings. The next section considers philosophical treatments of the peremptoriness of place in all human modes of thinking and suggests that place is a primary

condition of experience vice a mere appropriation of space with emotional attachments. Finally, the chapter provides a select overview of literature in the anthropology of space to highlight sociocultural organization of landscapes, boundaries, home enclosures, built environments, and settlement patterns. Postmodern treatments of space, especially the proposed recursiveness of social relations and spatial structures, are cited to argue that people produce and reproduce space in their daily routines and interactions with social and material environments vice simply transit through an inert medium. Changes in communication flows, speed and access of information, physical and virtual travel, and contested relations between localities and self-identities are further examined to probe new forms of subjectivity brought about by globalization.

PSYCHOLOGY OF SPACE AND BODY

SECTION NOTE: This section chronicles the fate of space as a transcendental absolute in individual minds. Cultural psychology acknowledges emergence of spatial competence through engagement of our sensory, perceptual, and representational processes with shapes, objects, patterns, and movements in the environment. Similar to the lack of master clock regulating temporal processes in brain, human comprehension of spatially-related phenomena lacks a central processing mechanism and is governed by multiple sensory modalities, neuroanatomical features, regulative systems, and feedback mechanisms. Moreover, there is a perennial translation problem between what exists in the "actual" physical world and how we sense, encode, and interpret those contents in our representational processes. Our visual, auditory, haptic, and kinesthetic systems of body and brain conspire to create our sense of space through an ensemble of sensory and modular capabilities permitting the brain to measure energy in the

form of light and sound as well as pressure on skin to evaluate position and movement and to make inferences about physical objects and boundaries. In spatial cognitions, the brain first processes and converts externally derived stimuli into internally generated perceptions and then translates those into internal representations. This section suggests that the cultural psychology of space is a perpetual exercise in wayfinding since human beings constantly incorporate and update sensory impressions and bodily movements to track our position in environment and transit through geographic and symbolic spaces. Neural firing patterns create thought as sensory and motor systems work in concert with preexisting knowledge stored in short- and long-term memory and we bring ourselves – our goals, values, intentions, learned skills, bodily memories – to every encounter with the world. The moment-to-moment state of an individual's nervous system is a cumulative record of his or her biographical and cultural experience, a stable yet plastic and forever changing orchestration of connectionist networks, firing patterns, psycho-physiological dispositions, and perceptual-conceptual constructs. O'Keefe, who shared the 2014 Nobel Prize for his 1971 discovery of "place cells" in rats, has endorsed Kant's contention that we bring conceptions of space to our thoughts through operation of relevant neural structures inhering in the vertebrate brain's architecture. To promote adaptive skills, animals incorporate spatial knowledge and enable increasingly complex behavioral strategies. While locomotive behavior initially remains egocentric and observer-based utilizing cues and routes to update spatial positioning, humans gradually build environment-based or "allocentric" representations for envisioning space from an impersonal point of view. Researchers have delineated four primary navigational systems forming a progressive continuum of behavioral flexibility: dead-reckoning, cue learning, response learning, and place learning. Tolman first coined the term "cognitive map" to refer to relational or geometric map encoding of non-egocentric metric

relationships between cues or landmarks in a configurational shape and common coordinate system. This section endorses Campbell's argument that structural features of human thought have their origin in the distinctive manner in which self-consciousness temporally extends forward and backward through episodic memories and situated human actions permitting transitions from self-centric viewpoints to 'birds eye' imaginings. Time-space specification is thus an enduring human attribute because our embodied minds encounter the world in such a way as to create our spatiotemporal realities coincident with formulating the subjective nature of our consciousness and historical-geographic horizon of our thoughts.

Chronicling the fate of space as a transcendental absolute in individual minds, cultural psychology acknowledges emergence of spatial competence through engagement of our sensory, perceptual, and representational processes with shapes, objects, patterns, and movements in environment. Similar to its treatment of time, Kant's transcendental aesthetic treated space as an *a priori* condition of our sensibility, a pure form of outward appearances that are apprehended via our phenomenal experiences. As both Kant and Shweder have contended, form without content is empty and content without form is meaningless. That is, the cultural psychology of space involves ongoing interplay of person and environment in fusions of form and content that mediate between heterogeneous complexes of mind that must be selectively activated or refashioned and the objects, regularities, and dynamically changing events surrounding us. Cultural psychology's treatment is buttressed by recognition of the lack of a central processing mechanism or unit in the brain for this pervasive feature of our perceptions and thoughts. For similar to the lack of a master clock, timepiece, or rhythm regulating all temporally-related processes in the brain, the human comprehension of spatially-related phenomena (shapes,

movements, etc.) is governed by multiple sensory modalities, neuroanatomical features, regulative systems, and feedback mechanisms. Moreover, despite the astonishing feats and capabilities of our visual, haptic, auditory, and locomotive systems collaborating to provide our sense of space, there is a perennial translation problem or (in)congruency challenge between what ostensibly exists in the "actual" physical world and how we sense, encode, interpret, and act upon those same contents in our perceptual and representational processes (Eilan et al 1999a). The degree of "matching" between physical and neural spaces, or between the "world out there" and the results of our sensory impressions, perceptions, and representations, tells only part of the story of how spatial cognitions facilitate spatial strategies and behaviors. Beyond joining concepts and percepts, forms and contents, structures and experiences, containers and substances, the cultural psychology of space is, literally and metaphorically, a perpetual exercise in wayfinding. For human beings are forever seeking and updating their position in the world, their placement and movement through a landscape of fleeting "heres" and "theres" in geographic and symbolic spaces that give meaning to our seemingly exilic and existential condition as an object of both action and contemplation in a world populated by other objects.

While there is an extensive literature that covers philosophical and scientific treatments of space (see, for instance Jammer 1993; Algra 1995; Greene 2004; Maudlin 2012), it is notable that space has typically been understood as a continuant and defined by what enclosed or bounded it, such as a container or the empty void contained therein. But the question of whether space consisted of matter such as air or ether, or an immaterial emptiness or plenum (finite or infinite) has persisted for centuries. Thus, Plato conceived of space as a receptacle and the matter contained in the receptacle as empty space. Other thinkers such as Democritus and the atomists distinguished between atoms and the void, while Aristotle focused on place as the adjacent

boundary of a containing body. In distinguishing between mind and matter, Descartes contended that the essence of the latter was extension and that any volume of space must be a portion of matter rather than a vacuum. Gassendi and Newton posed versions of an infinite or "absolute" space (vice finite corporeal extension) independent of any substance. As previously noted, Leibniz held a relational theory rejecting ideas that space was either absolute or comprised of a 'stuff' or substance and instead positing that space was a system of relations between relative bodies (See discussions in Smart 1967; Mitchell and Dolins 2010). Of importance herein, from the 1740's into the 1760's, Kant initially held a modified Liebnizian or relational theory of space but by 1768 abandoned that view and adopted the Newtonian theory that space constituted a framework or container distinct from the matter occupying it. While advocating an absolute vice relational theory in his *Prolegomena,* Kant asked the curious question of whether, if the universe consisted of only one human hand, it would be a left hand or right hand? Only a year later he altered this view by ascribing to space the status of a set of *a priori* laws governing representations constructed by the human faculty of sensibility, arguing that our experiences depended on our natural organization and that we must have an intuitive knowledge of space in order to experience it. In this view, sensory stimulations were not enough to become perceptual experience, but required something inherent in human nature. As such, perception was not tied to particular sensations but was a coordination of those sensations accomplished through imagination or intuition. For Kant, space was merely subjective wherein thought arranged nonspatial "things-in-themselves" (see Smart 1967; O'Keefe 1999).

Kant's eventual arrival at categorical imperatives in which mind was independent of the world had profound influence on subsequent thinkers about space. In Kant's ultimate theorization, unity of consciousness required viewing or experiencing oneself as a persisting

object in a world of independent objects (O'Keefe 1999; Campbell 1994). The human capacity for self-consciousness was deeply connected to this capacity for representing the world in a detached, objective manner. Kant's *a priori* conception of space played a fundamental role in structuring our thoughts about the world. Among recent theorists, O'Keefe and Nadel (1978) rejected empiricist claims and endorsed Kant's view of space as preexisting in mind and undergirding all spatial representations on both ontological and developmental grounds. O'Keefe shared the 2014 Nobel Prize for his 1971 discovery of "place cells" in rats that function as an "inner GPS" registering both seen and unseen inputs by building inner maps in different environments to enable navigation of surroundings (see Altman 2014; Moser and Moser 2016). Using microelectrodes to monitor action potentials in the hippocampus of rats, O'Keefe reported that neurons there fired when a rat in a box spent time at a certain location, while different place cells fired at different locations with the overall firing pattern collectively forming a map of locations in the box. The combined activity of multiple place cells stimulated by the microelectrodes could identify the rodent's precise location at a given time (Moser and Moser 2016, 29). O'Keefe has continued to advocate the Kantian position that we bring conceptions of space to our organization of thought through the operation of relevant neural structures vice mirroring or representing the world "as it is" (O'Keefe 1979, 1999). This nativist position that spatial concepts inhere in the vertebrate brain's architecture has long found support in the general utility of Euclidean geometry to approximate spatial relations among places. O'Keefe concluded that his work on "place cells" in the hippocampus – a core area of the mammalian brain responsible for spatial location and memory formation – that acted like allocentric cognitive maps built primarily from genetic and epigenetic rules with modest environmental calibration was proof of a Kantian spatial mapping system (see O'Keefe 1979, 1999). O'Keefe has further

contended that evidentiary insights from non-Euclidean geometry and quantum mechanics has only strengthened vice weakened this nativist Kantian argument by exposing further incongruities between psychological representation systems and physical space (O'Keefe 1999).

O'Keefe's acclaimed discovery and Kantian extrapolations connect biochemical research with philosophical underpinnings. Even if place cells in the ancient hippocampus region do perform a key function in conceptions of allocentric space – perhaps in contrast to egocentric body representations processed in neocortical areas such as the parietal lobes – animals as well as humans possess allocentric spatial capabilities used in navigation and we should expect such capacities to be represented somewhere in the brain's neural hardware. The location of place cells in the hippocampus, which plays a key role in spatial positioning and spatial memory, should be unsurprising since the specialized function of such cells accounts for only a tiny fraction of the brain's widely distributed computational power directed at spatial thinking and behavior. Additionally, O'Keefe's claim that place cell activity supports imposition of a prerequisite and preexisting Kantian spatial system is consistent with the partial and constructive role such cell functions contribute to our overall spatial capabilities. Recalling that cultural psychology acknowledges there may be universal features of our mental endowment or domain specific functions inherited from our psychobiological evolution – i.e., universalism without the uniformity or the psychic unity that makes us imaginable to one another – we should expect to find such correlative linkages between various mental capacities and material substrates in brain processing. The discoveries of "place cells," "grid cells," and other specialized cells (see below) revealing important components of the brain's positioning system and postulating a biological basis for wayfinding and navigation – combined with O'Keefe's endorsement of a Kantian foundation underlying our spatial, locomotive, and navigational processing in the brain – lays the

groundwork for further exploration of the fate of space as a transcendental absolute concretized in individual minds and sociocultural formations.

As expertly detailed by neuroscientist Jennifer Groh (2014) in *Making Space: How the Brain Knows Where Things* Are, the human sense of space is an ensemble of sensory and modular systems permitting the brain to measure energy in the form of light and sound as well as pressure on the skin to evaluate position and movement and to make inferences about physical objects and boundaries. We enlist our eyes to detect electromagnetic radiation, calculate the proximate location of sounds by measuring minute differences in frequency and loudness and the time it takes sound waves to reach each ear, and rely upon the ears' balance organs to monitor body posture and movement (Ibid). According to Groh, the brain employs remarkable computational powers to accomplish feats of perception and behavior by identifying objects based on shape, determining where we are, and calculating how to go from one place to another. Such knowledge of "where" involves understanding what is "out there" in the external environment as well as tracking our own position in the world (Ibid; see also Dolins and Mitchell 2014). Spatial cognition negotiates different scales of space and time in the process of constantly incorporating and updating sensory inputs and bodily movements. Neural firing patterns create thought as sensory and motor systems work in concert with preexisting knowledge stored in short- and long-term memory. As noted by Kosslyn (2004) and Libet (2004), we bring ourselves – our goals, values, intentions, dispositions, learning, and skills – to every experience. The contents of our autobiographical knowledge, cultural history, body memory, and learned skills are already instantiated in our neural networks and patterns of activity brought forth to every encounter with the world. The remarkable fact of our neural systems is that we continue to modify their structure and conditioning as we incorporate specific new contents. That is, the

moment-to-moment state of an individual's nervous system is a cumulative record of his or her biographical and cultural experience in the world, a stable yet plastic and forever changing orchestration of connectionist networks, firing patterns, psycho-physiological dispositions, and perceptual-conceptual constructs. This "body map" is itself a spatial artifact – a product and process – of our perpetual wayfinding across time and distance (Dolins and Mitchell 2010).

As mentioned above, our visual, auditory, haptic, and kinesthetic systems of body and brain conspire to create our sense of space (Groh 2014). In spatial cognitions, the brain must first process and convert externally derived stimuli (i.e., sense impressions) into internally generated perceptions and then translate those into internal representations (Ibid; see also Eilan et al 1999a). Vision is perhaps the most prominent of these sensory systems as photoreceptors or light sensing neurons lining the retina in the back of the eye detect intromissions of electromagnetic radiation (i.e., energy) in light. The eye's pupil acts like a pinhole *camera obscura* in creating an inverted replica of patterns of detected light that is bent (i.e. refracted) in the process of converting a two-dimensional data set or projection into a perceived replica of a three-dimensional world (Groh 2014). The "receptive field" for specific neurons corresponds to the direction or angle that light must come from in order to affect the activity of select photoreceptors. Sensitized cells transmit activation signals through chemical (neurotransmitter) and electrical (action potentials or ion charges and valences across cellular membranes) signals to the brain where they are 'mapped' onto the visual cortex. The brain then compares signals coming from a variety of receptor areas in both eyes to put together a stereoscopic visual image of space. Our ability to perceive object shapes, edges, and boundaries as well as exploit photosensors' sensitivity to changes in position (stationary or moving) is also critical. Since detection of movement in the environment is a key survival skill for many animals, the

mammalian brain has developed a specialized temporal system for tracking changes in the visual field. The human brain does this by continually comparing changes in light at different locations and staggering processing rates and chemical or electrical neurotransmission times. The brain then compares samples from the same location at different times as well as samples from different locations at different times. A specialized eye function called 'smooth pursuit' permits us to follow a moving object with steady visual image as information is processed in the middle temporal and visual cortical areas of the brain (Ibid).

We know where our body is because sensors signaling the state of muscles and joints allow the brain to infer a configuration of the skeleton in space. Specifically, muscle spindle receptors convey how much attached muscles are stretched or contracted while golgi tendon organs measure force (Groh 51-68). These sensors tracking visual location and body position work together in partnership beginning very early in infancy. Through our haptic sense, a variety of sensors specialize in different touch stimuli (vibration, pressure, etc.) as skin and hair follicle receptors respond with electrical signals when changes are detected in their receptive fields. Overall, the brain evaluates information populating its neural spreadsheets along with unprocessed data to reach conclusions about the state of our visual and tactile world and position of the body. The brain actually uses space within the brain (i.e., "brain maps") to represent incoming information concerning space in the visual world as well as sensations from the surface of the skin. In other words, visual and tactile information from the sensory world is directly "mapped" onto responsible brain areas (Ibid). Wilder Penfield (1958, 1975) was among the first to survey these somatosensory and motoric brain maps via direct electrical stimulation to areas of the cortex while working with epilepsy patients. Thus the brain uses its own internal maps to keep spatial information organized as neurons have receptive fields and patterns of connections

with other neurons paralleling key aspects of spatial perception. In this manner, the topographical layout of photoreceptors and touch receptors in our sense organs is proximally replicated in visual and somatosensory maps in the cortex (see Groh 2014 for accessible explanation). For vision, retinal ganglion cells connect the eye through synaptical neurotransmissions along the visual pathway with the thalamus in the middle brain and then the primary visual cortex where receptive fields for location and orientation (angles, etc.) are mapped. For our haptic sense, touch receptors with receptive fields monitoring regions of body surface are directly connected via long neuronal axons to the spinal cord and then signals are transmitted to the thalamus onward to the somatosensory cortex. The body surface map of the skin is thus duplicated along each stage routing the neural road into the brain (Ibid).

While vision captures energy in the form of electromagnetic radiation, our auditory sense depends upon mechanical oscillations of air molecules in bendable sound waves to produce vibrations on the eardrum that are transmitted through cochlea bones in the inner ear to stimulate undulations of the basilar membrane and nearby hair-like cells that excite neurons sending electrical signals along the auditory nerve to the brain (Ibid, 107-141). While animals like barn owls and bats have special capabilities to echolocate sounds in both vertical and horizontal dimensions, the human ear relies upon frequency and loudness measures, temporal discrepancies between signals to each ear, pineal collection by ear folds, spectral cues differentially filtering sounds, head movements, visual evidence, and the bi-aural auditory pathway to locate sounds (Ibid). Constructing our sense of space, the human brain overcomes "language" barriers between visual and auditory systems by checking information cross-modally and selectively using different (and movable) reference systems to process different types of information. Within even a single sensory system like vision, the brain synthesizes knowledge of eye position, saccade eye

movement, and optic flow to stitch together high-resolution viewpoints. Sensory neurons are also capable of either binary digital-like encoding to represent the locus of activity in neural maps or analog encoding to represent meter or amount via ranges of action potentials to capture, for instance, duration and speed in motor activity. The superior colliculus on the brain stem serves as a bridge between maps employed by the visual system and meters employed by the motor system (Ibid).

Human spatial behavior leverages deep evolutionary endowments in weaving threads together across different sensory systems to facilitate movement and navigation, which in turn builds additional perceptions and conceptions of space via tactile and kinesthetic systems (Dolins and Mitchell 2010b; Nijhawan and Khurana 2010). The vestibular system within the inner ear plays a key role regulating our sense of balance and signaling movement, direction, and speed. Human spatial capabilities are also inextricably linked to memory systems that provide mutual support to learning and behavior. Not only do sensory and motor systems exhibit memory-related behavior in sequencing and coordinating actions, but longer-term development of procedural learning results from lasting changes in the neural pathways responsible for performing the behavior. Key brain areas also specialize in specific functions facilitating sensorimotor development. For instance, the hippocampus performs a vital role in forming associative, sequential, and relational memories; monitoring one's spatial location; and encoding place learning. Additionally, the parietal cortex, which is important in mathematical and combinatoric processes as well as the encoding of novel behavior, is activated when calling up spatial representations based on imagined perspectives in the spatial landscape (Groh 2014).

As already noted, the translation of what is "actual" in the physical world to what is "perceived" is important to cognitive processing and the encoding of perceptions,

representations, and imagination (mental imagery) (Eilan et al 1999a). To ensure survival and promote adaptive skills, animals enlist visual and other perceptual inputs to incorporate spatial knowledge and enable increasingly complex behavioral strategies. Towards that end, all animals have constraints within their morphological and species-specific sensory requirements and capabilities that are variously organized and sensitized to the saliency of perceptual cues. Humans share with other animals the need to explore their environment while building spatial knowledge and developing navigational means for manipulating and transiting through space (Mitchell and Dolins 2014; Eilan et al 1999a). Human infants lack an objectified conception of space and begin to distinguish their own body parts from other objects in their immediate surroundings while maturation eventually builds a self-conscious body image (representation of body, parts, relations), body percept (incorporation of sensory information, to include kinesthesis and vestibular sensations of body position), and body schema (including elements of body percept and body image). Kinesthesis combines somathesis (body feel and spatial extent) and proprioception (muscle and movement, relative positioning of body parts) in non-visual perceptual accomplishments (see Dolins and Mitchell 2010a). Infants' early experiences modify neural structures in perception as learning leads to increasingly complex spatial skills and alters navigational strategies. Locomotive behavior or movement initially remains egocentric, body-centered, subjective, idiosyncratic, and observer-based and utilizes evolutionarily basic cues and routes to update one's spatial positioning while referencing past and present locations during movement. This perceptual and behavioral ability to localize routes is an essential adaptive behavior for most animals that relies upon shared spatial learning mechanisms such as routing via path integration based on a sequence of perceptual cues. Spatial perception uses boundaries and landmark information in drawing upon the organism's experience, knowledge, goals, and

motivations. The generation of spatial representations in neuroanatomical structures is specific to the type of learning involved, such as route, place, or response learning. Select animals and humans also build environment-based or "allocentric" spatial representations. For humans, the difference between egocentric and allocentric frames of reference involves thinking about space from a particular point of view versus thinking about space from an independent or impersonal point of view. Overall, researchers have delineated four primary navigational systems that form a progressive continuum of behavioral flexibility: (1) dead-reckoning, an egocentric method with self as cue computing ongoing position, direction, speed, and physical effort of movement (via vestibular and proprioceptive information) from one place to another without reference to an external environment; (2) cue learning, an egocentric use of a single cue, beacon, or landmark in the environment to orient position and movement; (3) response learning, an egocentric or allocentric learned motor routine using sequential cues for pre-set or novel route following that incorporates relational representations and transformational rules in forming topological maps that may or may not include the individual in rule- or route-based navigation; and (4) place learning, or veridically represented allocentric framework and external reference system reliant upon internal geometric representation of several landmarks simultaneously as well as distance or direction of an object or location from landmarks in the environment (Dolins and Mitchell 2010a).

Tolman (1932, 1948) first coined the term "cognitive map" to refer to the relational or geometric map encoding / recalling of non-egocentric metric relationships between cues or landmarks in a configurational shape and common coordinate system (see also Eilan et al 1999a; Dolins and Mitchell 2010a)). The cognitive map corresponds with real physical space and permits localization of additional points and generation of novel spatial information and rule- or

route-based navigation required in place learning. Both internal cognitive and two-dimensional symbolic maps are external representations of place learning and represent a visual allocentric alignment between the world and a scaled-down representation of it that facilitates spatial behavior. Based on observations of rats in a maze, Tolman proposed that, in addition to route learning via successive stimuli along a path, rats and other animals formed mental images or maps of the environment that mirrored the spatial geometry of the spatial world; moreover, the maps also appeared to record information about events experienced at specific locales. O'Keefe and Nadel (1978) claimed that the aforementioned "place cells" were an integral part of the brain's "cognitive map" envisaged by Tolman. May-Britt Moser and Edward Moser (2016) shared the 2014 Nobel Prize with O'Keefe for their 2005 discovery of nerve cells (dubbed "grid cells") in the brain permitting spatial coordination and positioning. While further investigating the place cells identified by O'Keefe, Moser and Moser et al discovered that other cells located in the entorhinal cortex near the hippocampus fired when an animal was at a certain spot as well as other spots in its navigation. The neural firing of those "grid cells" formed hexagonal patterns covering an enclosure (similar to individual units of a grid) and, unlike place cells, seemed to provide information about distance and direction, helping an animal to track its trajectory based on internal cues from the body's motions vice environmental inputs (Moser and Moser 2016, 30). Subsequent research also identified other specialized cells in the entorhinal cortex of rodents that conveyed information to the hippocampus about orientation, speed, and border recognition. It is now understood that place cells integrate the signals from various types of cells in the entorhinal cortex as the brain attempts to track an animal's traveled route and destination in the environment. The firing of grid cells produces a cognitive map akin to a geographical map that, together with place cells identifying an animal's location in a particular environment, enable

the animal to build a mental picture of its surroundings (Moser and Moser 2016, 31). The following combines excerpts from the Moser's recent article in *Scientific American:*

> Like the GPS in our phones and cars, our brain's system assesses where we are and where we are heading by integrating multiple signals in relation to our position and the passage of time. The brain normally makes these calculations with minimal effort, so we are barely conscious of them. It is only when we get lost or when our navigation skills are compromised by injury or a neurodegenerative disease that we get a glimpse of how critical this mapping-and-navigation system is to our existence. The ability to figure out where we are and where we need to go is key to survival. Without it, we, like all animals, would be unable to find food or reproduce. Individuals – and, in fact, the entire species – would perish. The sophistication of the mammalian system becomes particularly clear when contrasted to those of other animals … Animals with more sophisticated nervous systems, such as desert ants or honeybees, find their way with the help of additional strategies. One of these methods is called path integration, a GPS-like mechanism in which neurons calculate position based on constant monitoring of the animal's direction and speed of movement relative to a starting point – a task carried out without reference to external cues such as physical landmarks. In vertebrates, particularly in mammals, the repertoire of behaviors that enable an animal to locate itself in its environment has expanded still further. More than any other class of animals, mammals rely on the capacity to form neural maps of the environment – patterns of electrical activity in the brain in which groups of nerve cells fire in a way that reflects the layout of the surrounding environment and an animal's position in it … The navigation systems consist of several specialized cell types that continuously calculate an animal's location, the distance it has traveled, the direction it is moving and its speed. Collectively these different cells form a dynamic map of local space that not only operates in the present, but also can be stored as a memory for later use … Beyond receiving information about position, distance, and direction from the medial entorhinal cortex, the hippocampus makes a record of what is located at a particular place – whether a car or a flagpole – as well as the events that take place there. The map of space created by place cells thus contains not only information about an animal's whereabouts but also details about the animal's experiences, similar to Tolman's conception of a cognitive map. Some of this added information appears to come from neurons in the lateral part of the entorhinal cortex. Particulars about objects and events fuse with an animal's coordinates and are laid down as a memory. When the memory is later retrieved, both the event and the position are called to mind … (Moser and Moser 2016, 28-33)

Groh (2014) has speculated that mental representations of space not only co-opt sensory and motor processing systems, but may also shape our abstract thinking and reasoning skills. Since neurons and brain areas rarely do just one thing, and are often drafted into multiple tasking

requirements, Groh suggested an overlap between cognition and sensory and motor processing mechanisms. Through grounded or embodied cognition, thinking may activate pathways in sensory and motor areas of the brain and enlist them in forming mental imagery or making conceptual linkages. Noting how word associations, metaphors, and analogies may conjure sensorimotor re-creations in the mind, Groh highlighted how thinking and reasoning are affected by such "neural wetware." Commenting on the fuzzy boundary between perceiving and thinking, Groh cited Boroditsky's (2010) research on how spatial representations may shape reasoning in abstract, non-spatial domains. Boroditsky highlighted, for instance, how differences in cultural definitions of space may affect mental representations of time. In this regard, English speakers used reference frames relative to themselves while Australian aborigines preferred cardinal directions when performing time-related behaviors. Groh's speculations complement Levinson's previously discussed research demonstrating how selection of a linguistic system's primary frame of reference has ramifying effects throughout other cognitive domains.

Philosopher John Campbell (1994, 1999) has similarly argued that the general structural features of human thought have their origin in the distinctively human manner in which we think about time and space. For the norms governing human conceptual thought are set by the unique demands of human self-consciousness and its interwoven spatiotemporal framework. While highlighting the foundational role of the first person in such thought, Campbell contended that self-consciousness is temporally extended forward and backward and causally structured via later states' dependence on earlier states and the self's common cause function with various correlated events around it. The human ability to think about the past and orient oneself in temporal frames of reference with respect to particular past times via episodic memory, autobiographical thought, and narrative structures is transformative. Similarly, self-

consciousness is closely indebted to our ability to think about the spatial layout of the environment and place ourselves within it through both egocentric and allocentric conceptualizations. Whether engrossed in intensely private, interiorized moments of self-introspection in places of refuge or interfacing with others on graduating levels of social interaction and geographic scale, we transition from self-centric points of view to 'birds eye' imaginings. The structural features of human thought provided by pervasive spatiotemporal features of our way of experiencing the world result from unique manners in which the human sensorium processes and organizes our experiential engagements. In our moment-to-moment actions as well as our reflective constructions, we negotiate an unfolding past-present-future horizon infused by memory, learning, and intention while simultaneously placing, positioning, and traversing through geographic and symbolic spaces (Ibid).

It is perhaps appropriate to compare (at least metaphorically) our cultural psychology project with broader insights from the general and special theories of relativity that succeeded but never fully abrogated the tenets of Newtonian or relational propositions. In the special theory of relativity wherein the total set of point instants could be arranged on a four-dimensional space-time, events which were simultaneous with reference to one inertial set of axes were not simultaneous with reference to another inertial frame. Even in Minkowski's semi-Euclidean framework, space and time were no longer treated as separate dimensions or continua but merged in a union preserving independent reality (Smart 1967). While general relativity rejected an absolute theory of space, at least the separation of time and space, special relativity was quite consistent with either an absolute or relational philosophical account of space-time. It was Albert Einstein who once wrote that "space and time are modes by which we think and not the conditions in which we live" (see Nijhawan and Khurana 2010, 1). Reiterating Campbell's

(1994, 1999) observation that the interwoven spatiotemporal framework and distinctive demands of self-consciousness govern the general structural features of human thought, Einstein's quote speaks to the contingent and conjunctive nature of our time-space positionings – in which time, space, and subject specify one another in the same dimensional matrix. In a broader sense, relativity here implies the unique path and trajectory of every human subject in transiting a cosmos they contribute to constructing. Time-space specification is an enduring human attribute because our embodied minds encounter the world in such a way as to create our spatiotemporal realities coincident with formulating the subjective nature of our consciousness and historical-geographic horizon of our thoughts. While time and space are brought to our experiences through the brain's inherent capacities for sensibilizing experience, so too are they constructed and reconstructed as conceptual ensembles of our sensory, perceptual, and representational contents and our ever-cumulating store of interrelated thoughts and ideas. In the context of general or special theories of relativity, time and space are not empty vessels. On the contrary, they are highly specifiable by the particulars and contents that situate human action in the world.

SITUATIONAL, ECOLOGICAL, AND ENVIRONMENTAL PSYCHOLOGY

SECTION NOTE: Further probing the fate of space as a transcendental absolute, this section addresses an individual mind's constant negotiation with socio-physical environments. For Kant, imagination served as an indispensible mediator between sense and understanding by combining intuitions with concepts according to a *scheme* or rule allowing understanding to produce empirical knowledge by providing content to objective representations and synthesizing inner and outer senses. Cultural psychology and the geographical sciences have similarly sought to

characterize the person-environment dyad and construct molar units of analysis describing the embodied, adapted mind within an organism's evolving habitat. Geography has methodologically treated space as localized and heterogeneous specification – such as regional geography's focus on areal differences or humanistic geography's reliance upon phenomenological and existential approaches – or as homogeneous, commoditized measurement – such as scientific geography's quantification of abstract space via economic or behavioral distribution. Confronting problems of correspondence between perceptual-cognitive processes and socio-physical environments, this section draws insights from select theories of perception such as "New Look" psychologists' balance between subjective behaviors and physical-objective surroundings; Brunswik's "lens model" explicating the "ecological validity" of perceptual cues; and Gibson's contention that active perceivers extract "affordances" of meaningful information vice stimuli. Since we meet the world, form our conceptions, and develop specific kinds of behavior in actual situations, theorists examining situations as units of analysis have combined perceptual and ideational contents with evaluation of the social milieu in which thinking and action take place. Subsequent practitioners of situated cognition theory have highlighted the social nature of learning as we form ourselves as *socii* through engagement with each other, our material surroundings, symbolic tools and texts, and networks of other activities and sites relevant for here and now because of what happened there and then. Investigating sociophysical aspects of mind via supra-individual units of analysis, this section probes influential thinkers such as Lewin's "field theory" and "psychological ecology," Barker's "ecological psychology" and "behavior settings," and Bronfenbrenner's "ecology of human development." The field of environmental psychology has also examined the interface between behavior and sociophysical contexts through interdisciplinary research into spatial behavior, cognitive maps, behavioral

geography, environmental perception, time geography, and environmental knowledge. Incorporating situationist and ecological orientations, this section mines transactional-contextual approaches considering active perceiver and reality, subject and object of perception, as inseparable parts of a single unit of analysis with the human sensorium bringing an assumptive history of previous experiences contributing to both the plasticity and constructive nature of perception. This section also highlights environmental psychology's role in conceptualizing "places" as units of human-environmental settings comprised of physical attributes, human activities, and cognitive representations. Akin to Neisser's "Ecological Self," place identity is a sub-structure of self-identity consisting of cognitions about the physical world, environmental memories, and culturally transmitted understandings about how to behave in specific settings – substantiating the abstract potentials that gain character and motivational force through the concrete actualities of a particular way of life.

The fate of space as a transcendental absolute must also address mind's constant negotiation with socio-physical environments. For Kant, imagination served as an indispensible mediator between sense and understanding by combining intuitions with concepts according to a *scheme* or rule allowing understanding to produce empirical knowledge by providing content to objective representations and synthesizing inner and outer senses (Guyer and Wood 1997; Palmquist, Philosophy-Dictionary.Org, Dictionary of Kant's Technical Terms; Cottingham 1984, 82-90). Cultural psychology and the geographical sciences have similarly sought to characterize the person-environment dyad and construct molar units of analysis describing the embodied, adapted mind within an organism's evolving habitat. In postulating that cultural experiences – goals, values, pictures of the world, customs, practices, dispositions, symbolic behaviors,

embodied percepts and concepts -- activate and populate the human mind and mediate between self and world, the cultural psychology of space problematizes the subject-object duality that has characterized the history of psychology and related fields. Indeed, broader philosophical debates over mind versus matter, internal versus external, body versus mind, biology versus culture, and even free will versus determinism can be traced to intellectual efforts to understand and explicate the relationship between person and environment. Before evolutionary theories, mind – though attached to the physical body (automaton) with inputs from sensations or impressions – was seen as a mechanism or entity existing more or less independently of the physical world (Good and Still 1989). However, after Darwin, the traditional mind/body dualism originated by Descartes and perpetuated by various forms of cognitivism was undermined by the need to account for consciousness and mental events in individualistic terms as the product of biological evolution understood as adaptive potential, or emergent properties of organized matter. Still, the view that mind was an emergent property of brain was not a significant departure from traditional dualism since structures of mind mirrored structures of brain (Ibid). It was the project of structuralist psychology to map those correspondences. For Good and Still (1989), what was lacking was a viable "ecological functionalism" that viewed the embodied mind within an evolving system that included organism and environment as equal partners. The rise of behaviorism and stimulus-response methods in the 1930's focused only on the automaton vice embodied mind. Contrastingly, pragmatists like James, Dewey, and Mead focused on anti-essentialism, priority of action over thought, mutualism, and interdependence of stimulus and response, but failed to provide a framework for empirical psychology to replace behaviorism or cognitivist input-output schemes (Ibid). Whether viewing the human mind-brain as an isolate structure creating its own interiorized realities, consigning development to external forces and influences, seeking to

uncover deep grammatical codes and evolutionary substructures in brain that govern how the world appears to us, or identifying invariant scientific truths regulating the vicissitudes of nature and nurture, one must confront elusive units of analysis. We have already noted that cultural psychology insists upon the interpenetration of subjectivity and objectivity and contends that culture and psyche make each other up. And the cultural psychology of space must necessarily embrace – similar to the cultural psychology of time – diverse disciplinary and methodological approaches from the humanities, social sciences, and physical sciences. In person-environment relationships, the field of geography has perhaps been foremost in contributing multidisciplinary insights and in charting a path that has generally resembled the psychological sciences in reconceptualizing mind, space, and culture. Both psychological and geographical sciences have incorporated methodologies emphasizing space as either an abstract, homogeneous, commoditized measurement or a localized, heterogeneous, embodied specification. These fields have also similarly struggled to identify adequate analytical constructs for capturing dynamic person-environment relationships.

As mentioned in Chapter 1, Kant spent a considerable portion of his academic life teaching geography as an idiographic endeavor concentrating on the uniqueness and particularity of places in contrast to his more nomothetic theorizing in philosophy and metaphysics. As detailed by Tim Cresswell (2015) in his excellent compendium, *Place: An Introduction,* Plato and Aristotle had previously used the terms *chora* (root of chorology) and *topos* (root of topography and topology) to refer generally to the study of regions and places, respectively. Concerned with how something comes into being out of nothing – *kenon*, a void or limitless, abstract space – Plato used *chora* to refer to a limited extent of space, a receptacle or container with content while designating *topos* as an achieved place from the process of becoming.

Meanwhile, for Aristotle *chora* was a large region of country while *topos* was a smaller scale place within it (see discussion in Cresswell 2015, 25-30). Most of the history of geography through the mid-twentieth century similarly took as "one of its central objects the common-sense experienced differences between portions of the Earth's surface" (Ibid, 24). As geography emerged as an academic discipline, seminal expositions such as Carl Sauer's "The Morphology of Landscape" (1963) and Richard Hartshorne's *Perspective on the Nature of Geography* (1959) focused on the distinctiveness and differences between places. Within regional geography, chorology took precedence with an emphasis on delineating the characteristics and boundaries of particular regions and their areal differentiation. Hartshorne took special interest in establishing geography as an idiographic discipline focusing on the unique and particular while other thinkers took inspiration from French theorist Paul Vidal de la Blache's late nineteenth / early twentieth century *la géographie humaine* concentrating on the distinctiveness of *genre de vie* (ways of life) in particular regions or places resulting from the interplay of natural and cultural worlds (Cresswell, 31-32; see also Vidal de la Blache 1908). In Britain, regional geography also predominated in the early twentieth century through works by Herbertson (1905) highlighting the development of unique regions from variations in the natural environment and by Fleure (1919/1996) documenting 'human regions' via anthropological particularities of local inhabitants (Cresswell 2015, 32). Early American cultural geographers also emphasized the importance of regions and shared meanings and practices in descriptive work on the 'cultural landscape' (see, for instance, Wagner and Mikesell 1962). Rejecting environmental determinists such as Ellen Semple and Ellsworth Huntingdon – who believed characteristics of human settlements, to include cultural traits, resulted from responses to environmental influences – scholars such as

Sauer gave explanatory power to culture by contending that cultures had a geographical basis in transforming the natural environment (Cresswell 2015, 32).

In the latter half of the twentieth century, however, the rise of scientific geography brought an emphasis on quantitative methods, analysis of spatial behaviors, and treatment of abstract space as an independent variable. For Cresswell (2015), such generalizing, nomothetic methods sought to view space as a measurable quantity of economic, social, or behavioral distribution. In central place theory, for instance, place was relegated to mere location vice a distinctive locality. The resurgence of 'humanistic geography' with select thinkers beginning in the 1970's was largely a reaction to the rise of spatial sciences in the study of geographical behaviors. While 'space' replaced 'region' as a key concept in the spatial sciences, humanistic geographers preferred the term 'place' to refer to coordinative gathering power and affective bonds rather than mere description (see Lukerman 1964; Relph 1976; Tuan 1974, 1977; Seamon 1979; Buttimer and Seamon 1980). Drawing heavily on phenomenological and existential approaches, these theorists made place a central concept in human geography for the first time. Rather than merely documenting the relative particularities of specific regions or places, humanistic geographers argued that the subjective experience of place was a universal human condition or way of being-in-the-world. Norberg-Schulz (1980) introduced the phrase *genius loci* or 'spirit of the place' to denote an immanent and static view of place tied to qualitative properties. Yi-Fu Tuan (1974) used the term "topophilia" to reference the affective bonds and emotional attachment that arise from staying, resting, or pausing in a place. As both an idea and a qualitative "field of care," the phenomenal experience of place begat rootedness, belonging, and reflective knowledgeability or "sense of place." Places were thus products of intentional human acts turned towards the 'creation of places' rather than mere results of the physical

characteristics of the environment. Built objects could also organize space and transform it into place, while places were continuously being recreated through shared, common activities. For Relph (1976), our practical knowledge of places and what we do in them involved temporal predicates and intentionality. Granting ontological priority to our immersion in place vice location in geometric space, Relph noted that human consciousness always emerges 'in place': "The basic meaning of place, its essence, does not therefore come from locations, nor from the trivial functions that places serve, nor from the community that occupies it, nor from superficial or mundane experiences … The essence of place lies in the largely unselfconscious intentionality that defines places as profound centers of human existence" (Relph 1976, 43; also quoted in Cresswell 2015, 38). The "phenomenology of place" was thus defined in experiential terms with a basic distinction between 'existential insidedness' (degree people feel part of a place, or unselfconscious immersion in place) and 'existential outsidedness" (feelings of strangeness or separation from place) (Relph 1976, 55; see also Bonnes and Secchiaroli 1995, 164). In *The Betweenness of Place,* Entrikin (1991) similarly defended the qualitative distinctiveness and importance of particularity through narrative understandings of place over against leveling forces of industrialism and scientific inquiry (see also Cresswell 2015). In his *Homo Geographicus* (1997) Robert Sack further outlined a relational framework involving forces, perspectives, places, spaces, and selves; places drew together culture, meaning, and social relations while humanizing nature and inter-threading the constituents of self-identity.

Since a cultural psychology of space contends that the interface between structural features of mind and structural features of the environment only finds expression in particular culturally mediated experiences, insights from both select theories of perception and social (especially situational) psychology have been instrumental in exploring the relationship between

persons and socio-physical environments. Mirilia Bonnes and Gianfranco Secchiaroli (1995) have accessibly detailed this history in *Environmental Psychology: A Psycho-Social Introduction.* The psychology of perception has long confronted the problem of correspondence between psychological processes (especially perceptual/cognitive events) and characteristics of physical environment – what Floyd Allport (1955; see reference in Bonnes 1995) called the "inside-outside" problem. By the late 1940's, the "New Look" approach in the United States developed in opposition to dominant European schools of psychology of perception represented by Gestalt psychology and its assigned primacy to the "phenomic world" (in comparison to physical-objective one), dynamic forms, and theory of isomorphism implicit in every perceptual event. Gestalt psychologists ignored the problem of correspondence and claimed that reality was what appeared to us through our innate psychological mechanisms. Critical of Gestalt psychology's "phenomenic" isomorphism, "New Look" psychologists sought to restore balance between the active role (behaviors, goals, needs) of the subject of perception and the physical-objective environment (See discussion in Bonnes and Secchiaroli 1995, 20-58). In addressing the "inside-outside" distinction, Egon Brunswik's (1943) "lens model" sought to explicate the probabilistic nature of perceptual experience and the "ecological validity" of perceptual cues (vice stimulus) in understanding the relationship between perceived reality and characteristics of the "ecological environment." In Brunswik's model, environment consisted of measurable characteristics of objective surroundings of the organism (vice psychological environment of its life space) and perceptual processes utilized cues or information coming from that environment.

> Both historically and systematically psychology has forgotten that it is a science of organism-environment relationship, and has become a science of the organism … Our point, then, is to restore or establish the proper equality or standards in the treatment of organism and environment – that is, the equality of subject and situation (or object) in which equal justice is done to the inherent characteristics

> of the organism and of the environment. (Brunswik 1957, 6; quoted in Bonnes and Secchiaroli 1995, 25).

James Gibson (1977, 1979) subsequently contended that perception was a holistic, molar, direct and immediate process in which subjects extracted 'environmental stimuli' consisting of patterns of meaningful information rather than separate points of stimuli that were retrospectively interpreted or reconstructed. In this manner, human beings actively and adaptively extracted "affordances" from stimuli that were present, available, and meaningful for the percipient. "The affordances of the environment are what it *offers* the animal, what it *provides* or *furnishes,* either for good or ill … It implies the complementarity of the animal and the environment …" (Gibson 1979, 127; quoted in Bonnes and Secchiaroli 1995, 30). The information structures extracted from environmental stimuli were present in ambient arrays of suitably equipped and active organisms that specified surrounding objects and surfaces. Perception was an adaptive function with a close relationship between "ambient vision" and locomotion. Of note, Gibson – in direct opposition to Kant -- believed that we acquire our notion of space as consequent vice precedent of the perceptual process:

> The doctrine that we could not perceive the world around us unless we already had the concept of space is nonsense. It is quite the other way around: we could not conceive of empty space unless we could see the ground under our feet and the sky above. Space is a myth, a ghost, a fiction for geometers. (Gibson 1979, 3; quoted in Bonnes and Secchiaroli 1995, 30)

Instead of stimuli or inputs with added meaning compiled by an organism's cognitive constructions, Gibson pointed both ways to observer and environment. Perhaps Gibson's greatest insight was replacing the stationary observer with an active perceiver with access to dynamic information that is adaptive and does not need to be supplemented in order to account for our experience of being in the world (Good and Still 1989). What was perceived was a possibility of action in relation to an organism's current state; persistence and change replaced

being and form or space and time as experienced directly through intentionality and social affordances (Reed 1996). For Gibson, meanings were directly perceived from the environment in relation to the properties of functional invariance which the objects themselves presented. The concept of affordances bridged the peculiarity of environmental objects and correspondence between them and expectations/hypotheses of individuals who behaved in relation to those objects and perceptions. "Affordances are properties of things *taken with reference to an observer* but not properties of the *experiences of the observer.* They are not subjective values" (Gibson 1979, 137; quoted in Bonnes and Secchiaroli 1995, 30). Though Gibson treated environment as it existed for humans as an animal species vice a cultural society, Neisser's (1976, 1987, 1993a, 1993b) later distinctions between perceptual-visual processes (seeing) and perceptual-cognitive processes (thinking, categorizing) applied and extended Gibson's theories in the broader context of the cognitive revolution.

Our perceptual experiences and cognitive representations of the physical environment are also infused with sociocultural relationships, expectancies, activities, and knowledge of past places and spaces. Besides incorporating perceptual and conceptual inputs, a cultural psychology of space must encompass simultaneous evaluations of social actions and intentions, interactions with social others, and application of socially appropriate rules and behaviors. Early theorists examining situations and situational aspects of human thinking were influential in formulating units of analysis that combined perceptual and ideational contents with the social milieu in which all human thinking and action takes place. Those efforts viewed situations and situational conditions as part of a continuously ongoing, reciprocal interaction process between individuals and the "as it is" versus "as it is perceived" environment. Thus, Koffka (1935) distinguished between geographical environment and behavioral environment, Murray (1938,

1951) differentiated between alpha situations and beta situations, and Magnusson (1978) separated objective versus subjective environment. Lewin (1936) called the perceived environment a human being's "life space" while acknowledging both general and momentary situations, Tolman (1951a, 1951b) dubbed the perceived environment immediate behavior space, and Rotter (1954, 1955) labeled and provided the first comprehensive treatment of the psychological situation. Other contributors examining actual versus perceived environments and the importance of situations included Thomas (1927, 1928), Cottrell (1942), and Sells (1963a 1963b). Erving Goffman (1959) further provided a dramaturgical perspective that focused on plots, subordinate parts, roles, audiences, etc. while exploring frames of analysis and face-to-face communications. Sociologists, psychologists, and anthropologists thus began focusing on situations as parts of the total social world that an individual can perceive, experience, and interpret as having reference to himself and his behavior. Rather than passive object for environmental forces, an individual's perception and cognitive evaluation of momentary situations, stimuli, and events was determined by a persistent, integrated system of abstractions and conceptions of the world, including self-conceptions. According to David Magnusson,

> We live in a total environment that forms a complex system of physical-geographical, biological, social, and cultural factors that interact continuously with each other and with the individuals involved. It can be considered on a continuum ranging from a macrolevel to a microlevel or ordered along a dimension of its proximity to the individual perceiving it and acting in it. The environment influences individuals in many ways, directly and indirectly. It is fundamental … that the environmental influence on individual development and on actual behavior is always mediated via actual situations. It is in actual situations, with their physical-geographical and biological characteristics, that the cultural and social characteristics of the total environment are reflected and can be experienced by individuals. However, it is not just the information offered directly in specific situations that constitutes the environmental influence. Indirectly, great influence is also exercised by the cognitive structures, contents, affective tones, and coping strategies characteristic of an individual's conceptions of the total world and formed in earlier confrontations with various environments. In some sense, past environments are also present. And the norms, values, goals,

> paths and other factors that determine the behavior of individuals in a given situation are embedded in and determined by the social and cultural environment at more distal levels. (Magnusson 1981a, 3)

In situational analysis, having an understanding of an individual's conception of the world and an understanding of his or her perception and interpretation of the specific situation in which the individual finds itself makes it possible to understand his or her actual behavior in that situation (see also Argyle, Furnham, and Graham 1981). For Magnusson (1981b), the typical constituents or characteristics of a situation included degrees of complexity, clarity, strength, promotion versus restriction, tasks, rules, roles, physical settings, and other persons. In terms of person-bound properties, situations also included goals, degree of perceived control, expectancies, needs and motivations, and affective tones or emotions (Ibid, 19-20). In this manner, the processing of situation perception and situational information was transformed into inner and outer actions (Magnusson 1981a, 5). Moreover, an individual's unique pattern of stable and changing behaviors across situations – its cross-situational profile – became part and parcel of that individual's cultural being.

> … Situations are essential in a developmental perspective. It is in actual situations that we meet the world, form our conceptions of it, and develop our specific kinds of behavior for dealing with it. Situations present, at different levels of specification, the information that we handle, and they offer us the necessary feedback for building valid conceptions of the outer world as a basis for valid predictions about what will happen and what will be the outcome of our own behaviors. By assimilating our knowledge and new experiences in existing categories and by accommodating old categories and forming new ones, each individual develops a total, integrated system of mental structures and contents in a continuous interaction with the physical, social, and cultural environment. On the basis of and within the limits of inherited dispositions, affective tones become bound to specific contents and actions, and coping strategies develop for dealing with various kinds of environments and situations in a continuously ongoing learning process. Thus, physical, biological, social, and cultural aspects of the environment that an individual encounters in the course of development are of decisive importance for the development of his more permanent ways of conceptualizing and dealing with the actual world. (Magnusson 1981b, 9)

Comparing Magnusson's rendering of situations to Erving Goffman's (1959, 1974) enactments and Victor Turner's (1975) liminal or transitional times in social dramas, Lawrence E. Sullivan remarked on the existential quest to "… prize the particular, to treasure the actual. Ironically, it is the actual, the particular person and experience which yields awareness even of the enormity and wholeness of the cosmos, of the contrastive infinite. The actual situation, as Magnusson terms it, may be unique and miniscule compared to the enormity of the total environment, but it is the place and occasion where that totality is encountered, conceived of in awareness. Not unlike, again, Herman Wouk's 'Second Big Bang', the drama of particular human perceptions which render the world significant." (Sullivan 2017, personal communication)

Subsequent practitioners of situativity theory, situated cognition theory, or other positions reflecting the fundamentally social nature of learning and cognition have examined the comprehensive and complex interrelationships of all aspects of human cognitive engagement with our worlds (Kirshner and Whitson 1997b). For we are engaged as individuals as well as socii in the worlds of each other and of things that surround us in concrete social and material situations – that is, we form ourselves in part through cognitive and transformative engagement with each other, our surroundings, and our situated practices. More recent situated cognition theory blends traditions of anthropology and critical theory (Lave 1988, Lave and Wenger 1991) with Vygotskian sociocultural theory (Vygotsky 1978; Wertsch 1985, 1991; Cole 1988, 1989, 1995a, 1995b, 1996) in examining the problem of context as well as relations between persons, social world, and activities. Recognizing the essentially social and situated nature of human cognition, theorists have struggle to overcome the central philosophical assumption and functionalist belief in mind-body dualism that treated the world of a person's ideas, beliefs, and knowledge as autonomous and disconnected from bodily (lived) experience and sociocultural

context in favor of abstracted contemplative activity (Lave 1988). In contrast, as previously noted, Vygotsky and adherents of the sociohistorical school explored processes that reproduced themselves across generational boundaries. Hence, Leontiev (1978, 1981a; Leontiev and Luria 1956) focused on appropriation of cultural tools as an alternative to the intra-psychological focus of internalization. Through adoption of spatial terms such as the "zone of proximal development," sociohistorical theorists broke out of the focus on individuals by emphasizing structures and interrelationships within activity systems and by linking communities of practice to broader social and political analysis. Lave's critical anthropology (1988) was informed by Bourdieu's (1977, 1984) theories linking locally conceived activity to broader social and political institutions by distinguishing (fields and) arenas from settings and relating them to each other. Opposing subject-object dichotomies prevalent in classical theory, Lave attempted to accomplish a new synthesis by framing individual and context as mutually constitutive or dialectically related in the same unit of analysis. Our cultural experiences, beliefs, customs, symbolic conceptions, and practices informed and regulated situations while interconnecting them to wider activity networks instantiating circumstances of daily life. As Lemke observed:

> This linking of text to text and situation to situation is not an entirely *ad hoc* process. There are a small number of systematic principles in our own culture that underlie the kinds of connections we are more or less likely to make. We make these in common with others who share typical trajectories with us, and we may differ in this way from those with other life experiences. In this way, culture, which extends across situations and activities and which characterizes communities without necessarily being the same for all castes or individuals within a community, finds its way through us into the activity of the moment. Of course, we are not the only participants in activity; our tools, our texts, our symbolic productions of many kinds also embody this wider context of culture. For them, too, there are networks of activities that lead to other sites, other events, that are relevant for here and now because what happened there and then is embodied in these present nonhuman participants. (Lemke 1997, 50)

Among the most influential thinkers for social theorists was Kurt Lewin, whose "field theory" sought to explain behavior in relation to the "situation" in which it occurs. In postulating his "psychological ecology," Lewin defined the "life space" of the person and the psychological environment as it existed for him or her; a broader social and physical environment that does not affect the life space of an individual at that particular time; and a 'boundary zone' where aspects of the physical and social world do directly affect the life space in that conjunction of time and space. For Lewin, both the physical and social environment became influential factors for explaining psychological phenomena, as did the "life history" of a person whose boundary zone was constantly changing (Lewin 1936; Lewin 1951; see discussion in Bonnes and Secchiaroli 1995, 20-58). Still, the situation was an aspect of psychological field defined not in objective-physicalist terms but rather in how it existed for the person at a given time. While Lewin maintained interest in the physical and social characteristics of the environment, to include Brunswik's 'probabilistic judgment', his emphasis was on the phenomenological viewpoint and pre-eminence of perceived over physical-objective reality.

Roger Barker, a student of Lewin who was trained in Lewinian field theory and psychological ecology, incorporated these principles into his establishment in 1947, along with his colleague Herbert Wright, of the Midwest Psychological Field Station in Oskaloosa, Kansas. In eschewing experimental laboratory methods, Barker created his theorization of "ecological psychology" via naturalistic (vice induced) observation and description of the (molar and) supra-individual unit of analysis he dubbed the "behavior setting": the assembly of (bounded) physical space, physical objects, a setting "program" (sequences, social components), persons, patterns of behavior, and the spatial-temporal characteristics concomitant with those behaviors (Barker 1968). More recent iterations of Barker's 'ecological psychology' by Wicker (1981, 1987),

Schoggen (1989) and Fuhrer (1990) have revised the "behavior setting" construct to incorporate the Lewinian phenomenological-subjective perspective absent from Barker's initial construct, to include renewed attention to cognitive processes, interpretations, and social representations by subjects within the supra-individual unit of analysis. Barker's successors have also placed more emphasis on relationships between different behavior settings, the denotative and connotative meanings permeating settings, the social constructive nature of such settings continually being built and rebuilt through deliberate actions, and elements of stability as well as flexibility, change, and internal differentiation. Barker proposed naturalistic observation as his exclusive method in which the researcher was a 'transducer' and not an 'operator' or participant. As supra-individual units, behavior settings included particular patterns of behaviors, certain spatial-temporal characteristics concomitant with those behaviors, and persons behaving within them. These physical properties, persons, setting programs, and in-out movement of participating individuals were constituents in a rigidly organized environment or setting in which observed behavior was found and explained. The term "setting" would be used by later interpreters to refer to organized socio-physical properties of the context of individual action capacities to direct the behavior of participants.

Eschewing the quest for context-invariant mechanisms better characterized as physiological dispositions, Urie Bronfenbrenner (1979) embraced an ecological approach to cognition that sought to recast the relationship between a subject and his/her physical and sociocultural environment. While incorporating Mead's role theory (1934) and Thomas's "definition of the situation" (1927), Bronfenbrenner applied Lewinian theory and "psychological ecology" to child development and social change in elaborating his "ecology of human development." As previously noted, Bronfenbrenner conceptualized multi-person systems of

interaction into a broader "ecological environment" conceived as a vested arrangement of structures each contained within the next: the "microsystem" (complex of relationships between a person and environment in the immediate setting containing the person – place, time, physical features, activity, participants, roles): the "mesosystem" (interrelations between two or more settings in which a person actively participates); the "exosystem" (one or more settings that do not involve the person as active participant but include events that affect or are affected by the person's setting); and the "macrosystem" (consistencies in form and content of lower-order systems at the level of subculture or culture as whole, including belief systems or ideology) (Ibid; see also Bonnes and Secchiaroli 1995, 53-58). Within the microsystem, "A setting is defined as a place with particular *physical features* in which the *participants* engage in particular *activities* in particular *roles* for a particular period of *time.* The factors of place, time, physical features, activity, participant, and role constitute the *elements* of a setting" (Bronfenbrenner 1977, 514; cited in Bonnes and Secchiaroli 1995, 54). Overall, Bronfenbrenner attempted to reformulate the problems of psychological ecology identified by Lewin into a systemic perspective that conceptualized person, environment, and their interrelations in terms of systems and subsystems. Each of these various theorists – Lewin, Barker, Bronfenbrenner – captured and expanded upon aspects of the physical, personological, social, material, programmatic, and multi-setting aspects of person-environment interactions in particular situation-based contexts. While deficient in various aspects, their pioneering efforts reinforced that individual minds constantly interchange with a multi-faceted environmental "space" influencing the contents and contexts of thought.

In the latter half of the twentieth century, the nascent field of environmental psychology developed out of late 1950's / early 1960's interest in the psycho-physical environment as well

as later explorations into the interface between human behavior and sociophysical contexts. Operating on the margins of mainstream general psychology, both ecological and environmental psychologists conducted interdisciplinary research into phenomena such as situations and settings, spatial behavior, cognitive maps, behavioral geography, environmental perception, time geography, environmental evaluation and knowledge, affective characteristics of built structures, environmental stimuli (such as light, noise, stress, etc.), and conceptualizations of "place" (See Stokols and Altman 1987; Garling and Golledge 1993; Bonnes and Secchiaroli 1995; Golledge and Stimson 1997). The study of environmental perceptions was considered in light of the cognitive activity persons carried out in elaborating spatial information. As Kevin Lynch explored in *The Image of the City* (1960), people formed 'mental images' of their surroundings and the 'social imagability' (Stokols 1981) of such cognitive representations (Farr and Moscovici 1984; Russell and Ward 1982) of the sociophysical environment contributed to our accumulating encyclopedic atlas of 'where' and 'what' we encountered in locomotions in space and over time. The development of environmental knowledge resulted from information seeking and processing with respect to goals, implicit theories, and images that were guided by pre-existing knowledge structures or "schemata" (Neisser 1976). Individuals actively employed representational and symbolic frames of reference while negotiating both structure and change experienced via interactions within physical and social contexts. Representations of the external world were the outcome of constructive activity carried out by cognitive processes of individuals in context vice the result of autonomous mental functioning. People further formed cognitive maps in responding to and internalizing the spatial organization of the physical environment and transforming an 'objective' into a 'subjective' environment. Within environmental psychology, Gold (1980) explored "behavioral geography" with explicit recognition that human beings

shaped and at the same time responded to the environment in a dynamic correlation. Individuals were seen as motivated social beings whose decisions, behaviors, and actions were mediated by cognition of space. Behavioral geography or geography of perception was thus concerned with represented, perceived, or acted upon space at the level of individual and collective psychological processes while only indirectly conceptualizing physical-geographical space (see Bonnes and Secchiaroli 1995, 12-13).

Saegert and Winkel (1990) identified the co-existence of several paradigms in environmental psychology that were largely traceable to two previously-mentioned traditions associated with psychological research in conceptualizing physical environment in relation to psychological processes: (1) physical environment of psychology of perception with a physicalist-molecular and individualistic approach; and (2) physical environment of social psychology in both a molar and social sense in a psycho-social approach. Four paradigms emerged from these traditional approaches (the latter three being associated with the second, psycho-social tradition): (1) 'adaptation' or 'adaptive' paradigm; (2) environment as opportunity structures for goal-directed action, to include the "time geography" school at the University of Lund and its followers (Parkes and Thrift 1980; Carlstein 1982; Hagerstrand 1983) and time-budget studies in sociology (Andorka 1987; Michelson 1987), with little attention paid to individual psychological dimensions; (3) sociocultural forces, with person as social agent, emphasizing the relation between environment and group formation and maintenance; and (4) cross-paradigm historical synthesis.

Among historical syntheses, and of particular importance herein, was the development of transactional-contextual approaches in environmental psychology. Contemporary "transactional" approaches to subject-object relations were indebted in part to early efforts by the transactional

school of perception posited by scholars at Princeton University in the 1940's (See discussion in Bonnes and Secchiaroli 1995, 20-58). Adalbert Ames's (1955, 1960) first experiments in 1940s in this tradition were later followed by Princeton scholars Hadley Cantril (1950), Franklin Kilpatrick, and William Ittelson. Perceiver and reality were considered inseparably part of the same process or transaction, with no simple reciprocal modification or interdependence possible between them. In this regard, Kilpatrick (1961, 3; cited in Bonnes and Secchiaroli 1995, 34) criticized the 'objectivist' viewpoint common in psychology of perception (object to organism): "… Perception cannot be 'due to' the physiological stimulus pattern; some physiological stimulus probably is necessary, but it is not sufficient. There must be, in addition, some basis for the organism's 'choosing' one from among the infinity of external conditions to which the pattern might be related. Thus, any notion concerning a unique correspondence between percept and object must be abandoned, and a discovery of the factors involved in the 'choosing' activity of the organism becomes the key problem in perceptual theory." Ittelson et al (1974) similarly concluded that physical reality was the result rather than cause of perception with the explicative principle of every perceptual result being the individual's behavior in the environment, his/her activity oriented by goals. The perceiver was actively involved in the perceptual process vice a passive participant:

> By perception, then, is meant that part of the transactional process which is an implicit awareness of the probable significance for action of present impingements from the environment, based on assumptions related to the same or similar impingements from the environment … Assumptions function as probabilities which are built up by action, checked by action, and modified by action as the consequences of these actions are registered in relation to purposes. Taken together, our assumptions form our 'assumptive world' which we bring to every occasion and on which our perceptions are based; therefore, the only world we know is determined by our assumptions. (Kilpatrick 1961, 4; cited in Bonnes and Secchiaroli 1995, 34)

These transactional theorists sought to capture the relationship and exchanges between the subject and object of perception as inseparable parts of a single unit of analysis and measurement. Human beings entered perceptual processes with a history of previous perceptual experiences in specific cultural contexts, thus contributing to both the plasticity and constructive nature of individual perception. Later environmental psychologists such as Daniel Stokols and Shumaker (1981; see also Stokols and Altman 1987) resurrected the transactional approach by incorporating a distinctive psycho-social perspective into a "transactional-contextual" model re-composing the subject-object or person-environment dichotomy into interdependent aspects of the same socio-physical unit of analysis. These authors also recognized temporality and change as key aspects of person-environment transactions (Bonnes and Secchiaroli 1995, 152-163). Within the unitary person-environment unit of analysis, the person was viewed as dynamic (stability and change), intentional, goal-directed, socially driven, affective-emotional, and cognitively active in perceiving, representing, and imaging. For its part, the environment was conceptualized as incorporating settings and systems of settings, social and cultural dimensions, physical structures, and historical processes (Ibid). Although the early transactional school tended to be individualistic and idiosyncratic and did not emphasize socio-cultural inter-subjectivity, Irwin Altman and Daniel Stokols (Stokols and Altman 1987) later positioned the transactional orientation within a specifically psycho-social perspective. In the *Handbook of Environmental Psychology* (1987), Stokols and Altman expounded on the transactional-contextual approach in opposing both the behaviorist tradition (and environmental objectivism or reality of stimuli) and the subjectivist / individualistic, innatist, personological tradition within psychological research. In recomposing subject-object and person-environment dichotomies by considering their dynamic relations as interdependent (vice independent) aspects of the same

unit, Stokols and Altman embraced the convergence of situationist orientations in personality psychology; 'ecological' orientations from various psychological approaches (perception-cognition, social and developmental psychology, etc.); and the turn towards 'contextualism' and 'contextual' approaches in psychology (see Little 1987; Sarbin 1976; McGuire 1983; Veroff 1983; Georgoundi and Rosnow 1985).

Environmental psychology was also a principal driver in the move towards conceptualizing "places" as primary units of analysis in studies of human-environmental settings. Among leading theorists was David Canter, who identified three primary components of such settings: physical attributes, activities carried out there, and cognitive representations of those attributes and activities. Viewing environmental psychology as the study of situated human action, Canter (1977, 1983, 1986, 1988, 1996) postulated that people always situated their actions in a specifiable place and that the nature of place was an important ingredient in understanding human actions and experience. Human behavior was viewed as place-specific since behavior that occurred in one place would be out of place elsewhere. As molar units of environmental experience, places amalgated human activities, social situations, and physical forms while generating cognitive representations and affective reactions. For Canter, the three components of place -- activities, representations / conceptualizations, and physical properties – were distinguishable from behavior settings because they were not "created" by the investigator and had distinct evaluative and physical characteristics, and from situations because they had enduring presence and were intertwined with physical properties of their locality (Canter 1986, 8):

> Both behavior settings and situations occur within places. One place may house many of Barker's behavioural settings or of Argyle's situations, at the same or different points in time. It must be emphasized, though, that places are part of experience. They cannot be specified independently of the people who are experiencing them. The central postulate is that people always situate their actions in a specifiable place and that the nature of the place, so specified, is an

> important ingredient in the understanding of human actions and experience. (Canter 1986, 8)

Canter's formulation of places was distinct from the phenomenological treatment of places by humanistic geographers such as Buttimer and Seamon (1980), Relph (1976), Tuan (1977), and Norberg-Schulz (1980) who also identified with the environmental psychology enterprise. Whereas the latter theorists emphasized the immediacy, essential character, rootedness, spirit of place, sense of locality, and embedding of human intentionality in affective place attachments (see also Altman and Low 1992), Canter's theorization gave particular attention to cognitive representations of surrounding environment; connections between cognitive systems, affective reactions, behaviors, and physical characteristics of the environment; and evaluative and purposive actions carried out in environments (See also Russell and Ward 1982 on the place-specific character of human behavior).

Coincident with Canter's research, Stokols and Shumaker (1981) conceptualized places as physical and symbolic contexts of human action, the composite of behavior-shaping forces as well as material and symbolic products of human action. Places were thus viewed as relational entities between physical properties (including architectural-geographic milieu), aspects of meaning, and activity systems. In attempting to recompose objectivist versus subjectivist dualisms, Stokols and Shumaker (1981) also sought to overcome individualistic tendencies within environmental psychology that focused on cognitive maps, cognitive representations, environmental knowledge, social imageability of places, and dimensions of functions, goals, and evaluations driven by individuals as social and environmental agents. In contrast, Stokols and Shumaker's "place dependence" construct emphasized 'shared' components of the bonds between people and places. Proshansky (1978), Proshansky et al (1983, 1987), and Proshansky and Kaminoff (1982) elaborated the concept of 'place identity' to refer to the role of physical

environment in personal identity. In this formulation, the subjective sense of self was defined and expressed not simply by relationships with other people, but also by one's relationships with physical settings (objects and things, spaces and places) defining and structuring day-to-day life. Places carried out critical roles in the satisfaction of biological, psychological, social, and cultural needs of persons in situations faced over a lifetime, and served as meaningful reference points in identity definition. Place identify was formed and elaborated by thinking, speaking, and reflecting about places over the life course. It was the perceiving and knowing component of self specifically defined through interaction with physical environments – what Neisser (1988, 1993a) called the "Ecological Self." As such, a person's place identity was a sub-structure of self-identity consisting of broadly conceived cognitions about the physical world in which the individual lived. Encompassing one's environmental past and accumulated system of references regarding environmental experience structured over time, place identity also involved both stability and dynamic change. Through an endless variety of cognitions related to past, present, and anticipated physical settings defining and circumscribing daily existence in meaningful environments, place identity incorporated culturally transmitted understandings about how to behave and what to expect from specific settings and their symbolic and affective associations (Proshansky et al 1983). For no physical environment existed that was not also a social environment; and while physical and objectively real, settings were tied to the social and cultural existence of a group. As Csikszentmihalyi and Rochberg-Halton (1981) probed in the relation of people to things and artifacts, to include the place-home, and Codol (1980) articulated via identity experienced as continuity of self and the synthesis of all cognitions relating self and objects of the physical and social world, we were never alone or apart – in embodiment, thought,

emotion, or sociality – from the edifices, belongings, and socio-material ecology of our built and unbuilt environments.

While human beings are not the only creatures that build – indeed, all living things organize space and are organized in space – the construction of our built – and even un-built – environments involves conceptual and symbolic dimensions that exceed basic requirements of material shelter, refuge, transit, or biological need. As implied in the very term *archi*tecture, the human built environment is a product and process of psychological phenomena that define us as unique creatures inhabiting unique habitats in a socio-physical landscape that we both transit and transform through our human engagements and alterations. In a meaningful way, the human-built environment relationship is emblematic of our primal struggles to conceptualize and collapse haunting dualisms (form and content, mind and body, subject and object, person and environment) that cultural psychology as a renegade discipline was created to overcome. For a cultural psychology of space entertains how architectural styles, physical structures, human settlement design, and material artifacts – i.e., the built environment that human beings are perpetually transacting with – embed culturally significant spatiotemporal signatures that directly and indirectly influence human psychological functioning (See, for instance, Rapoport 1990a, 1990b; Quantrill 1987). Indeed, scholarly writings on architecture, material culture, and collecting have mined the role of physical objects in the human-built construction of symbolic worlds organizing meaning and displaying collective memory products that instantiate the collective social life of communities (see, for example, Csikszentmilhalyi and Rochberg-Halton 1981; Pearce 1995). Similarly, psychoanalytic approaches to "transitional objects" have provided insights into how individual minds use artifacts to facilitate psychodynamic changes in psychological states and modes of being (Winnicott 1971). Overall, artifacts and artifactual

productions in the built environment organize the spatial environment and canalize symbolic representations while transcribing onto the physical world mnemonic cues and temporal identifiers of embodied human history. In this regard, landscapes record the work of cultures and the products of human minds in time-space signatures of both endless change and vestigial perdurance. In a cultural psychology of space, mind and built environment, psyche and culture, are more than inside-outside or internal-external interlocutors constantly and dynamically transacting with one another; rather, they are part of the same perceiving, conceiving, and doing process whereby cultural denizens think, sense, move, dwell, rest, emote, and socialize in the world.

In his studies of built environments, Amos Rapoport (1980, 1990a, 1990b, 1994) used the term "settings" as a combination of Barker's (1968) notion of behavioral settings as well as Goffman's (1959, 1974) dramaturgical notion of role setting. For Rapoport, setting was a milieu which defined a situation and reminded occupants of appropriate rules and behaviors in order to make co-action possible. Such settings and the activities enacted within them were connected in systems linked by regularities, usage patterns, behavior circuits, and meanings. Containing fixed-feature elements, semi-fixed feature elements, and non-fixed feature elements, built environments and their systems of settings were the result of highly culture-specific and time-specific processes (for examples of built environments in non-Western societies, see Littlejohn 1967; Tambiah 1973; Bourdieu 1973; Rykwert 1980; Wheatley 1971). Relationships between cultural behaviors and built environments were manifested in situations, rules, appropriate behaviors, signs, mnemonics, behavioral repertoires, and culture-specific communication cues that required decoding. Rapoport posited that built environments involved the organization of four elements: space, time (sequencing, rhythms), meaning, and communication. As the scale,

size, complexity, and heterogeneity of built environments increased, stronger and more numerous cues were needed to ensure redundancy and clarity in purpose and utility. An expression of built environment in the cultural landscape, architecture enclosed and loosely contained human behavior, but activities occurred in systems of settings vice architecture itself. Yet, built environments were not merely containers for culture but were also actively used by people in the context of cultural processes. For Umberto Eco (1980), architecture was part of the semiotic universe containing a language of significative forms; codes worked out on the strength of inferences from repeated usages; structural models of given communicative meanings and functions; systems of relations embedding successive simplifications; and denotative and connotative meanings attached to sign vehicles. For Eco, the architect faced the likelihood of his or her work being subject to a variety of readings via vicissitudes of communication and variable primary functions and open secondary functions.

Space was culturally classified and socially regulated and the built environment was a physical expression of spatial organization made visible. The cognitive organization of space typically preceded its material expression: that is, settings and built environments were thought before they were instantiated or built. Conceptual organization thus preceded building – sometimes, as with Australian Aborigines, such organization may not even be built – and the ways space was organized at different scales could be understood as physical expressions of cognitive schemata. As noted by Rapoport in his treatment of spatial organization and identity,

> Cognitive schemata are culture-specific and are fundamental to spatial organization. They underwrite the areal classification into cognitive domains, the boundaries that surround them and the rules that apply therein. All else follows. Once cognitive domains are known or expressed through the natural or built environments, then they might be decoded, so that the underlying schemata are reproduced in the form of cognitive 'maps' (or 'mental maps') by observers and users. (Rapoport 1994, 484)

Alternatively, Preziosi (1983) suggested that we build in order to think. Towards that end, Norberg-Schulz (1971) noted that through creating and naming cultural artifacts, undifferentiated space was transformed into marked and delimited place as culturally constructed elements of landscape were transformed into material and permanent markers and authentications of history, experience, and values (see also Pearson and Richards 1994). As cultural rules changed, so did the activities appropriate to various settings. And what happened in one setting may have depended on what happened in others. Additionally, the same space could become different settings at different times as social groups and individuals arrived and introduced various chronogeographic paths and projects (Parkes and Thrift 1980 etc). As we have already seen, humans (like other animals) possess cognitive schemata or 'maps' of their lifespace with territories, barriers, and paths organized in relation to considerations of hierarchy and status as well as distributions of resources and predators. Thus, the built environment concretized differences in privacy domains, access patterns, degrees of penetration, boundary regulation, and route control (see Altman 1975). As space was segmented and marked, locations were differentiated then organized into systems. Boundaries might be selectively permeable, but they instituted cultural rules about who belonged (inclusion and exclusion); who had access; who did what, where, and when; and who controlled resources. Furthermore, built environments were closely associated and aligned with cultural variations in orientation, wayfinding, and navigation.

In *Mind in Architecture: Neuroscience, Embodiment, and the Future of Design*, Sarah Robinson and Juhani Pallasmaa (2015) cited John Dewey's emphasis on bodily experience as the primal ground for everything we think, know, mean, or communicate. Embodiment was central to architecture's role in shaping whom we are and what we might become:

> All human endeavors depend upon our brains functioning as organic members of our bodies, which are in turn actively engaged with the ecological, architectural,

> social, and cultural environments in which we dwell. Embodiment calls for a far-reaching reconceptualization of who and what we are, in a way that contradicts much of our Western philosophical and religious heritage. To accept that our minds can include aspects of our physical and cultural environments means that the kinds of environments we create can alter our minds and our capacity for thought, emotion, and behavior. Such an assertion undermines the certainty of our ontological categories – the dichotomies that separate the inside from the outside and the subject from the object are not distinctions of kind as much as they are abstractions that arise from our ongoing interaction in the world. The notion of a separate self that operates in isolation from its environment in thus tossed into the wreckage of an outworn paradigm. (Robinson 2015, 3)

Psychologist Mark Johnson similarly cited Dewey's *Art as Experience* in exploring a living organism's ongoing interaction with its complex environments: "Life goes on in an environment; not merely in it but because of it, through interaction with it" (Dewey1934, 13; cited in Johnson 2015, 34). For Dewey, situations were marked off by their "pervasive unifying quality" through selective determination, referencing, and relations with objects of thought. The qualitative unity of any situation involving encounter with an architectural structure began with the felt qualitative sense of its whole situation, prior to analysis of specific parts.

> We live and become what we are only in and through our engagements with our many environments. All our perceptions, feelings, emotions, thoughts, valuations and actions are thus consequent on our embodied transactions with our physical surroundings, our interpersonal relations, and our cultural institutions and practices. Our capacity to experience, make, and communicate (share) meaning is not just a result of the makeup of our brains and bodies, but depends equally on the way our environments are structured" (Johnson 2015, 34)

Further, since the meaning of any object, quality, event, or action was what it pointed to by way of some experience, the relational meaning of an architectural object related to the possible experiences it afforded us. Psychologist Lawrence Barsalou (1999) coined the term "perceptual symbols" for sensory-motor-affective representations through which we experienced, understood, and thought about physical objects in the environment. Johnson hypothesized that "architectural structures are experienced by humans as both sense-giving and signifying. That is,

architectural structures present us, first, with a way of situating ourselves in, or being 'at home' in, and making sense of our world, and, second, they provide material and cultural affordances that are meaningful for our survival and flourishing as meaning-making creatures" (Johnson 2015, 40). Thus Johnson articulated the need for an embodied view of mind and meaning to appreciate the significance of architecture since every architectural structure presented us with a felt qualitative unity as well as particular affordances. It was thus incumbent to learn the meaningful affordances of particular kinds of containment structures in relation to our bodily makeup, needs, desires, and ideals. Bound up with our postured experience of verticality, motion, balance, and affect, architecture not only possessed a representative or expressive function, but also creatively transformed the conditions of human habitation and interaction.

In returning to our contention that cultural psychology of space involves ongoing interplay of person and environment in the emergence of content-filled forms mediating between structures of mind and processes in the external world, it is clear that the latter involves other people, objects, social situations, physical-architectural-built spaces, and programmatic scripts and rules. By examining person-environment as a dynamic, transactional dyad, we problematize the meaning of "environment" itself conceived in totalistic contextual terms. Significant insights provided by researchers in the psychology of perception as well as select social theorists lend a greater appreciation for the challenge of fully accounting for the socio-physical contexts of thought. Ultimately, human mental processes are situated in places having specific characteristics and affordances that scaffold and facilitate the contents, patterns, and practices of our thinking and doing. Beyond mere metaphor, people externalize their thoughts while drawing from prescribed rules and expectancies as well as learned behaviors and intentional actions taking shape in settings with built and un-built architectural styles to construct those content-

filled forms of spatial behaviors and strategies permitting us to navigate our world. Transiting systems of settings in our daily routines, we create meanings in our sojourns by associating places with affective valences while tapping environmental knowledge and memories to inform the contents of our sensory, perceptual, and representational constructions of space.

THE PHILOSOPHY OF PLACE

SECTION NOTE: Celebrating the fate of time and space as transcendental absolutes and coordinative intuitions structuring our sensibility via perennial co-specification in concrete, lived human history, this section proposes "place" as a preferred term for an individual's embodied, content-filled experiences of the world. This peremptoriness of place in all human modes of thinking reinforces Kant's and Shweder's claim that form and content are irrepressibly fused in our empirical sensations, mental conceptions, and sociocultural interactions. While "space" has typically been viewed as extensive, undifferentiated, and infinite, "place" has been seen as local, differentiated, and delimited. For Malpas, human identity is inseparably bound up with location and place is a precondition for the very possibility of subjectivity. Malpas' philosophy endorsed Bachelard's topoanalysis in which spaces of mind and world are transformed into one another as inner space is externalized and outer space is brought within the sphere of mental contents. Rather than appropriation of space with affective components, place serves as a region of bounded activity within which parts or elements are interconnected and juxtaposed. Finding place is a matter of finding ourselves embedded, situated, and engaged in a world of other subjects, objects, and surroundings. For Casey, where we are has everything to do with what, who, and that we are since a person's locus deeply influences what he/she perceives and

anticipates. In Casey's theorization, place is the phenomenal particularization of being-in-the-world, ingredient vice subsequent to perception, a first among equals, *primus inter pares,* because to be in the world, to be situated at all, is to be implaced. In Casey's experiential topology, space and time come together and are co-specified in the common matrix provided by place. Remarking on our unceasing specificity, Casey noted that even on the hoof, we remain in place, for we are never anywhen or anywhere. Casey avoided the choice between "bloodless universals" and "substantive identities" by posing that place is a concrete universal having no life apart from its contingent circumstances. Encompassing both enculturation and emplacement, the human body is the medium for rethinking how local knowledge comes down to an intimate understanding of what is generally true in the locally obvious. Contending that place is *a priori* and opposing the belief that thinking and speaking are wholly unaffected by locality, Casey reconstrued knowledge as placial vice propositional since place is already plenary presence permeated with culturally constituted institutions and practices. The philosophy of place reminds us that our minds are always situated in specifiable places that are determinative for who, what, how, and why we are.

Since the fate of time and space as transcendental absolutes and coordinative intuitions structuring our sensibility is perennial co-specification in concrete, lived human history, "place" has become a preferred term for an individual's embodied, content-filled experiences of the world. This peremptoriness of place in all human modes of thinking reinforces Kant's and Shweder's claim that form and content are irrepressibly fused in our empirical sensations, mental conceptions, and sociocultural interactions. Given the proliferation of writings on place and space over the past several decades, there is inevitable terminological confusion depending on

intellectual outlook or agenda. In general, space is typically viewed as extensive, undifferentiated, absolute or abstract, mathematically measurable or infinite, homogenous, and continuous. In contrast, place is seen as particular, specific, local, differentiated, heterogeneous, and delimited. Recalling Kant's contention that space and time are inherent fundaments of mind required for experiencing the world and Geertz's admonition that becoming human is becoming individual under the guidance of cultural patterns, we find frequent corollaries to basic space-place differentiation. For purposes herein, place can be understood as "meaningful location" through its gathering together of location ("where"), locality (material visual setting for social relations), and 'sense of place' (subjective and emotional attachments, investments of meaning) (Agnew 1987; Cresswell 2015). Returning to Kant's and cultural psychology's contention that our "psychic unity" consists of shared mental inheritances and psychobiological dispositions for perceiving/conceiving and interpreting the world, we can restate the criticality of cultural experience (i.e., the substance and content of our activities) in mediating between plastic structures and forms in mind and dynamical regularities in the environment. For as Shweder et al noted, "People do not live generally or in the abstract. They always live according to some specific and substantive set of cultural understandings (goals, values, and pictures of the world)" (Shweder et al 2006, 754). Or as Geertz penned, "what man is may be so entangled with where he is, who he is, and what he believes that it is inseparable from them" (Geertz 1973, 35). In other words, while we may conceptualize space as abstract or absolute in our intellectual reflections, we actually experience the world through places and their interrelationships. Moreover, several ancient and contemporary philosophers – presaging the basis for our cultural psychology of space and perhaps even an environmental ethic – have argued that place rather than space is the primary human condition and manner of human being-in-the-world. The

emergent habitation of such multisensory and navigable place is akin to the elusive 'present moment' or temporal horizon of eliding retentions and protentions that structure the contents of our ever-changing past-present-future selves.

For philosopher Jeff Malpas (1990, 1998, 2006), human identity is inseparably bound up with human location. Unlike externalist theorists of mental content propagated by some American and British philosophers suggesting that the concept of person was inseparable from environment, or even Ludwig Wittenstein's view that beliefs, desires, and other attitudes were determined, in large part, by physical and social surroundings in which an individual person was located, Malpas claimed that the human relationship to place is a fundamental structure in what makes possible the sort of life characteristically human. Place was neither a spatiotemporal location nor a subjective construct, but that wherein the sort of being that is characteristically human has its ground. Positioned between an objective pole of scientific theorizing and a subjective pole of empathetic understanding, places were internally differentiated and interconnected in terms of its elements, but also between places or the nesting of places in memory. Malpas' philosophy represented a return to experienced actualities of place and its heterogeneous, concrete, and specific aspects. Drawing inspiration from Plato's and Aristotle's concepts of *chora, topos,* and *locus*, Heidegger's notion of *dasein* and being-in-the-world, and Merleau-Ponty's phenomenology of embodiment, Malpas embraced the conviction that the very structure of mind is tied to locality and spatiality. Malpas also endorsed Gaston Bachelard's (1994) celebration of place (topophilia) and investigation of places (topoanalysis). For Bachelard, the life of mind was given form in places and spaces in which human beings dwell and those places themselves shaped and influenced human memories, feelings, and thoughts.

Thus, spaces of inner and outer, mind and world, were transformed into one another as inner space was externalized and outer space was brought within the sphere of mental contents.

For Malpas, attempts to rehabilitate the concept of place by treating it as specifically human appropriation of physical space (usually with subjective, emotional, affective components) remained within the same framework evident in Einstein's and Jammer's (1993) formulations, since place was derivative of space. Such ill-advised rehabilitation attempts simply conjoined the idea of part of objective space with the notion of some emotional or affective quality without explicating place as its own concept. Similarly, staying within a Cartesian-Newtonian framework only permitted understanding place as simple modification of space (i.e., 'location' within an extended spatial realm or region within such a realm) or modification of space with emotional feelings attached. Ultimately, for Malpas, objective space cannot be derived from subjective place. The structure of a particular region was not structure of an extended, measurable domain, but rather structure of an open space of activity that was also bounded, focused, and oriented. This place served as open region within which a variety of elements were brought to light through mutual interrelationship and juxtaposition within that region. The structure of place was a possibility of thinking about subjectivity – of thought and experience – as essentially a function of place or locale (Malpas 1990, 1998). Human beings didn't simply impose meaning onto an otherwise objective, physical space; rather, they came to understand subjectivity through interconnections and interrelationships between parts or elements. Finding place was a matter of finding ourselves. Opposing the views of Entrikin (1991) and others who emphasized the experience of place, Malpas approached place as a structure within which experience, action, thought, and judgment was possible: "To be a creature that can have thoughts, then, and that can have experience of a world, is not merely to be a

creature located in a physically extended space, but rather to be a creature that finds itself always located within a complex but unitary place that encompasses the creature itself, other creatures, and a multiplicity of objects and environmental features" (Malpas 1990,157). Memory was bound to place, to particular places, and a function of the way subjectivity was necessarily embedded in place and in spatialized, embodied activity. Thus rather than viewing place as subjective appropriation of space, Malpas viewed place as a precondition for the very possibility of subjectivity. In this formulation, place was primary: it was a structure within which and with respect to which subjectivity was itself established. "Place is not found *on* subjectivity but that *on which* the notion of subjectivity is founded. Thus one does not first have a subject who apprehends certain features of the world in terms of the idea of place; instead, the structure of subjectivity is given in and through the structure of place" (Malpas 1998, 35). Human being was precisely a form of being-in that involved oriented, bounded location, for only if we have conception of space in which a creature is embedded as having a certain topography that marks particular features as salient can we make any externalist view of content plausible. And only if we can understand creatures as embedded in the world can we understand them as capable of thought (believing, desiring, hoping, etc.) or of purposive action. And only a creature that is oriented and located can relate to objects and to the world:

> This dependence of self-identity on place, derives, of course, from both the general characterization of subjectivity as a structure that is embedded in a world of other subjects and of multiple objects, and from the more particular way in which the mental life of the subject is dependent on the subject's active engagement with the surrounding environment and so on its situatedness within a particular place. The specific dependence of self-identity on particular places is an obvious consequence of the way in which self-conceptualization and the conceptualization of place are both interdependent elements within the same structure. Our identities are thus bound up with particular places or localities through the very structuring of subjectivity and of mental life within the overarching structure of place. Particular places enter into our self-conception and self-identity inasmuch as it is only in and through our grasp of, the places in

> which we are situated that we can encounter objects, other persons or, indeed, ourselves. (Malpas 1990, 177)

In Malpas' philosophy, temporality and spatiality were always given together in the unitary dimensionality of place in which we encountered the possibility of past and future, nearness and distance. Memory and identity were tied to spatiality, embodiment, and worldly location; so too were cultural memories always tied to landscape and physical environments. Citing Ricoeur (1981, 1985, 1988), narrative connected space and time as interconnected forms of dimensionality and provided a means to grasp and articulate unity of space or region, worked out in relation to spatial and topographic features. As narrative brought together the aporeitic character of time – i.e., dispersal into past, present, future, and the reconciliation of phenomenological with cosmic time – so too did narrative gather place. Malpas dubbed this inseparability of human identity, place, and locality "Proust's Principle" to capture the fragility and mortality of human life as it attached to places and spaces of human dwelling. "To be who and what we are is to be creatures whose located, spatialized existence brings death inevitably in its wake" (Malpas 1990, 193). Citing Proust and his *Remembrance of Things Past* (1932), Malpas contended that the search for time, for place, for life arose only as consequence of the inevitable experience of loss. Resolution of that distress was not found in an eternal mode of dwelling but through coming to better understand the densely woven unity of life lived and the places, people, sights, and sounds encountered. For only in the concreteness of embodied, located, bounded existence could we find value and significance of a life. This conjured experience of both the wonder and fragility of place, the experience of place lost and regained, and the experience of place as humanized and humanizing. Between Western themes of displacement (Bible) and rootedness emerged local knowledge as a third philosophy of place that believed immersion of oneself in what one most deeply felt (ala the Western Romantic tradition)

was a proven route to universal, transcendental understanding gained through meditation on the particularities of people, places, and things. The paradigm of places was sacred place, for example, Eliade's break in the homogeneity of space or Tuan's transformation of space into home or world. Or, as Holmes Rolston III noted, "Persons are consciousness *in place;* they always have a location. Persons are place become conscious of itself. In that sense, biography that is lived as historical geography is the only possible argument for life" (Rolston 1998, 296).

In *Getting Back Into Place,* philosopher Edward Casey (1993) confronted the threat of placelessness and its attendant separation anxiety while acknowledging life as series of separations (from parents, siblings, friends, regions). Indeed, Freud (1989), Bachelard (1994), Proust (1932) all suggested that to refind place (that we have always already been losing) we may need to return (at least in memory and imagination) to our very earliest places. As the most mobile of animals, we are beings of the between, always on the move between places:

> Despite the costly character of an accelerated life, it remains the case that where we are – the place we occupy, however briefly – has everything to do with what and who we are (and finally, *that* we are). This is so at the present moment: where you are right now is not a matter of indifference but affects the kind of person you are, what you have been doing in the past, even what you will be doing in the future. Your locus deeply influences what you perceive and what you expect to be the case. Even if you are merely 'passing through' an airport, this is so. Just to be there as a *passenger* already says a great deal about you. Your immediate placement – or 'implacement,' as I prefer to call it – counts for much more than is usually imagined. More, for instance, than serving as a mere backdrop for concrete actions and thoughts. Place itself is concrete and at one with action and thought. (Casey 1993, xiii)

For Casey, we do not live in space, we live in and are tied to place undetachably and without reprieve. Acknowledging the significant contributions of Heidegger (1971) and Bachelard (1994), Casey nevertheless criticized both for neglecting the human body. In Casey's theorization, we rely upon the specifying power of place to direct and stabilize us, to memorialize and identify us, to tell us who and what we are in terms of where we are (as well as

where we are not). To be in world, to be situated at all, is to be in place. As such, place is the phenomenal particularization of being-in-the-world (Casey 1993, xv). Casey thus privileged the ingrediency of place and the parameters of implacement such as dimension and directionality in our dwelling activities, our experiences of built and unbuilt environments, our forays into the 'wild' and 'wilderness', and our journeys between localities. Place was the first among equals, *primus inter pares,* because to exist at all (as a material or mental) object or as (an experienced or observed) event is to have a place – to be implaced, however minimally or imperfectly or temporarily. It was the limit and condition of all that exists. For there would be no creation without place since cosmogenesis was not from a no-place to place, but from less determinate to more determinate places. And there would also be no grasping of time without place since the latter situates the former by giving it local habitation.

> In the end, it is not a matter of having to choose between introspection and exteroception, Mind and Body, Time and Space, Self and Other, or even Place and Site. Thanks to the congenial matrix uncovered by topoanalysis, we may affirm both members of all these divine dyads and thereby live our lives in an intimacy neither simply mental nor merely physical but altogether placial. The *in* of intimacy resides in place *before* it resides in the more determinate modes of in-hood that inhere in being-in-the-world, a term which we have every right by now to replace with *being-in-place.* Going back into place, the homecoming that matters most, is an ongoing task that calls for continual journeying between and among places. Just as there is no limit to the ways in which we may get back into places, there is no effective end to how we may continue our ingression into their indefinite future. Only a perfected present or a projected future perfect would foreclose our voyaging with them in a perpetually ramifying manner. As travelers on such a voyage, we can resume the direction, and regain the depth, of our individual and collective life once again – and know it for the first time. (Casey 1993, 314)

In his treaty entitled *The Fate of Place: A Philosophical History,* Casey (1997) further contended that place was *a priori* of existence on earth. Documenting the assimilation of place to space then also to time in the 18th and 19th Centuries, Casey opposed the belief that thinking and speaking were wholly unaffected by locality. In Casey's exegesis, cosmogenesis was

topogenesis and place was basic to such protostructuring through introduction of the spatial order into the world. For creation to proceed, differentiation must have proceeded from one place to another as horizon and presencing held and situated things together. Rather than creation ex nihilo, creation emerged from something, primarily from places or *chora*, *topos*, and primal regions. Similar to Shweder's contention that all of our perspectives were partial, Casey noted that every place was a center of perspectival viewing from which we saw all other places. Unlike Descartes' Cartesian identification of space with matter and reduction of place to location in universal space, Leibniz and Whitehead tried to find a middle region between mind and matter. Yet Kant further implored the shrinking of position to point while locating space in the cognitive equipment of the viewer. For Casey, the twentieth century absorption of place into position and punctiform selfsameness resulted in a breech between architecture and the leveling and emptying out of homogeneous and planiform spaces, a breech that Deleuze and Guattari (1986) later accentuated in their differentiation between smooth (heterogeneous, qualitative) and striated (homogeneous, points) space (see also Derrida 1974; Coyne 2011).

While time and space can be definitionally abstract or specific, depending on their conceptual framing, nevertheless place has increasingly been used as a bridging term, as a deictic and orientational locator, as *a prioral* and contingent particularity, and as a way of translating the global into the local and vice versa. Thus place can be viewed as a particularizing conjunction of existential time and space, perhaps even a predication of those Kantian pure intuitions. According to Casey, "No systematic effort has been made to account for the indispensability of place in the evolution and presentation of cultural institutions, beginning with the fact that the very *cultivation* at stake in culture has to occur *somewhere* … The very word *culture* meant 'place tilled' in Middle English, and the same word goes back to Latin *colere,* 'to inhabit, to care

for, till, worship'. To be cultural, to have a culture, is to inhabit a place sufficiently intensely to cultivate it – to be responsible for it, to respond to it, to attend to it caringly. Where else but in particular places can culture take root?" (Casey 1996, 33-34).

For Casey, space and time came together in place, arose from, and were themselves coordinated and co-specified in the common matrix provided by place (Ibid, 36). In Casey's experiential topology, time and space were operative in places but were not autonomous presences or spheres on their own. The 'eventmental' character of places – i.e., their capacity for co-locating space and time (even as they deconstructed this very dyad) -- was considered a final form of gathering. Casey was particularly critical of Kant's conception of time and space as absolute, *a priori* dimensions of mind, and instead championed the priority of place, experienced via embodied emplacement, in perception and thought. Rejecting Kant's internalization of space and time as 'pure forms of intuition', Casey claimed that knowledge of place was not subsequent to perception, but was ingredient in perception itself. While Casey's reading of Kant differs from the sympathetic understanding contained herein, Casey's primary goal was to restore place's philosophical standing. Echoing the Archytas Axiom that 'Place is the first of all things,' and concurring with thinkers from Aristotle to Bachelard and Heidegger, Casey asserted that place, rather than being a mere product or portion of space, was as primary as the perception that gave access to it.

> This form is not the gathering-out of particular persons and things in a configured place or region, or the in-gathering effected by the body as the crux of nature and culture, but is a still more general and pervasive gathering that occurs by virtue of the very power of emplacement to bring space and time together in the event. Such comprehensive gathering is the turning point of space and time, the pivot where space and time conjoin in place. Just as this most inclusive and momentous gathering is the undermining of space and time construed as independent and preexisting dimensions, it is also the basis for any theory of space and time taken as absolute or relative, simultaneous or successive, intuitive or conceptual. The deconstruction of space and time by place clears the way for

> their conjoint reconstruction. But the two dimensions remain, first and last, dimensions of place, and they are experienced and expressed *in place by the event of place.* (Casey 1996, 38-39)

In this regard, events of construction and exchange could be considered the spatiotemporalization of place and region. Further, given the porosity or permeability of most boundaries, and the complex relationships that developed between places invested with social rules and scripts, people remained emplaced even when transiting between or through geographic locales of various scales. Recalling Heidegger's insistence on the primal significance of dwelling, Casey remarked on the unceasing specificity of place in human affairs.

> Both Bachelard and Heidegger insist that it is in dwellings that we are most acutely sensitive to the effects of places upon our lives. Their 'intimate immensity' allows them to condense the duration and historicity of inhabitation in one architecturally structured place … Equally eventful, however, are the journeys we take between the dwellings in which we reside, for we also dwell in the intermediate places, the *interplaces*, of travel – places which, even when briefly visited or merely traversed, are never uneventful, never not full of spatiotemporal specificities that reflect particular modes and moods of emplacement. Even on the hoof, we remain in place. We are never anywhere, anywhen, but in place." (Casey 1996, 39)

Employing Chomsky's distinction between "formal" and "substantive" universals, Casey concluded that while place functioned like a general feature, even a condition of possibility, of all human experience, it was not a purely formal operator empty of content but was always contentful, always specifiable as this particular place or that one. And if place was both formally true of every experience and true to each particular experience, then the very distinction between formal and substantive universals dissolved. "For in the end, place is neither formal (place is not a condition *of* but a force *for*) nor substantive (there is not a fixed number of places in the universe, or of particular features or kinds of places)" (Casey 1996, 29). Rather, Casey avoided the choice between "bloodless universals" and "substantive identities" (Geertz 1973, 43-44) by positing that place was a concrete universal, which Hegel defined as operative in contingent

circumstances and having no life apart from those circumstances. In anthropological terms, places were structures that were at once elastic enough to be exemplified in disparate cultures yet also taut enough to be discernibly different from each other in content or definition. They were endoskeletal to what happened in a given time and place (not just by homology but by actual ingredience). Yet place was more than an "empirical commonality" but belonged both to a special world of a particular place and time and a 'common world' of authentic concrete universals. As such, it was also a relational universal that consisted in its capacity to assemble things as well as kinds of things. Furthermore, places proceeded laterally by assimilating phenomena of the same level of abstraction, rather than vertically (by subsuming concrete phenomena under more abstract terms). And places concatenated with each other to form regions of things. "A given place, like anything else characterized by material essences, is inseparable from the concrete region in which it is found and instantiates qualities and relations found in that region … place is not one kind of thing: it can be psychical as well as physical, and doubtless also cultural and historical and social. But as a coherent region in Husserl's sense of the term, it holds these kinds – and much else besides – together" (Casey 1996, 31). Far from being inert and static sites, places continually changed in accordance with their own proper dynamism. Places were at once elastic – for example, in regard to their outer edges and internal paths – and yet sufficiently coherent to be considered as the same (hence, to be remembered, to be returned to, etc.) as well as to be classified as places of certain types (i.e., home-place, workplace, visiting place).

Casey has also written extensively on the lived body's active ingredience in emplacement (i.e., getting into, staying in, and moving between places). As the mediatrix between enculturation and emplacement, their localizing agent, the human body was the medium for

rethinking both locality and knowledge. The understanding of place activated universals that were as impure as they were singular, since local knowledge came down to an intimate understanding of what was generally true in the locally obvious; it concerned what was true about place in general as manifested in this place (Ibid, 45).

> Locality' must be rethought in terms of, first, the triple distinction between position, place, and region; second, the idea of porous boundaries; and third, the role of the lived body as the mediatrix between enculturation and emplacement – their localizing agent, as it were … By the same token, 'knowledge' needs to be reconstrued as specifically placial, as a matter of acquaintance with places, knowing them by means of our knowing bodies. Such knowledge – neither propositional nor systematic, and not classifiable as simply subjective or objective, natural or cultural – is knowledge appropriate to the particularities of places in keeping with their felt properties and cultural specificities … Local knowledge, then, comes down to an intimate understanding of what is generally true in the locally obvious; it concerns what is true about place in general as manifested *in this place*. (Casey 1996, 44-45)

Merleau-Ponty (2013) hypothesized that bodily movement was pre-objective and productive of space; furthermore, the lived body and place were never without each other. The phenomenological approach understood the primacy of perception as ultimately a primacy of the lived body, a body that was constituted by cultural and social structures that sedimented themselves into the deepest level of perception. And if, per Merleau-Ponty, "the body is our general medium for having a world" (Merleau-Ponty 2013, 146), then the body was also our specific medium for experiencing a place-world. According to Casey, the lived body was the material condition of possibility for the place-world while being itself a member of that same world. It was basic to place and part of place. Just as there were no places without the bodies that sustained and vivified them, so there were no lived bodies without the places they inhabited and traversed.

> Place is not empty substratum to which cultural predicates come to be attached; it is an already plenary presence permeated with culturally constituted institutions and practices. As the basis of collective as well as individual habitus, these

> institutions and practices pervade the bodies of sensing subjects in a given place as well as the gathering power of the place itself: even when prediscursively given (and prereflectively experienced), neither body nor place is precultural. Just as place invades space from the bottom up, so culture penetrates place from the top down as it were. But only *as it were,* for the very directionalities of 'up' and 'down' are legacies of bodily orientation in places (as Kant reminds us) and are elicited by powers inherent in places themselves (as Aristotle affirms). It would be more accurate to say simply … that as places gather bodies in their midst in deeply enculturated ways, so cultures conjoin bodies in concrete circumstances of emplacement." (Casey 1996, 46)

Further, places were thoroughly infiltrated with cultural significance and never existed apart from cultural forms. Moreover, the eventful potency of places included their cultural specificity. Time and history, the diachronic media of culture, were so deeply inscribed in places as to be inseparable from them – as inseparable as the bodies that sustained those same places and carried the culture located in them. Echoing Geertz's contention that becoming particular was a human universal, Casey offered that

> Place is again in the middle, situated between the Charybdis of sheer singularity and the Scylla of contingent commonality. It occupies an intermediate area in what Collingwood calls the 'scale of forms' that defines human knowledge. Neither the most abstract member of this scale (a leading candidate for which is doubtless 'object in general') nor the most concrete (this is the utter 'individual' …), place is nevertheless sufficiently general to be coherently discussed as a guiding or regulative notion … yet sufficiently particular not to be fully subsumed under formal essences … Construed in this light, indeed, the local is the general. Particular places tell us how a region *is* – how it disposes itself. They are that region's condensed content and are indispensible for conceiving what is regionally the same in the very face of the manifold descriptive and explanatory, gestural and linguistic, historical and social, ethical and political differences that distinguish the life-worlds of diverse peoples. (Casey 1996, 32)

A cultural psychology of space also explores the primary significance of the concept of home or dwelling for both individual minds and social collectives. As previously noted by Boesch (1991), home was a center point for existence, for movement and rest -- a place from which we departed and to which we returned – and culture was, in an emic sense, a homeland consisting of familiar, customized behaviors and beliefs. While possibly referencing a specific

structure or locale – for instance, the house one grew up in, one's current family domicile, a neighborhood or district (i.e., "Wrigleyville" or "South Side"), or distinctive area (ex, "Jersey shore") – the term "home" was typically freighted with emotional affect and important symbolic meaning in one's biographical narrative (See Altman and Werner 1985; Mack 1993; Cuba and Hummon 1993; Rouner 1996; Cieraad 1999). It was also a place of intimate familiarity, a place where connotative meanings were understood beyond denotative correspondences in speech and language. Exploration of personal identity and selfways underlay the particular importance of "place attachments" (see Altman and Low 1992) and belonging (see Lovell 1998), as well as the scalability of home at graduating levels of geographic identification (i.e., neighborhood, town, city, region, nation, world community). The powerful significance of "homeland" for both individuals as well as social collectives, was particularly witnessed in political conflict and historical contestations over identity and territory (Chisholm and Smith 1990; Gupta and Ferguson 1997).

In his celebrated essay "Building, Dwelling, Thinking," Heidegger (1971) posited that dwelling was a primary human need that was peremptory to our experiences of locations and spaces. In this regard, human beings did not merely inhabit an ecological niche, seek a shelter, or respond to the affordances and constraints of environment; rather, they transacted with that environment while actively designing, building, and constructing dwellings that exceeded the necessities / demands of function or utility. The human built environment, with its physical perdurances and nonverbal communicative cues, approximated the symbolic or semiotic fields – implicate and coincident with culture's complex "webs of significance" – that mentally organized and interrelated psychological life. Heidegger traced the etymology of *bauen*, the Old English and High German word for building, to its original meaning of "to remain, to stay in a

place, to dwell," from which derived the word *bin* as in *ich bin, du bist* ("I am, you are" or "I dwell, you dwell"). "The way in which you are and I am, the manner in which we humans *are* on the earth, is *Bauen*, dwelling. To be a human being means to be on the earth as a mortal. It means to dwell" (1971, 147). But the word *Bauen* also meant to cherish and protect, to preserve and care for, specifically to till the soil and cultivate the vine. As such, "Both models of building – building as cultivating, Latin *colere, cultura*, and building as the raising up of edifices, *aedificare* – are comprised within genuine building, that is, dwelling" (1971, 147). Hence, for Heidegger, the true nature of human dwelling encompassed both cultivating and constructing.

Further, Heidegger contended that "The nature of building is letting dwell. Building accomplishes its nature in the raising of locations by the joining of their spaces. *Only if we are capable of dwelling, only then can we build* … Dwelling, however, is the *basic character* of Being in keeping with which mortals exist … The real dwelling plight lies in this, that mortals ever search anew for the nature of dwelling, that they *must ever learn to dwell*" (1971, 160-161). Built things gathered together what Heidegger called the fourfold (earth, sky, divinities, and mortals), which we may translate herein as material nature and its environmental horizons, symbolic relations, and human beings. Built things also brought into existence locations which in turn allowed for spaces. "Building, by virtue of constructing locations, is a founding and joining of spaces" (1971, 158). And for Heidegger, "spaces receive their essential being from particular localities and not from 'space' itself" (1971, 154). The ancient word for space, *Raum,* meant a place cleared or freed for settlement and lodging, something that had been made room for, namely within a boundary (Greek *peras*). And a boundary was not that at which something stopped, but that from which something began its presencing, as in the concept of a *horismos,* or horizon (1971, 154). While acknowledging that space may be abstracted in mathematics and

analytic-algebraic relations as distance (Greek *stadion*) or extension (*extensio*), Heidegger believed that such a conception failed to account for spaces, places, or locations. Addressing the relation of man and space, Heidegger treated space as neither an external object nor an inner experience. Rather than conjuring mere representational contents, it was in the nature of our thinking of things that in itself thinking persisted through the distance to that location.

> To say that mortals *are* is to say that *in dwelling* they persist through spaces by virtue of their stay among things and locations … we always go through spaces in such a way that we already experience them by staying constantly with near and remote locations and things … Even when mortals turn 'inward,' taking stock of themselves, they do not leave behind their belongings to the fourfold. When, as we say, we come to our senses and reflect on ourselves, we come back to ourselves from things *without ever abandoning* our stay among things … Man's relation to locations, and through locations to spaces, inheres in his dwelling. The relationship between man and space is none other than dwelling, strictly thought and spoken. (Heidegger 1971, 157)

Far removed from the leveling effects of abstract spatial sciences, the philosophy of place reminds us that our subjectivity is indelibly tied to our localities and place identities. Rather than treating place as derivative of space, as apportioned space with affective and qualitative supplements, the philosophy of place reminds us foremost that our minds are always situated in specifiable places that are determinative for who, what, how, and why we are. As *a priori* Kantian sensibility inhering in the mind's mental furniture, place – or the experiential conjoinment of time and space in lived human history – is the *a priori* condition of human being-in-the-world. Ingredient vice subsequent to perception itself, place is indeed the 'first of all things'. Pre-discursive and pre-reflexive but never pre-cultural, place is also the preemptive contentful form through which we experience and comprehend our encounters between mind and environment. Since we are always emplaced, even when on the move, we are always calibrating our thoughts to the requirements, behavioral cues, affordances, and meanings of those places.

And as Heidegger observed, we build to dwell while caring for, preserving, and persisting with others in the spaces and places of our world.

THE ANTHROPOLOGY OF SPACE

SECTION NOTE: This section considers the fate of space as a transcendental absolute in social formations. For all creatures organize space and are organized in space and ethnographic accounts present alternative formulations for how specific cultures have negotiated the corporeal, material, and symbolic dimensions of person-environment interrelationships while mapping seen and unseen geographies in accordance with ecological conditions, subsistence methods, mobility patterns, and religio-mythical belief systems. From its inception, anthropology has privileged the particularities of spatial "others" while excavating the "custom complexes" through which human beings "write" their presence, inscribe cultural artifacts onto landscape, and form meaningful relations with ambient locales. Reviewing early attempts to probe culture-specific experiences of space, this section outlines analyses of perceptual illusions in different cultural contexts, Hall's "proxemics" examining space as innate distancing mechanism regulating normative social contacts, and ethological studies of animal-like territorialization and boundary-making on multiple scales. Low has distinguished between "social production" or material creation of space and "social consumption" or experiential, meaning-centric approach to space through constructivism and semiotics. Exceeding basic requirements of shelter or function, the construction and segmentation of built and un-built environments (i.e., dwellings, home enclosures, architectural forms, landscapes, etc.) is modeled on cultural ordering principles of significative forms – manifested in programmatic scripts and rules, signs, mnemonics, behavioral

repertoires, and communication cues – through which space is culturally classified and socially regulated as people externalize their thoughts and cognitively organize space through material expressions. Since minds incorporate aspects of environments and are altered by them, our perceptions, emotions, thoughts, and actions are consequent on embodied transactions with physical surroundings and sociocultural institutions**.** For Vico, knowledge was not found pre-established in people (*res cogitans*) or in physical surroundings (*res extensa*), but through socially shared identities or feelings created in the flow of activity between them. Human mental processes are thus situated in places having specific characteristics and affordances that scaffold the contents, patterns, and practices of our thinking and doing. This section also briefly considers postmodern critics treating the production and reproduction of social structures through spatial practices, to include Bourdieu's "habitus" of transposable dispositions; Giddens' "structuration" of recursive social practices; and Pred's place as historically contingent process incorporating time geography's "paths" and "projects." De Certeau's examination of somatic tactics via walking, naming, narrating, and remembering in the city and Munn's study of actors' mobile spatial fields in the Australian Aborigine landscape are cited to demonstrate that individuals actively produce and reproduce space through embodied enactment and spatial strategies vice simply decoding and extracting information from environment. This section also features anthropological accounts explicating the 'multivocality' and polysemic meanings of places metonymically and metaphorically tied to identities as people fuse settings to situations and localities to life-worlds. Despite purported "shrinking" of the world via telecommunication and transportation networks, globalization has created new translocal spaces and 'virtual' communities with profound implications for human subjectivity. Ultimately, cultures provide us

the tools, forms, and practices allowing us to celebrate the particularity earned in such pedestrian and symbolic interchanges between person and environment, mind and culture.

Regarding the fate of space as a transcendental absolute in social formations, all creatures organize space and are organized in space and ethnographic accounts present alternative formulations for how specific cultures have negotiated the corporeal, material, and symbolic dimensions of person-environment interrelationships while mapping seen and unseen geographies in accordance with ecological conditions, subsistence methods, mobility patterns, religio-mythical belief systems, and historical narratives. The field of anthropology has contributed numerous accounts detailing how specific cultures have constructed dwellings and other material edifices, conceptualized their physical surroundings, imagined and symbolized fellow inhabitants, established boundaries and other territorial markers, "written" their presence and inscribed cultural artifacts onto landscape, and formed meaningful relations with ambient locales. As evidenced by linguistic codifications, cultures also reify space in varying degrees but must inevitably confront their perceptual-representational and environmental encounters with the world. Recalling Irving Hallowell's (1955a) account of spatial orientation among the Salteaux, anthropologists have employed various methodologies to explicate how cultural subjects – whether inhabiting indigenous societies or contemporary urban landscapes – have experienced and transformed the spaces they occupy. Similarly, historians of religion have delineated the space-time cosmologies of peoples connecting worldly agricultural cycles and life course transitions with otherworldly origins and destinies via ritual performances and ceremonial practices (see, for example, Eliade 1954, 1959b; Smith 1978; Brereton 1986; Sullivan 1988; Scott and Simpson-Housley 1991; Swan 1991; Carmichael et al 1994; Chidester and Linenthal

1995; Kedar and Werblowsky 1998). For cultural subjects humanize and render space meaningful through either embodied practices and motile navigation or through speculative mentation enabled by cultural tools (concepts, classifications, boundaries, narrations) and technologies. Anthropologists have thus documented how cultures and ecologies, collective groups and their physical surroundings, social formations and their material embodiments, have achieved loose correlative correspondences (vice strict isomorphic homologies) between structures in mind and structures in environment through spatial organization. Overall, ethnography has explicated common features of the cultural experience of space – ecological adaptation, physical demarcation, social structural organization, bodily sensation and navigation, built architectural forms, spatial identities and narration, local and translocal differentiation, symbolic landscapes, and geographic imagination – that are discovered only in specific and particular cultural manifestations (See excellent discussions in Lawrence and Low 1990; Low and Lawrence-Zúñiga 2003; Low 2017). Moreover, individual minds only apprehend and comprehend – i.e., perceive and conceive – these spatial commonalities through cultural vehicles that fuse form and content with lived and embodied experiences.

From its very inception, the practice of anthropology has emphasized the particularities of spatial "others" – i.e., the collective ways of life of near or faraway peoples confronting different ecological conditions and occupying different human habitats in their unique social and religio-mythical guises. Akin to the emergent field of geographical studies with its explication of the peculiarities of regions, anthropology has regularly privileged specificities and localities while excavating general features and properties of the "custom complexes" manifest in conceptual, symbolic, or material forms. Here again, we find inherent tensions between purported claims of general versus specific, global versus local, psyche versus culture, form

versus content. Attempts to probe culture-specific perceptual experiences of space included Heider's (1958) exposition of "naïve psychology" and person perception as well as various studies of "social perception" developed in 1950's and 1960's (see also, Bonnes and Secchiaroli 1995, 33-38). Adopting an intercultural approach to problems of perceptual illusions, Allport and Pettigrew (1957) found that the perceptual distortion of a trapezoidal window in which a rotating trapezoid seems to oscillate back and forth -- while predominant in "angular" cultures -- was less common in Zulu culture wherein squares and rectangles did not exist and round forms prevailed. Similarly, experiments by Segall et al (1966) showed that the perceptual illusion of Muller and Lyer's darts was more or less accentuated depending on whether subjects belonged to angular cultures based upon the extent to which built environments were constructed with squared corners. The prevalence of such perceptual illusions was determined by characteristics of the specific cultural context, the constructive nature of the perceptual process, effects of previous experience on perceptual results, and the "plastic" nature of individual perception in the environment. Among other anthropologists studying the spatial dimensions of cultural beliefs and practices, Edward Hall (1959, 1966, 1968, 1973, 1988, 2003) examined the influence of culture on spatial perception and behavior through "proxemics" or the structure and organization of space (design, use, allocation, encoded relations) as aspects of cultural communication. For Hall, proxemics was an innate distancing mechanism, modified by culture, that helps regulate normative contact in social situations. Conceptualized as a bubble surrounding each individual, personal space varied depending on social relations and situation. Since the body is a site of spatial orientation with multiple screens for interacting with others and the environment, and people perceive space through the senses and inhabit different sensory worlds, people structure space differently. As the space bubble has boundaries varying in size, shape, and markings,

proxemics delineate social groups, reinforce group identity, and facilitate intra-group communication. For Hillier and Hanson (1984, 27; cited in Pellow 1996b, 219), "Spatial order is one of the most striking means by which we recognize the existence of the cultural differences between one social formation and another, that is, differences in the ways in which members of those societies live out and reproduce their social existence."

Acknowledging the heterogeneous collection of mental structures and psycho-physiological dispositions inherited from our ancestral past, cultural psychology treats space as both medium and outcome of our bounded and circumscribed experiences. For aside from cultural adaptations to ecological conditions, human beings share with select other animals not only egocentric and allocentric navigational capabilities, but the ethological propensity for territorialization at multiple scales ranging from intensely private to openly public arenas containing our solemn privations as well as celebrated pursuits (for territoriality, see Ardrey 1966; Lyman and Scott 1967; Altman 1975; Malmberg 1980; Sack 1986; Taylor 1988). Citing the works of Durkheim and Mauss on social classifications, Pellow (1996b) remarked on the significance of ordering as an essential part of different cultural systems constituting "the most basic forms of social organization and social structure." Space is classified and classification is accomplished through the boundaries that human beings establish, maintain, and elaborate upon. Boundaries can thus be simultaneously physical, temporal, social, conceptual, symbolic, permeable, and negotiable. Such boundaries can also separate and divide or unify and gather by codifying what and who is to be excluded or included. In this regard, physical, sociocultural, and conceptual boundaries are intimately tied to the creation, maintenance, transformation, and definition of society and societal relations, of sociocultural behavior and action. For Lawrence (1996), social classifications underlie all conceptual boundaries, which people use to order and

control daily affairs by simultaneously using administrative, behavioral, material, and other instruments. Reconsidering structure and structuralism in the social sciences, Lawrence suggested that implicit cognitive structures (i.e., conceptual boundaries) and explicit institutional structures (administrative and judicial limits) can be reinterpreted in tandem with the material structure of architectural boundaries as an integrated corpus of shared knowledge, conventions, and rules that simultaneously enable and constrain individuals and groups to communicate, produce, and reproduce the constituents of their culture (Ibid). Human-made boundaries reflect the ideals, intentions, and values of groups of people involved in their design, maintenance, and use (Low 1993). As symbols of categorization, boundaries and territories are concretized via intersection of spatial and conceptual principles regarding appropriate sociocultural behavior in particular cultural settings.

As already noted, culture plays a key role in the interaction between architectural forms and the human organization of space. Perhaps one of the "universal" features of culture is the structuration and segmentation of house forms and dwellings. For thinkers such as Heidegger (1971), Merleau-Ponty (2013), and Bachelard (1994), our relations to places consisted in dwelling and dwelling was the basic principle of existence. Borrowing from a deep evolutionary history shared with other animals, the search for shelter and the cultivation of a "home" enclosure or protective space of familiarity is a seemingly engrained attribute of the human animal. In *The Domestication of the Human Species*, Peter Wilson (1988) provided an evolutionary perspective on the cosmological symbolism of architecture and commented that house forms marked a major development in human settlement patterns and brought about a proliferation of material culture in human societies. And as an archetype or prototype of architectural structures in the built environment, house forms or "home" dwellings may be

modeled on the human body or other cultural ordering principles and thus serve as a microcosm of the imagined world or sacred vice secular space (Rapoport 1969; Bourdieu 1973). Csikszentmihalyi and Rochberg-Halton (1981) claimed that home was a universal concept that was nevertheless culturally variable in space and time. Indeed, the intimate relation between social behaviors or arenas and the domestication and/or segmentation of human living spaces (see Kent 1990b; Bourdieu 1979; Humphrey 1974; Hirsch 1995) has been particularly poignant in gendered representations of space defining hierarchical social roles, status, and power relations between the sexes (Rosaldo 1974; Ardener 1993; see excellent overviews in Low and Lawrence-Zúñiga 2003a). Pellow (1996b) has noted that constructions of gender and space are mutually constituting processes finding expression over time in both social patterns and physical demarcations in the home environment. Hence, Bourdieu's (1973) study of the Kabyle house and his structuralist account of gender relations in the metaphor of house form mirrored the organization of a universe structured on gender and other social symbolic, architectural, and cosmological principles. Examining home as a concept of order and identity among primitive peoples, historian of religion Mircea Eliade (1954, 1959b) noted that human dwelling required revelation of a sacred space to acquire a fixed point and orientation for establishing ritual thresholds and rites of passage. In the realm of ritual and performative studies, scholars such as Victor Turner (1966, 1988) and others explicated the space-time aspects of rites of passage and their attendant ontological, spatially imagined modalities of separation, liminality, and reincorporation (Van Gennep et al 1961). Early psychoanalytic interpretations by Erikson (1950) and others sought to explicate the relation between psyche and built spaces such as the Sherpa temple, while structuralists such as Levi-Strauss (1963, 1966) sought to uncover unconscious mental structures capable of generating cultural patterns and accounting for

consistencies that social and symbolic forms exhibit in relation to spatial organization. Of significance for the cultural psychology of space, house forms are exemplars of the fusion of form and content demonstrating common empirical necessities with widely variable and divergent cultural specifications.

Anthropology has also contributed to a richer understanding of the geographical imagination of space through cultural visualizations and interpretations of landscape imagery. Opposing earlier treatises espousing environmental determinism in the relation between culture and ecology, Sauer's (1963) "The Morphology of Landscape" argued that culture shaped natural landscape to produce a cultural landscape in which culture was agent, natural area was medium, and cultural landscape was the result of human appropriation of physical surroundings. Humboldt and Boas similarly believed that each culture possessed its own peculiar type of landscape resulting from unique socio-historical circumstances, belief systems, customs, and relations with natural features of the environment (Hirsch 1995). Criticizing Daniels and Cosgrove's (1988) definition of landscape as a cultural image or pictorial way of representing or symbolizing physical surroundings, Hirsch and O'Hanlon (1995) argued for a dynamic vice static view of landscape in which the Western convention of landscape representation – especially its merging of cultures of visualization and representation via landscape painting and emergent views of nature – was but a particular expression of more general foreground/background relations found cross-culturally in social lives. Noting anthropological treatments of landscape as either (1) the meaning imputed by local people to their cultural and physical surroundings, or (2) a framing convention in which the anthropologist brings the subject into view, Hirsch (1995) argued that landscape always entails relations between a foreground of ordinary workday life, the concrete actuality of everyday social life (way we are now), and a

background of ideal, imagined existence and perceived potentiality (way we might be). This distinction between a foreground actuality/place/inside/image versus background potentiality/space/outside/representation mirrored the contrast between an emphasis on particularities of place from a subjective vantage point versus the study of space divorced from subjective perspectives. Francis Yates' (2001) "arts of memory" similarly accorded a central place for imagery, metaphor, and common sense in opposition to Cartesian mind-body dualism. For Vico, knowledge was not found pre-established in people (*res cogitans*) or in physical surroundings (*res extensa*), but through socially shared identities of feeling created in the flow of activity between them. In contrast to Cartesian absolute positionality, the Vichian view was relativistic, imaginal, placed, sensory, and involved (Hirsch 1995) (See also Special Issue of *Culture & Psychology* 21 (2) in June 2015 dedicated to Vico's work on imagination; see essays by Tateo; Pern; Granatella; Shotter; Brinkmann; and Zittoun). In his research among the Umeda, Gell (1979, 1985) differentiated between indexical (subject centered) and non-indexical (non-subject centered) forms of spatial knowledge but contended that images and maps flow into other in mutually related ways beyond merely visual forms (Hirsch 1995). These ideas of landscape as process versus Daniels' and Cosgrove's privileging of an outsiders' view remind us that people attempt to realize in the foreground what can only be a potentiality in the background – i.e., that foreground actuality and background potentiality exist in an ongoing process of mutual implication while everyday life never attains features of mere representation. Here again, while people everywhere participate in foreground/background landscape processes through which visual, aural, or other feature sets are re-presented from egocentric or allocentric viewpoints, specific cultural practices will vary widely depending upon social, artistic, and environmental conventions. Form and content are thus fused in culture-specific renderings that employ

sociohistorical tools to bridge material and mental processes for displaying person-environment transactions.

Early modern geography viewed the interrelationship between humans and the natural environment – broadly understood to "include natural processes, conditions and materials such as climate, landforms, soils and resources from and within which people continually make their livelihoods; territory or landscape as the 'stage' on which life literally 'takes place'; and earth distance or space which, whether through friction or content, shapes every movement and is socialized by human activity" (Peet 1996, 860) – through determinism, or nature's creation of presumed innate human characteristics and the effects of varying mental abilities on the differential evolution of civilizations (Ibid; see Ratzel 1896; Semple 1903; Huntington 1935). Subsequent critics opposed such direct causal connections between natural processes and racial characteristics, and practitioners in the geographical sciences first turned towards a modified determinism via theories of regional geography (1930's-1950's) and then towards spatial location theories (1950's-1960's) that drained space of its natural qualities through quantitative and isotropic methods. Coincident with the rise of humanistic geography and its voluntarist, phenomenological orientation towards experience of place, post-modern treatments of space (Foucault 1975, 1986; Giddens 1984a, 1984b; Gregory and Urry 1985; Gregory 1994; Soja 1989; Harvey 1985, 1990; Crang and Thrift 2000; Lefebvre 1991; Benko and Strohmayer 1997) featured critiques of capitalist production, spatial patterns, disciplinary techniques, and bodily practices while also rethinking critical relationships between microsocial behaviors and macrosocial structures. In the late 1960's and 1970's, postmodern geographers and social critics employing Marxist and structuralist methods increasingly emphasized "social structures, both as mediating between nature and human characteristics, and as causes of spatial phenomena. The

argument was that in reproducing their existence people combine in social structures, accumulating experience (cultures) and systems of social relations and power (class and gender systems, status, etc.) within which they create their personalities, socialize nature and produce social forms of space" (Peet 1996, 860-861). Space for these postmodern thinkers was thus a component of sociocultural theory. While spatial patterns do not directly reflect social organization, spatial use is culturally constructed and its patterning is associated with behavioral, material, economic, and sociological variables. For Pellow (1996c), the production of boundaries was defined by social life, social activities, and their marked transitions. Rather than explicating the cultural organization of space, postmodern theorists alternatively theorized its very production and reproduction through social practices. Henri Lefebvre (1991) viewed space as a product of social processes masking contradictions of its production while David Harvey's Marxist geography (1985, 1990) contended that social practices and processes created capitalist spaces and those spaces, in turn, constrained, enabled, and altered those practices and processes. Space was the material form that processes assumed 'on the ground' and was both cause and effect of social life (see Castree 2011). Focusing on uneven power relations, social migrations, dislocations, and relocations, thinkers such as Jean Baudrillard (1988) lamented the moment signs were separated from their referents and the distinction between object and representation was no longer valid as models or 'simulacra' were constructed with no referent or reality except their own reflexive gaze (see Low and Lawrence-Zúñiga 2003a, 32). Michael Foucault (1975, 1984), who documented spatial tactics of social control and disciplinary technologies over docile bodies associated with the Panopticon design of psychological institutions in late-eighteenth and nineteenth-century Europe, coined the term "heterotopias" to refer to museums, libraries, and theme parks where all other sites were found simultaneously represented, contested, and inverted

in a structural organization of space (see Low and Lawrence-Zúñiga 2003a, 30-31). In such hyperspaces or hyperreality populated in the media, culture was dominated by simulations that have no connection to reality and the relation of material to representational space became ephemeral or detached with divergence of sign and object previously embedded in architecture or the spatial arrangements of a place located in a particular setting (Ibid). The spatial practices of late capitalism purportedly used space as a strategy or technique of power and social control while the assumed 'neutrality' of space masked its role in maintaining the social system and inculcating particular ideologies and scripted narratives (see Yeager 1996a; Soja 1989, 1996).

Pierre Bourdieu (1977) and Anthony Giddens (1984b) were particularly influential in examining relations between social action and spatial structures, or microsocial relations and macrostructure. In Bourdieu's theory of practice and theory of society, norms, values, and conceptual schemes were reproduced by and for actors through socialization, ritual performances, and the practices of daily living. Bourdieu's concepts of "habitus" and "history turned into nature" were particularly important for understanding how human practices became routinized and taken for granted as a person navigated everyday social experiences. For Bourdieu, habitus was "… a system of lasting, transposable dispositions which, integrating past experiences, functions at every moment as a *matrix of perceptions, appreciations, and actions* and makes possible the achievement of infinitely diversified tasks" (Bourdieu 1977, 82-83). As both a way of being and the result of ongoing action, Bourdieu's *habitus* was a system of dispositions by which people produced and reproduced meaning and structures in sociospatial orders. Meaning and action, or 'practice', were interdependent, inculcating, and reinforcing of cultural knowledge and behavior. In Bourdieu's theorization, space had no meaning apart from practice, and the system of generative and structuring dispositions or "habitus" constituted and

was constituted by actors' movement through space. Anthony Giddens' treatment of "structuration" (Giddens 1979, 1984b; see also Gregory and Urry 1985; Thrift 1983; Giddens and Turner 1987) – particularly his attempt to achieve a temporalization of structures – argued that functionalism and structuralism excluded time from synchronic analyses by identifying time with change, despite the incessant lapse of time in social activity and observed behavior. Linking structuralism to hermeneutics, Giddens viewed practices as the basic constituents of the social system, and the "duality of structure" referred to the essential recursiveness of social life as constituted in social practices since structure was both the medium and outcome of its reproduction (See also Pred 1984; Urry 1991). Structures included sets of rules (constraints) and resources (capacities) and existed virtually through reproduced social practices of concrete social systems (or interconnected series of institutionalized nodes of interaction) and human memory traces orienting social conduct. Since social practices both drew on structural rules and resources and reconstituted them, "Structure enters simultaneously into the constitution of the agent and social practices, and 'exists' as the generating moments of this constitution" (Giddens 1979, 5; cited also in Peet 1996, 874). Highlighting contextuality, the centering of activity in the body, and routine as an agent of social reproduction and change, Giddens' theory of structuration sought to avoid the determinism of structural Marxism and viewed time and space as constitutive features of social systems. Drawing upon Swedish geographer Hägerstrand's (1975) "time geography" stressing the routinized character of daily life connected with basic features of the human body, its mobility and means of communications, and biographical path or project through the life cycle, Giddens reconceptualized 'place' or 'locale' as the use of space to provide settings or contexts of interaction that ranged in size and scale as 'time-space distanciation' stretched societies across time and space (see Peet 1996, 874-875).

Applying structuration theory in his study of southern Sweden, geographer Allan Pred (1986) examined the microgeographies of daily life in arguing that place always involved the appropriation and transformation of space and nature inseparable from the reproduction and transformation of society in time and space. For Pred,

> Place is not only locale, in Giddens' sense of the term, but also what *takes* place, 'what contributes to history in a specific context through the creation and utilization of a physical setting' (Pred 1986, 6). This initiates a theory of place as a historically contingent process emphasizing both individual practices and structural features using, as linking devices, the theory of structuration, the language of time-geography, and a version of traditional human geography which, however, stresses power relations binding individuals, society, and nature in place-particular practices. The theory attempts to account for the material continuities of people and the natural and human-made objects employed in time-space-specific practices. Participating individuals are regarded as integrated human beings, at once objects and subjects, whose thoughts and actions, experiences and ascriptions of meaning, are constantly 'becoming' through involvement in the workings of society. For Pred, social structure is the generative rules and power relations built into specific historical and geographical situations and social systems. But nobody identifiable with the structuration perspective has succeeded in conceptualizing the means by which the everyday reproductive shaping of self and society come to be expressed as practices locationally specific in time and space. Pred (1981a, 1981b, 1983) contends that this limitation can be overcome through integrating structuration theory with time geography, as with the concepts of 'path' and 'project'. According to the 'path' concept each action and event making up the existence of the individual has temporal and spatial attributes so that a person's biography is a continuous path through time and space subject to various types of constraint. A 'project' consists of the series of tasks necessary for completing any intentional or goal-oriented behavior. Each sequential task in a project involves the coupling in time and space of people's paths and tangible inputs or resources, the task couplings leaving a certain logical, consecutive order and duration. Structuration processes, then, are spelled out by particular paths and projects, while places are inseparable from the everyday unfolding and interpretation of specific structuration processes. As place-specific biographies are formed through social reproduction the physical environment is constantly transformed. Any project using objects directly or indirectly transforms nature, although this link is often opaque when non-local resources are employed; through engagement in the becoming of place, human nature is also internally transformed. The transformation of body and nature can be expressed in terms of path convergence-path divergence, creation-destruction, or presence-absence dialectics rooted in the time-geography perspective … For Pred, three empirical foci are suggested by this theory of place as a historically-contingent process: the place-specific impact of dominant institutional projects on

> the daily and life-paths of participants, on the landscape, and on power relations; the formation of particular biographies as a reflection of elements of structuring processes in place; and the sense of place as part of the becoming of individual consciousness and biography formation. (Peet 1996, 876-877).

The significance of these postmodern treatments of space and social theory is their insights into relations between human agency, time and history, and social structure. In particular, Bourdieu, Giddens, and Pred – the latter two with an assist from the time geography of Hägerstrand (1975, 1983) and Thrift (1983) – demonstrated how social structures were produced and reproduced in the process of human labor and effort being applied to material production in transforming both physical and social environments. Recalling the contention herein that heterogeneous complexes or structures in mind interact with psycho-physiological processes and events, sociophysical contexts, semiotic fields, conceptual understandings, and symbolic relationships in the environment to produce cultural constructions of space indebted to both biographical trajectories and sociohistorical inheritances, we can conclude that social structure itself is an empirical or contingent universal existing throughout human societies in widely variable and specific instantiations. Bourdieu's "habitus" further reminds us that the cultural psychology of space is often manifest in dispositions and propensities rather than propositional statements or demands. Combining Giddens' "structuration" theory with time geography and Pred's version of place as historically contingent process, individual biographic paths and projects become increasingly meaningful in the context of participation in broader socioeconomic processes that enable and constrain certain outcomes. In terms of person-environment relations, microsocial behaviors lead to macrosocial outcomes that in turn reproduce individual and collective social realities.

Inspired by Merleau-Ponty's (2013) phenomenology of the human body, humanistic geographers, postmodern social critics, anthropologists, and other commentators also placed renewed emphasis on the inscription of hierarchical social markers on the body within

landscapes that spatialized unequal socioeconomic and political rules of access, privilege, and class. For to be located, culture was also embodied, and the "customary body" had incorporated cultural patterns into its basic actions and was itself enactive of cultural practices by virtue of its considerable powers of incorporation, habituation, and expression. As reviewed by Low and Lawrence-Zúñiga (2003a) in their essay on "Locating Culture," anthropologists such as Marcel Mauss (1930) emphasized the intrinsically social and cultural character of the human body as well as the habits and somatic tactics ("techniques of the body") incorporating cultural patterns associated with using and being a body in the world (Low and Lawrence-Zúñiga 2003a, 3). For Mauss (1979), the human body was especially significant as a metaphor that cultural groups drew upon to inspire architectural imagery and to serve as a template for spatial and social relations linked to myth, landscape, and cosmology. Mary Douglas (1971, 1978) similarly viewed the "body as a medium of communication positing a direct relationship of spatial arrangements and social structure with the symbolism of the body and body boundaries" (Low and Lawrence-Zúñiga 2003a, 4). Miles Richardson (1982, 1984) claimed that "bodily experience and perception became material as we transformed experience to symbol and then remade experience into object, artifact, gesture, or a word" (Low and Lawrence-Zúñiga 2003a, 5). In this manner, embodied space was being-in-the-world, existential and phenomenological, and embodiment was where lived human experience and consciousness took on material and spatial form (see also Csordas 1994). The different ways space was occupied by the body (including through perception and experience) expanded and contracted with our emotions, state of mind, social relations, and cultural predispositions since corporeal existence was also inherently social and cultural. Pandolfi (1990) further suggested that experience of the body was also a way of describing and expressing the self with personal identity partially defined by

historical social structures that inscribed the body and naturalized a person's experience in the world (Low and Lawrence-Zúñiga 2003a, 3). Other anthropologists have investigated the feminist and epistemological implications of knowledge as embodied, engendered, and embedded in specific places (see Duncan 1996a).

In *The Practice of Everyday Life,* Michel de Certeau (1984) articulated how people's 'ways of operating' constituted means by which users reappropriated space while resisting dominant narratives and recasting their own idiosyncratic accounts. Examining the fine details of everyday life, de Certeau demonstrated how operations of walking, naming, narrating, and remembering in the city constituted an individual's spatial strategies and mobile tactics for resisting weakness and detaching from rationalized spaces of power. In de Certeau's theory of lived space, spatial practices eluded the discipline of urban planning and the pedestrian's walking was a spatial acting out of place that simultaneously created and represented public space rather than being subject to it (Low and Lawrence-Zúñiga 2003a, 31-32; see also Ingold and Vergunst 2008, Ingold 2010). Bourdieu's (1977) "habitus" was similarly capable of generating cultural features and social structure by disposing how body, mind, and emotions were entrained. Recalling the distinction between allocentric and egocentric cognitive maps, or between outsider and insider, Bourdieu embraced the intimate knowledge that came with personal journey and human navigation through landscape and territory:

> It is significant that 'culture' is sometimes described as a *map;* it is the analogy which occurs to an outsider who has to find his way around in a foreign landscape and who compensates for his lack of practical mastery, the prerogative of the native, by the use of a model of all possible routes. The gulf between this potential, abstract space, devoid of landmarks or any privileged centre … and the practical space of journeys actually made, or rather of journeys actually being made, can be seen from the difficulty we have in recognizing familiar routes on a map or town-plan until we are able to bring together the axes of the field of potentialities and the 'system of axes linked unalterably to our bodies, and carried about with us wherever we go', as Poincare puts it, which structures practical

> space into right and left, up and down, in front and behind. (Bourdieu 1977, 2; cited in Pellow 1996c, 17)

In a study of excluded spaces in the Australian Aborigine landscape, anthropologist Nancy Munn (1996) examined space-time as a symbolic nexus of relations produced out of interactions between the mobile spatial field of bodily actors and terrestrial spaces. As the actor negotiated limits, boundaries, and constraints of taboo locations and sacred places, excluded spaces became spatiotemporal formations – incorporating culturally significant locations, distancing, movement, relative duration, and boundaries – produced out of the interaction of actors' moving spatial fields and terrestrial spaces of bodily action. In this formulation, spatial prohibitions were a mode of boundary-making and embodied space was conceived as a moving spatial field making own place in the world. Employing Henri Lefebvre's (1991) distinction between "basis of action" and "field of action," Munn conceptualized a determinate region or locale as the concrete basis of action in contrast to the indexical or ego-centered mobile spatial field of the actor's "culturally defined, corporeal-sensual field of significant distances stretching out from the body in a particular stance or action at a given locale or as it moves through locales" (Munn 1996, 451). Noting that "ancient places were organized like the mobile, centered fields of actors, as spaces stretching out from a reference point to vague peripheries" (Ibid, 454), Munn contended that such mobile spatial fields and terrestrial locales were transposable:

> (Arguing) … against certain commonplace assumptions about space, boundaries, and time. That space is static and to be contrasted with the dynamism of time; that spatial boundaries are always fixed, relatively enduring forms marked off on the ground … If we understand space simply as referring to culturally meaningful terrestrial places or regions, we disarticulate the dynamic relations between spatial regions and moving spatial fields. This sort of reification in turn dissolves the integrity of space and time, for it extracts from the analytic model the centering subject – the spatially and temporally situated actor – through whom and in whose experiences the integrity of space and time emerges. What we need, then, is a paradigm that works against abstracting the problem of space from that of the

> body and action, and against the oppositional separation of space and time. (Munn 1996, 464-465)

For the cultural psychology of space, the works of de Certeau and Munn exemplify how individuals – rather than simply transiting through space as an empty container or abstract field – create and vivify the spaces they occupy and transit through routinized practices of walking, naming, narrating, and remembering. Rather than passive actors simply interpreting, decoding, and extracting information from the environment, individuals actively produce and reproduce their experiences of space – to borrow from postmodern social theorists – through lived experiences, bodily tactics, and spatial strategies.

As noted by Low and Lawrence-Zúñiga (2003a, 13-14; see also Low 2017), the anthropological study of "inscribed spaces" focused on how scholars defined fundamental relations between humans and the environments they occupied, particularly the implication that humans 'wrote' in an enduring way their presence on their surroundings; formed meaningful relations with their ambient locales; attached meaning to space; transformed space into place; embedded experience in place; implicated people and events in the memories held by space; and culturally elaborated the perceived properties of environments in mutually constituting ways through narratives and praxis. Emphasizing the depth and complexity whereby people construct meaningful relationships with their surroundings, anthropologists have continued to describe the intricacies of mutually constituting social relations with place through ritual and metaphor while also seeking to incorporate the reflexive voices of localized others to yield a richer understanding of the role of place in constructing identities and holding memories. For instance, James Fernandez (1974, 1977, 1984) has compared the architectonics of the Fang, Zulu, and Mina peoples to explicate mutually constituting and reciprocal relations between people and environment in which identities are negotiated through ritual enactments of metaphor as

settlement plans and architectural forms are reflected in the creation of spaces holding emergent qualities of experience activated during ritual events and performances (see discussion in Low and Lawrence-Zúñiga 2003a, 14-15). Alessandro Duranti (1992) investigated the "interpenetration of words, body movements, and lived space in Western Samoa" through the "performance of ceremonial greetings and the interpretation of words … located in and at the same time constitutive of sociocultural organization of space inside the house" (Low and Lawrence-Zúñiga 2003a, 6-7). Spoken expressions concerning space were also used to bridge physically distant but emotionally close communities. These studies reinforced that, despite tensions between language and experience, between semiotics and phenomenology, language may be constitutive of embodied space, or, as Ricoeur (1991) argued, a modality of being-in-the-world that not only represented but also disclosed being (Low and Lawrence-Zúñiga 2003a, 6).

Unlike ethnographic descriptions written by an outside researcher, more recent anthropological accounts have tried to capture the 'multivocality' and polysemic meanings through which places are socially constructed by people who live in and know them. These studies have become particularly poignant given the networks of connections between places at microcosmic and macrocosmic levels as well as the reflexive qualities of identity formation and construction of place as people increasingly move around the world. Authors such as Agnew (1987); Allen, Massey, and Cochrane (1998); Gillis (1994), Greenhouse (1996), Herb and Kaplan (1999), Keith and Pile (1993) and Rutz (1992) have examined the politics of time and space and the manner in which historical and contemporary interpretations of cultural experiences are intertwined with social identities. The imperative to capture and chronicle competing local voices has been accompanied by renewed appreciation for the phenomenology of places and the felt experience of sensation and emplacement. For the ways local populations

construct perceptions and experience place is closely entwined with local theories of dwelling and habitation (Feld and Basso 1996b). Most contemporary anthropologists writing on space-time conjunctions embodied (literally and figuratively) in the concept of place conceptualize it as an affect-laden and symbolically meaningful instantiation of cultural identities versus an empty space-time continuum portrayed as mathematically abstract and homogeneous. Thus, Feld and Basso, in the introduction to their edited volume entitled *Senses of Place*, highlighted the "… relation of sensation to implacement; the experiential and expressive ways places are known, imagined, yearned for, held, remembered, voiced, lived, contested, and struggled over; and the multiple ways places are metonymically and metaphorically tied to identities … as people fashion places, so too, do they fashion themselves. People don't just dwell in comfort or misery, in centers or margins, in place or out of place, empowered or disempowered. People everywhere act on the integrity of their dwelling" (1996a, 11). Echoing the theme of "integrity of dwelling" in Heidegger's' philosophical ontology (1971), Feld and Basso commented that place engenders psychological valences and motivational force as people invest themselves and their cultural resources in acts of both remembering and imagining. Embracing phenomenological approaches to the immediacy of perception and sensory experience, many anthropologists have come to view place as a critical locus for politically charged debates about homelands, territories identity, belonging, and connectedness. To paraphrase Feld and Basso, recent topicalizations of place by cultural anthropologists have mostly been concerned with theorizing social identities. Reflecting acute world conditions of exile, displacement, diasporas, and inflamed borders, as well as the increasingly tumultuous struggles by indigenous peoples and cultural minorities for ancestral homelands, land rights, and retention of sacred places, place has been theorized largely from the standpoint of its contestation and its linkage to local and global power relations (Feld and Basso

1996a, 3-11). As such, rather than treating place in broad philosophical or humanistic terms, anthropologists have examined places as sites of power struggles or about displacement as histories of annexation, absorption, and resistance. So too have they sought to explore native constructions of particular localities; the perception and experience of place; the ways people encounter places, perceive them, and invest them with significance; the ways people naturalize different worlds of sense; and local theories of dwelling which fuse setting to situation, and locality to life-world. By doing so, anthropologists have attempted to "locate the strengths and fragilities that connect places to social imagination and practice, to memory and desire, to dwelling and movement" (Feld and Basso 1996a, 8).

Unsurprisingly, renewed emphasis on places and localities in anthropology coincided with the purported "shrinking" of the world and recasting of the "exotic" amidst global telecommunication and transportation networks. Particularly in metropolitan centers of industrialized countries, the seeming "homogenization" of places and banality of technologies led to a new romanticization of differences and reformulation of the "other." Moreover, as cultural denizens became evermore mobile and their cultural identities evermore hybridic given simultaneous immersion in multiple 'real' and 'virtual' communities, the space-time conjunctions of place emerged as more vice less pronounced in social life. In the late 1960's, the globalization and intensification of worldwide social relations linking distant localities with faraway events led geographer Donald Janelle (1968, 1969, 1994) to introduce the notion of "time-space convergence" or "time-space compression" to capture a shrinking world of places seemingly moving closer together or apart in travel and communication time. In social theory, Giddens' (1984) notion of "time-space distanciation," though applying less to places than social systems, conjured the simultaneous stretching of social relations across time and space in which

interacting parties were removed from direct, face-to-face contact. This purported separation of time and space ostensibly brought about the emptying of contextual features of local landscape because of disembedding technologies and economic production schedules. The significance of these developments for a cultural psychology of space lies in the reimagination of the global and the local as well as implications for human subjectivity, selfways, and cultural identities.

On one pole in the globalization debate, the geographical disembedding thesis posited that places were becoming less and less determined by physical-geographical features (See Brey 1998). Writers such as Tony Hiss (1990) in *The Experience of Place* lamented the fading and discoloration of places while Michael Hough (1990) in *Out of Place* speculated that the ability to construct places rich in local identity and meaning had been lost. Cultural spaces were reconceptualized based upon flows of people, locales, and capital causing a rethinking of the global and local, body and space, territory and deterritorialization. Transnational spaces facilitated global economic and capital flows that transformed local places and created homogenized, deterritorialized spaces (Harvey 1990). Additionally, these transnational spaces supported increased movement of people across borders (Schiller et al 1992; Ong 1999) and formations of new relations between nation-states and capital markets. Rather than fostering stabilized, "imagined communities" (Anderson 1983), new migration patterns dissolved conventional notions of borders, boundaries, nations, and communities and redefined relations between global, transnational, local, and cultural realities.

On the other pole, commentators observed that, despite images of borderless worlds, boundaries were often reinforced and sites of struggle amplified by globalization and changing understandings of place. Geographical writer Harm de Blij (2010) forcefully argued that globalization flows still left most people intimately and ineluctably tied to the circumstances of

their locality, socioeconomic status, and material circumstances. McDonough (1992) has emphasized the heightened contestation of spaces and promulgation, countermand, and negotiation of dominant cultural themes. The symbolic meanings of urban sites were contested through the language of space and its classificatory characteristics articulated through complex systems of social and ideational associations. In this regard, Setha Low (1996, 2000, 2017) distinguished between "social production" (processes of material creation of space) and "social consumption" (experience of space) through social exchanges, memories, images, and daily use of material settings. As states sought to establish hegemony over historical sites, monuments, and the staging of social memory through tourist sites (Urry 1990) and the heritage industry, local conflicts emerged and proliferated. For many, place identities became evermore bound to the politics of representation and the strategic construction of social identities articulated in terms of place or specific sites. Disputes over territories or homelands also continued unabated. Amidst these transformations, the notion of "translocal spaces" referred to changes in social relations and local places brought about by electronic media, migration, and breakdown in the isomorphism of spaces, places, and cultures. From this optic, globalization created new translocal spaces and forms of public culture that dissolved notions of state-based territoriality while supporting new local articulations of the global (Gupta and Ferguson 1992; Appadurai 1996a, 1996b). By localizing and indigenizing the global, translocal spaces incorporated social groups in diaspora as well as the displaced, uprooted, and homeless. In light of these developments, Appadurai (1988, 1996a, 1996b) criticized the lack of multivocality in ethnographic writing and the failure to address borderlands, differences, hybridity, and disjuncture. Appadurai (1991) employed the term "ethnoscapes" to refer to changing landscapes of group identity, affects of deterritorialization on group cohesion and loyalties, and unalterable

rupture in modern subjectivity. In response, James Clifford (1992) adopted the metaphor of a traveler to propose a more mobile theory of anthropology based on routes and itineraries.

As Setha Low (2017) expertly detailed in *Spatializing Culture; The Ethnography of Space and Place,* the anthropological study of space today encompasses contributions from numerous academic disciplines to include geography, psychology, linguistics, social theory, literature, and gender studies. Whereas anthropologists once focused research on describing how cultural groups organized themselves in space, inscribed cultural artifacts onto landscape, incorporated spatial themes into their mythological worldviews, performed spatial enactments in ritual, and created settlement forms, today ethnographers pursue diverse projects concerning embodiment, emotion, social inequalities, gender relations, globalization, and other salient topics. As noted above, many contemporary spatial practices still fall within Low's primary approaches to the "social production of space" (materialist framework and theoretical scaffolding for explanatory models identifying social, economic, and political processes of social production and power dynamics) and "social construction of space" (meaning-based approach to materiality of social production based on constructivism and semiotics for decoding memories, meanings, and place-making in sites and spaces) (Low 2017, 204-205). Rather than comparative insights, the importance of these ethnographic studies for a cultural psychology of space lies in the manifold ways that people and communities engage their ecological and social environments through perceptual and representational processes of mind and culture that fuse content and form in creative and durable patterns of human activity. These fusions are never found without culturally specific particulars. As such, the contentful forms that emerge – territorial markers, conceptual and physical boundaries and classifications, settlement patterns, house forms, domestic segmentations, architectural styles, cultural landscapes, ritual performances, social

structures, spatial practices, place identities, etc. – bear resemblances that are nevertheless found in unique and telling configurations. For just as individuals (i.e., cultural denizens) experience and construct space through singular and particular manifestations, so too do the cultures and cultural groups to which they belong. Moreover, the ways that persons and environments have been interacting have always been under transformation, and that remains true today with persistent attention to globalization and translocal spaces. For what constitutes a "culture" or "cultural group" – which has always sparked questions of coherency and circumscription – continues to change with rapid advances in telecommunications and cyber spaces. So too has the purported cultural identities and subjectivities of the individuals inhabiting and constructing those spaces. The anthropological contribution championed herein is that cultures provide us the common and uncommon tools, forms, and practices allowing us to celebrate the particularity earned in those pedestrian and symbolic interchanges between person and environment, mind and culture.

REVISITING THE CULTURAL PSYCHOLOGY OF SPACE

SECTION NOTE: This section summarizes key takeaways from Chapter 3 such as the fate of space as a human universal in sociohistorical existence; the perpetual exchange between person and world; multiple sensory modalities and neuroanatomical features governing spatial competence; perennial translation problem between the world "out there" and our perceptual and representational processes; the human condition of ceaseless wayfinding and geolocation; conspiracy of visual, auditory, haptic, and kinesthetic systems to create our sense of space; egocentric and allocentric perspectives in navigation and "cognitive mapping"; problematization

of the subject-object duality and person-environment dyad; contributions of the psychology of perception, situative nature of cognition, and ecological and environmental approaches to spatial knowledge; conceptualizations of places as human-environmental units of analysis; construction of built and unbuilt environments; binding of mind to locality and spatiality; organization and inscription of cultures in space; recursiveness of social relations and spatial structures; phenomenology of places through sensation and emplacement; and significance of "here" and "now" for occupying a perspectival location on multiple objective worlds.

This chapter has considered the fate of space as a transcendental absolute in individual minds engaged in sensory-perceptual-representational processes for establishing spatial competence and developing navigational strategies; the fate of space as a transcendental absolute in individual minds constantly negotiating with sociophysical environments; the fate of time and space as transcendental absolutes through the peremptoriness of place and embodied cognitions; and the fate of space as transcendental absolute in social formations and (re)productions. As an *a priori* condition of our sensibility imposed upon an external world, or pure form of intuition for apprehending phenomenal appearances, space is an emergent property of our representational processes in engagement with a world predicated upon cultural experiences. In the perpetual exchange between person and world, the mind brings its evolved and unfinished equipment while the ecological and social environment provides affordances and invariances, situations and settings, cultural inheritances and sociohistorical tools for rendering meaningful our material and symbolic existence. This cultural psychology of space involves ongoing interplay of person and world, psyche and culture, in the impositions and inscriptions, embodied practices, physical and conceptual boundaries, spatial behaviors and strategies, house forms, built and unbuilt

environments, architectural structures and meanings, ritualized transitions, journeys, promises of home, time-space cosmologies, place identifications, and narrative tales that interrelate heterogeneous complexes of mind and dynamically changing processes in the external world. The specification of our visual, haptic, aural, kinesthetic, and vestibular neural networks is thoroughly penetrated by culture and exhibits persistency as well as plasticity. Similar to our experience of time, we do not possess a central mechanism or unit in the brain for processing the spatial features of our perceptions and thoughts; rather our human comprehension of spatially related phenomena (shapes, movements, etc.) is governed by multiple sensory modalities, neuroanatomical features, regulative systems, and feedback mechanisms. Ultimately, our emerging spatial consciousness collapses subject-object and similar dichotomies in negotiating the perennial translation problem and (in)congruency matching between physical and neural spaces, between things, bodies, and motions in the "world out there" and how we sense, encode, interpret, and act upon those same contents in our perceptual and representational processes. We are perpetual wayfinders who forever seek to geolocate ourselves in the "heres" and "theres" of geographic and symbolic spaces. Rather than a simple continuant or container defined by enclosures or boundaries – the empty void, immaterial emptiness, air, ether, or extensive matter – space is simultaneously experienced and created by active agents who are always on the hoof. Beyond the mental equipment we employ to sense, perceive, conceive, and navigate our positionings in the world or the physical objects and environmental properties found within that world, cultural psychology documents the meanings we construct through cultural experience to situate, embody, transit, and symbolize the emplacement of a singular, particularized, specifiable, and unique human life.

The human sense of space is an ensemble of sensory and modular systems permitting the brain to evaluate position and movement and to make inferences about physical objects and boundaries. In spatial cognitions, the brain processes and converts externally derived stimuli (i.e., sense impressions) into internally generated perceptions and then translates those into internal representations. Employing remarkable computational powers to accomplish feats of perception and behavior, our visual, auditory, haptic, and kinesthetic systems of body and brain conspire to create our sense of space. Human spatial behavior also leverages deep evolutionary endowments in weaving threads together across different sensory systems to facilitate movement and navigation, which in turn builds additional perceptions and conceptions of space via tactile and kinesthetic systems. The moment-to-moment state of an individual's nervous system is a cumulative record of his or her biographical and cultural experience in the world, a stable yet plastic and forever changing orchestration of connectionist networks, firing patterns, psycho-physiological dispositions, and perceptual-conceptual constructs. To ensure survival and promote adaptive skills, humans explore their environment while building spatial knowledge, forming complex behavioral strategies, and developing navigational means for manipulating and transiting through space. Locomotive behavior or movement initially remains egocentric, body-centered, subjective, idiosyncratic, and observer-based and eventually builds environment-based or "allocentric" spatial representations from an independent or impersonal point of view such as "cognitive maps" encoding non-egocentric metric relationships between cues or landmarks in a configurational shape and common coordinate system. Specialized cells in the hippocampus and entorhinal cortex are now known to play important roles in spatial positioning and support the nativist Kantian contention that we bring conceptions of space to our organization of thought through correlative linkages between various mental capacities and material substrates in brain

processing. The way our human sensorium processes and organizes experiential engagements and co-opts sensory and motor processing systems through grounded or embodied cognition helps shape the structural features of human thought and consciousness as well as our abstract thinking and reasoning skills.

The cultural psychology of space problematizes the subject-object duality or person-environment dyad fueling longstanding debates in psychological and geographical research. The hybrid field of environmental psychology drew from both select theories of perception and social (especially situational) psychology for exploring the relationship between human behavior, psycho-physical environments, and socio-physical contexts. The psychology of perception confronted the problem of correspondence between psychological processes (especially perceptual/cognitive events) and characteristics of physical environments while perceptual experiences and cognitive representations are also infused with sociocultural relationships, expectancies, activities, and knowledge of past places and spaces. Early theorists examining situations and situational aspects of human thinking were influential in formulating units of analysis that combined perceptual and ideational contents with the social milieu in which all human thinking and action takes place. Among historical syntheses, transactional-contextual approaches in which perceiver and reality were considered inseparably part of the same process or transaction, with no simple reciprocal modification or interdependence possible between them, have held enduring appeal. Human beings enter perceptual processes with a history of previous perceptual experiences in specific cultural contexts, thus contributing to both the plasticity and constructive nature of individual perception. Theorists have also conceptualized "places" as primary units of analysis in studies of human-environmental settings. Through cognitions related to past, present, and anticipated physical settings defining and circumscribing

daily existence in meaningful environments, "place identity" further incorporates culturally transmitted understandings about how to behave and what to expect from specific settings and their symbolic and affective associations. While human beings are not the only creatures that build, the construction of our built and un-built environments involves conceptual and symbolic dimensions that exceed basic requirements of material shelter, refuge, transit, or biological need. For architectural styles, physical structures, human settlement design, and material artifacts – i.e., the built environment human beings are perpetually transacting with – embed culturally significant spatiotemporal signatures that directly and indirectly influence human psychological functioning. Overall, artifacts and artifactual productions in the built environment organize the spatial environment and canalize symbolic representations while transcribing onto the physical world mnemonic cues and temporal identifiers of embodied human history. Built environments also incorporate highly culture-specific and time-specific settings that define situations and remind occupants of appropriate rules and behaviors in order to make co-action possible. Space is culturally classified and socially regulated and the built environment is a physical expression of spatial organization made visible.

While space has typically been conceptualized as extensive, undifferentiated, absolute, homogenous, and continuous, place has contrastingly been theorized as particular, specific, local, differentiated, and heterogeneous. Several ancient and contemporary philosophers have argued that place rather than space is the primary human condition and manner of human being-in-the-world. Human identity is inseparably bound up with human location and the very structure of mind is tied to locality and spatiality. Rather than rehabilitate the concept of place by treating it as subjective human appropriation of physical space – i.e., treating place as derivative of space – we posit that place is the primary structure and precondition for the very possibility of

subjectivity within which experience, action, thought, and judgment are possible. For where we are, the place or locus we occupy, has everything to do with what we perceive and who we are. We rely upon the specifying power of place to direct and stabilize us, to memorialize and identify us, to tell us who and what we are in terms of where we are (as well as where we are not). To be in world, to be situated at all, is to be in place. As such, place is the phenomenal particularization of being-in-the-world. Space and time come together in place, arise from, and are coordinated and co-specified in the common matrix provided by place. Place is not subsequent to perception but is ingredient in perception itself. A cultural psychology of space also endorses the primary significance of the concept of home or dwelling as a center point for existence, for movement and rest -- a place from which we depart and to which we return – and culture is, in an emic sense, a homeland consisting of familiar, customized behaviors and beliefs. Human beings do not merely inhabit an ecological niche, seek a shelter, or respond to the affordances and constraints of environment; rather, they transact with that environment while actively designing, building, and constructing dwellings that exceed the necessities / demands of function or utility.

Specific cultures organize themselves in space, construct dwellings and other material edifices, conceptualize their physical surroundings, and establish boundaries and other territorial markers. Cultures thus "map" seen and unseen geographies and negotiate the corporeal, material, and symbolic dimensions of person-environment and human-world interrelationships while explicating common features of the cultural experience of space – ecological adaptation, physical demarcation, social structural organization, bodily sensation and navigation, built architectural forms, spatial identities and narration, local and translocal differentiation, symbolic landscapes, and geographic imagination – that are discovered only in specific and particular

cultural manifestations. The ethological propensity for territorialization is identifiable on multiple geographic scales as is classification of space through physical, temporal, social, conceptual, and symbolic boundaries that human beings establish, maintain, and elaborate upon through sociocultural behavior and action. The search for shelter and the cultivation of "home" enclosure or protective space of familiarity via structuration and segmentation of house forms and dwellings is a common cultural pursuit; so too is geographical imaginations of space through visualization practices and interpretations of landscape imagery. People also reproduce their existence through social relations and spatial structures and articulate how norms, values, and conceptual schemes are materialized by and for actors through socialization, ritual practices, and the routinized practices of daily living. The essential recursiveness of social life is constituted in social practices since structure is both the medium and outcome of its reproduction. Humanistic geographers and postmodern social critics also emphasized embodiment and the incorporation, habituation, and expression of cultural patterns into bodily actions. Space-time can also be examined as a symbolic nexus of relations produced out of interactions between the mobile spatial fields of bodily actors and terrestrial spaces of bodily action. Humans further write or inscribe their presence on their surroundings; form meaningful relations with their ambient locales; attach meaning to space; transform space into place; embed experience in place; implicate people and events in memories held by space; and culturally elaborate the perceived properties of environments in mutually constituting ways through narratives and praxis. Cultural groups embrace 'multivocality' and polysemic meanings, reflexive qualities of identity formation, and phenomenology of places through experiences of sensation and emplacement. The ostensible "homogenization" of places and banality of technologies has led to notions of "time-space convergence" and "time-space compression" to capture a shrinking world of places

seemingly moving closer together or apart in travel, communication time, and production flows with significant ramifications for human subjectivity, selfways, and cultural identities. Despite images of borderless worlds, boundaries are often reinforced and people remain ineluctably tied to circumstances of their locality, socioeconomic status, and material circumstances.

So what does it mean to be 'here' and 'now' – on this spot on the earth or its atmospheric, aquatic, or subterranean surrounds, at this instant of movement or rest, for this path or project, in this physical and symbolic landscape, within this biographical and historical journey, between this place and that place, along this chronogeographical path, upon this time-space juncture? It means to bring forward a mind-body assemblage that has been hereditarily evolved over thousands of years as well as culturally formed and developed from our first threshold passage out of the womb to our last circumambience or eternal return towards shelter, home, wilderness, or other known / unknown place or imagining. It means to correlate indigenous physiological capacities along with cultural markers and environmental cues. It means to bring forward a perceptual-conceptual-motoric self that has perpetually been attuning to social and environmental affordances and correspondences embedded in bodily practices and place memories that are selectively activated to signify the built and unbuilt features of where we find ourselves. It means to incorporate homeostatic, interoceptive, proprioceptive, and neural events in the brain in an unfolding structure of spatial consciousness and to experience a phenomenological 'here' that is unprecedented and that will never, ever appear again. It means to carry forward and continually re-craft conceptual categories and spatial knowledge – to include physical and social settings, scripted movements and proxemics, and even objectified mathematical space – that have been socioculturally honed and validated. It means to converge sensibilities in mind, processes and happenings in the world, and content-filled images and

materiel that we create, sustain, and spatialize in our engagement with a world that is both alike and different from every other world. To be 'here' means to exist and persist in an ontological and teleological trajectory that finds meaning in dwellings and traversals. It means to celebrate or lament where we have been while we imagine and pursue where we will go in a fleeting, passing manifestation of where we are. It means to inhabit a place with appropriate cues, rules, exclusions, possibilities, practices, and meanings. It means to possess and experience a perspectival location – a place to stand, a viewpoint on the world – from which to interpret and hopefully empathize with other perspectives from other locations. It means to piece together the fragmentary contributors of experience in a unified whole that perpetually must be reconstructed over and over again until 'heres' and 'theres' cease to exist with our own extinguishment. Fortunately, even then, cultures provide resources for imagining the posthumous, postmortem, and paradisal places we may still visit in our pilgrimage.

EPILOGUE

WHAT, WHO, AND WHY WE ARE: COSMOLOGY AND IMAGINAL EXISTENCE

INTRODUCTION

This Epilogue features a brief foray in the history of religions to query how cosmogonies, cosmologies, and eschatologies renew spatiotemporal worlds and imagine the pre- and post-conditions of ontogenetic and phylogenic existence. For human beings not only serialize and locate cultural experiences, they fashion metaphysical systems postulating privileged resolutions to what Shweder has deemed the "existential uncertainty" and "cognitively undecidable questions" confronting human nature. Cultural psychologists have long recognized "multiple objective worlds" lighting up alternative conceptions of reality that orient and compel the human psyche towards purposive pursuit of certain mental states and terminal outcomes. Supposing that people living in the world differently may live in different worlds, Shweder has argued that the objective world cannot be represented completely from any one perspectival view or intelligibly from all views simultaneously, but we can transcend partiality by moving from one frame-bound world to the next. Lawrence Sullivan's study of the South American religious imagination is mined to probe religio-mythical imaginings at the outermost extremes of human consciousness that imbue the life course with motivational force and teleological purpose. Sullivan's monumental synthesis envisioned prelapsarian beginnings characterized by plenary fullness or non-being; rupture of the primordium inaugurating cosmic ages of symbolic being and fractured realities (differentiated colors, sounds, spaces, temporal divisions); and apocalyptic or paradisal return to unitive existence dissolving time-space junctures. The broader truth posit of Sullivan's

exegesis – echoing Kant's aesthetic and cultural psychology's gambit – is that we live in constructed worlds of symbolic being and refracted times and spaces since our constitutive intuitions concretize fusions of form and content that glean but never accede to noumenal truths.

CULTURAL PSYCHOLOGY AND THE WARP AND WOOF OF BEING

SECTION NOTE: This section contends that the cultural psychology of time and space is the story of each individual translating heterogeneous inheritances of our psychobiological past into biographical trajectories immersed in substantive sets of cultural understandings. For the times and spaces we build through the temporal and spatial apprehensions we assemble are moment-to-moment and biographical-historical-geographic achievements of our storied selves. Rather than living generally or in the abstract, we live singular, meaning-laden lives suggesting particularized existence can be a selective affirmation of pure being. Scoping and interrogating the warp and woof of being, we piece together fragments of experience into a unified whole that must be perpetually reconstructed in an unceasing elision of "heres," "theres," "nows," and "thens." The cultural psychology of time and space is the record of that genealogy.

In documenting the fate of transcendental universals in concrete historical experience, cultural psychology champions the peremptory importance of living within these communities, times, spaces, and places. While this dissertation has separately treated multi-facets and multi-dimensions of time and space, human beings experience them in their combined totality. That is, we truly inhabit unique time-space trajectories and specifications that intersect with those of others. Our experienced realities, daily transits, and memorial and imaginative acts of thinking

and doing are perpetually incorporating temporal and spatial themata while constructing personal and collective "cosmologies" that scope and interrogate the nature of existence. In our movements as well as our musings, time and space are forever intertwined in the warp and woof of being. Rather than explicate or comparatively contrast conceptual postulates of specific religio-mythological traditions or cultural groups – i.e., the Hindu, Buddhist, Islamic, Judeo-Christian, Chinese, Mayan, etc. conceptions of time or space (see, for instance, Campbell 1957) – that fall victim to generalization and over-simplification, we have sought to better understand the very existential conditions underlying a cultural psychology of time and space. Beyond mere containers or prerequisites for thought, time and space are fundamental properties of our subjectivity, apart from which they have no referential meaning. For being human means inheriting an evolved animalistic psychobiology – the psychic unity, inherited complexity, heterogeneous collection of forms and structures, universalism without the uniformity – of predispositions and genetic codes fashioned and refashioned by culture – to include its social, material, ideational, symbolic, and practical contents – from the moment of birth onward. As reemphasized throughout, each individual human life is a token exemplar of what makes us the same and what makes us different. Embodying both general and particular, global and local, a human life lived is an unprecedented and unrepeatable ensemble of "heres" and "theres," "nows" and "thens."

The cultural psychology of time and space is the story of each individual translating heterogeneous inheritances of our psychobiological past into biographical trajectories immersed in substantive sets of cultural understandings. While time and space can be variously abstracted, reified, dimensioned, and allocated, the time-space that we live in and through is a seminal achievement of our sensory, perceptual, and conceptual capacities in both moment-to-moment

and biographical-historical-geographic constructions of self, place, and purpose. We live the times and spaces we build through the temporal and spatial apprehensions we extract, construct, and ensemble. Moreover, we bring ourselves – with elaborate yet elastic, durable yet fragile neural networks, mnemonic encodings, goals, pictures, values, etc. – to every encounter with the world. We never really start from scratch. Rather, culture precedes, permeates, and persists beyond us. Though we talk of mind and culture, subjectivity and objectivity, person and context, people and environment, these dyads are ultimately aspects of the same phenomenology. Reiterating, for both Kant and cultural psychology, form without content is empty and content without form is meaningless. We do not live in the abstract. We do not live just any life. We live in the concrete, instantiated, embodied "here" and "now." We live a singular, meaning-laden life. In this regard, particularized existence is a selective affirmation of pure being. And time and space are first and last of our human predications. As Einstein noted, time and space are how we think (see Nijhawan and Khurana 2010, 1), for the pre-structured and predisposed mind-brain sensorium senses, perceives, and conceives succession, duration, physical objects, dimensionality, and bodily movement while interrelating intuitional and conceptual representations. With no organ or seat for either time or space, the human mind leverages its modular equipment to sensibilize happenings in body and world and to construct rich temporal and spatial productions of meaning. Because we are immersed in and shaped by cultural contents from birth to death, the only psychology of time and space is the cultural psychology of time and space.

In Shweder's theorization, human beings must confront the "existential uncertainty" that accompanies their unfinished circumstances (See Chapter 1 for previous discussion of Shweder's core concepts). If time and space are bio-cultural achievements of the temporal and placial

character of consciousness emerging in (past-present-future) temporal horizons and (physical-socio-material) situated actions, then human intentionality (i.e., intentional minds and intentional worlds) plays a critical role in the time-space contingencies we negotiate and navigate. As purposeful celebrants of the elusive "present moment" and itinerant wayfinders who occupy and transit between places, the times and spaces we experience are differentiated and qualitative. For we are sometimes "in the moment," stuck in the past, or enraptured by future imaginings, just as we are sometimes lost or found, moving away from or towards shelter or home in our never-ending peregrinations and pilgrimages. In other words, we are prolific narrators and exilic travelers. We really do not have a choice. Shweder also contended that a primary function of culture is to provide "discretionary answers to cognitively undecidable questions." Like the cultural canons of narrative itself, there may be predominant and compelling group narratives or there may be diverse (prescribed or proscribed) storied formulations that persons selectively choose, revise, or reject. As meaning-making creatures, the discretionary answers we dare to posit at any particular time-space juncture may not be the discretionary answers we embrace at different biographical or cultural junctures, just as the salient cognitively undecidable questions we pose will change dramatically to fit our paths and projects. Ultimately, our formation of multiple diverse psychologies and participation in multiple objective worlds testifies to the unique minds we form and unique biographical-cultural lives we live as members of particular cultural groups or communities with particular goals, values, and pictures of the world. As previously noted, we employ psychological pluralism and membership in multiple objective, symbolic world(s) to maintain a perspective – a viewpoint from somewhere and sometime – from which to survey other worlds and imagine other persons and their inhabited realities. There is no such thing as a view from anywhere or anytime.

In philosophical terms, "cosmology" refers to the branch of metaphysics dealing with the natural order and general structure of the world – to include its parts, elements, laws, and characteristics such as space, time, causality, and freedom – while scientifically it refers to a branch of astronomy dealing with the origin, structure, and space-time relationships of the universe. "Cosmogony," meanwhile, refers to a theory of the creation or origin of the universe, while "eschatology" refers to any system of doctrines concerning last, or final, matters such as death, judgment, future states, or theological concerns with final events in the history of the world or humankind (Definitions from Dictionary.com online dictionary). In anthropological terms, every cultural group – in various degrees of elaboration or articulation – possesses cosmogonies, cosmologies, and eschatologies. That is, they imagine why, when, and where they came from; the nature of their human condition; and the prospects for future fulfillment, to include postmortem or end-time survivability. Moreover, they create imaginal vehicles for re-collecting and re-presenting why and how beginning, world-, and end-time conditions are contingently and symbolically correlated in their significations. Why are these matters relevant for a cultural psychology of time and space? Because in addressing the existential uncertainty of the human condition and the proto-typical need to provide discretionary answers to cognitively undecidable questions, persons and cultures must extrapolate their own phenomenological and conceptual understandings of time and space – the conditions of our subjectivity – to probing the very nature and fate of their group- and species-like conditions in the universe. If time and space constructions emerge from our experience in the world, then our time-space constructions of that world provide clues for the foundational truths we seek to mine and uncover. Phrased differently, the cultural psychology of time and space must push the boundaries of human imagination to their furthermost extremes. As the warp and woof of being and becoming, time,

space and place are critical ingredients in pondering mundane as well as profound queries about the nature of self and world, ontology and teleology. Whether realized or not, every human being constructs and lives out a cosmogonic, cosmological, and terminological myth about the singular life he or she lives within cultural groups or communities that scaffold and inform that particularization.

In the history of religions, Lawrence E. Sullivan's (1988) *Icanchu's Drum: An Orientation to Meaning in South American Religions* summarized an entire continent's pre- and post-colonial religious experiences. Acknowledging other generative sources of classification – such as human *mentalité* that defined human sociality, the historicity and distinctive marks of human order on historical and material existence, and the ecological basis of subsistence and reflection – Sullivan rendered the South American religious imagination through the hermeneutical study of mythical understandings that shaped social, economic, and political orders while revealing imagination itself through the human ability to draw together disparate experiences (Ibid, 18). Rather than seek the "deep structures" or transformational grammar favored in structuralism, Sullivan pursued an argument of images to showcase how humans forge new cultural values by reappraising imaginal existence in time and space. Presaging a central contention of this dissertation, Sullivan argued that meaning is never without form and the transformative capacity and transmutability of such meanings were instantiated in a morphology of the sacred integrating imaginative processes of culture via empirical description of manifest forms, the structure of our awareness, reflexiveness of religion itself, and the interpretive nature of human existence (Sullivan 1988, 20-22). For Sullivan (2017, personal communication), "imagination is innately a Grenz-Lage, an assertion and exploration of limits, a limit-language and limit condition." Sullivan's treatment covered essential cornerstones of religious life:

archaeology (condition of beginning), cosmology (experience of world), anthropology (specificity of human condition and meaning of changes defining its peculiar creativity), and terminology (manner in which terminal conditions affect significant existence) (Ibid, 22).

In the South American religious context, diverse mythological narratives sought to explain how a primordium or mythical time populated by divine beings and realities was sundered through creative or cataclysmic acts that ushered in degraded conditions characterized by symbolic existence. Whether through *creatio ex nihilo* or catastrophe of destruction (flood, fire, failed containment, occultation of primordial light, end of primordial din, etc.), cosmogony brought about the withdrawal of nonsymbolic primordial beings and the inauguration of mythic history (successive ages of the world) and rise of mythic symbols. Symbolic existence was thus the consequence of violence, chaos, and negativity affecting all creatures as transcendent light was split into component colors and primordial din broken into generative phonetics and orders of fractured sound. The real world of meaning, to which all apparent signifiers now pointed, disappeared amidst recognition that separate forms represented fundamentally different modes of being. The hermeneutics of human history (i.e., evaluation of existence in time) demanded interpretations of multiple kinds of time and different meanings founded upon the possibility of transcendence. "Memory, the symbolic repetition or continued repatterning of images from a closed primordial age, makes for historical existence, the self-conscious evaluation that one lives in reflected conditions of time" (Sullivan 1988, 621). Further, "by imitating the sacrificial acts that dispatched the primordium and by symbolically recreating those sacrificial places and times, cultures discerned the orders of geographic space, pastoral movement, calendric time, animal taxonomy, and social hierarchy" (Sullivan 1988, 620). Culture thus conceived was modeled after fractured realities harkening back to pre-historical modes of being. "Self-consciousness

and reflection were traits that arose from the nature of time that humans inhabited: disrupted, symbolic, ordered, periodic, and recurrent" (Ibid, 621). For Sullivan, "historical existence, the cumulative recovery of the experiential knowledge of primordial being, becomes the distinguishing mark of human life" (1988, 622). Arising from disaster, the images of historical time signified and sustained a tragic moment of existence that at the same time held open the hopeful expectation that history would end. Reflecting the *telos* of symbolic life and the power of the religious imagination to transcend any single perspective on reality, human beings discovered the origins of incessant change through symbols revealing meanings whose appearances created and now ordered the universe (Ibid).

In Sullivan's comprehensive work, the division of space into separate realms accompanied the end of the nonsymbolic primordium. Historical times were characterized by different qualities and separateness of spaces, with every form of existence taking place in a space appropriate to its nature. Spatial expressions made the universe structured, knowable, and viable for a variety of life forms. The universe in which South American cultures dwelled usually consisted of a number of significant levels, which contained different kinds of beings with different arrangements of relations. The symbolism that offered access to transcendent spheres of experience also functioned to separate those worlds from the mundane world. The distinctness of separate worlds of imaginable being and separateness of heavenly space in today's universe betrayed the fact that the primordial condition was disturbed by a catastrophic event resulting in mythic geographies, unceasing appearance of change, and relatedness of spaces in the universe. Heavenly bodies and the division between sky, earth, and underworld served as a remnant of the age of unique eternal being set apart from the transitory conditions of this world. The unity and essential integrity of being at the time of origin was also revealed in

myths explicating our sensory appearances. For instance, the realm of total, invisible, and indivisible light gave rise to the possibility of colorful, brilliant, radiant, visible forms exemplified by the degradation of primordial colors in the rainbow. The fragility of communication among cosmic realms and modes of experience became symbolized in the myths that described destruction of the *axis mundi* (the felling of the world-tree, the cutting of the sky rope, or the severing of a celestial vine) (Sullivan 1988, 623). The disjunction and conjunction of spaces in the symbolic universe around a center and peripheral realms mirrored the formation of separate categories of thought, principles of universal organization, and differentiating systems of naturalistic and cultural phenomena. According to Sullivan, "The different kinds of space in the universe and the statuses of being within them are systematically associated with and dissociated from one another to constitute a whole universe. Disjunction and conjunction become conceptual processes fundamental to the formation of separate spaces and, for that matter, of all separate categories of thought" (Sullivan 1988, 624). Human existence occupied the ambiguous center, the middle layer of the universe as human life (symbolic being) set things apart into separate modes of being by situating itself ambiguously between one reality and another (Ibid). To unify all imaginable existence, the labor of the mythic imagination, which created the universe, gave constant attention to the full range of symbolic possibilities. And the unity of being was entertained because experience of separate kinds of beings was always grasped symbolically through the meanings they signified (Sullivan 1988, 623).

In South American conceptions of time, the religious imagination permitted "human culture to become a continuation of mythic history such that humans live two qualities of existence, which are reflected in the kinds of time they inhabit. Human history, unfolding in the fragmented cosmos of separate periodic units and prepositional places, is also an elaboration of a

mythical story that continues in undiminished, though relatively unmanifest, power through the work of the human imagination and its fertile consequences" (Sullivan 1988, 633-634). The postcolonial world was characterized by different qualities and structures of time as cosmic cycles were replayed through calendrical observations, dance, festivities, and ritual combat. As Sullivan noted, "The human situation is constituted by the recognition of multiple qualities of time. Cultures recognize, adapt to, and manipulate myriad evaluations of temporal existence. Since humans must live in the conjunction of these existential conditions, cultures situate themselves at the center of time, an achievement of the religious imagination. Because of this religious disposition, human beings are enwreathed within recurrent cycles and human culture takes its place at the center, between the disappearances and reappearances of all significant realities" (Sullivan 1988, 630-631). Capturing seminal moments of human growth and creativity, rites of passage (conception, birth, initiation, etc.) induced change by manipulating symbols of sacred power to provoke encounters with supernatural forces whose presence altered the course of events. In this regard, "symbolic acts of the life cycle do not simply move individuals from one reified state to another, rather they *create* (or powerfully reenact the creation of) the significant levels of being into which one is inducted at each of life's stages" (Ibid, 642). Since no moment subject to the space and time of this world succeeded in capturing the fullest conditions of being, change was a constant fixture of the human condition and one became what one already meant. Temporal images comprising human being and spatial imagery constructing human physiology reflected the symbolic conditions of individuals and societies as well as the human capacity to situate itself in time while crystallizing constitutive processes of change in diverse, recombinant images of knowledge (Ibid, 383). For Sullivan,

> The dynamism of space – the traffic from one space to another – has temporal consequences. Since time is the way human beings understand their proper place

> in a world of heterogeneous spaces, temporal existence reflects the complexity of human experience. Marked units of time, such as season, year, month, week, and the day its divisions, bespeak different qualities of time, whose proper meanings, based on sacred realities, become the foundation for evaluating life in the world. The distinctness of times creates an order of variable values in the cosmos, in society, and in the formation of the individual. Each time calls for a response appropriate to its character. The distinction that most sharply marks off one quality of time from another is that between the mythic conditions of being and the periodic kinds of time that flow from the calamities that brought the primordium to a close. For all their distinctiveness, periodic time and mythic time may be linked through the ritual symbolism that reenacts the beginnings, the time before time lines and cycles definitively separated from one another. A return to the time of unitive being makes the integrity of time imaginable and available to human experience. The religious experience of ritual time becomes normative for aesthetic, intellectual, and moral life because it situates the human imagination within the fullness of time, culturally conceived. It places human existence into conditions where "is" reunites with "ought," freedom exists with history, justice with peace, beauty with truth, and truth with human action … Cycles exemplify the temporal structures that bridge the divide between mythic and periodic existence. Cycles respect the permanent character of mythic being because they eternally return to the key recognizable moments (the first flowering of a calendrical fruit tree, the new moon, the new year). Yet cycles reveal the transient nature of a world that passes through one state after another. Cycles are the produce of the encounter between two unlike temporal modes: earthly transition and mythic fullness. As symbolic instruments, they preserve the best of these two worlds, which can never accommodate one another completely … In the constant return to meanings that appeared in the mythic beginnings but that can only be approximated in an ironic way through the cycles of symbolic existence, truth becomes a central human question. The symbolic capacity of human existence makes the relationship of the cosmos to the mythic primordium the central question of truth and explains why mythic time has a privileged role in establishing the foundations of culture, a mode of human existence predicated on verisimilitude and understanding." (Sullivan 1988, 625-627)

In Sullivan's *Icanchu's Drum*, the meanings constituting termination (i.e., deliberate attempts to accomplish a proper end) were disclosed through symbols that surrounded death and the end of world. As such, the end was the longed-for fulfillment of all the periodic expressions of meaning (Sullivan 1988, 549). The eschaton culminated symbolic life and the end of time summoned forth all the total conditions promised by partial, symbolic appearances of this world (Ibid, 550). For during the eschaton, temporal structures collapsed and mythic beings (indeed,

all significant realities) fully reappeared as supernatural modes of time broke free of their symbolic expressions and the periodicity that contained them. According to Sullivan, "The symbolic orders of the universe are the residues of the primordial catastrophe. At the end of time, the powers that make passing appearances in this world are recalled all at once for a final, concurrent display. The end of the world summons forth all the total conditions betokened in the partial symbolic appearances of this world" (1988, 673). For endings were intrinsically probative and ultimate endings tested language and tried to the limits its capacity to reveal and communicate primordial meanings (Sullivan 1988, 661). Every complete mythology included a terminal vision presenting the end as an "essential religious element of the integrity to which individual symbols point, and it is the completion for which the symbolic condition as a whole yearns. The end is the longed-for fulfillment of all the periodic expressions of meaning" (Sullivan 1988, 549).

Death and eschaton were trying conditions that probed the farthermost capacities of symbolic being – both were irreversible transitions marking the outer limits of individual and cosmic life, punctuated with ordeals. For Sullivan, far from imposing fearful curfew on the imagination, the certain prospect of termination struck new sparks. In death and during the eschaton, symbolic being (human being) confronted the primordial sources of new life propelled by the need to grasp limits and apprehend meaning, constantly forcing symbolic life to cross over towards what was unmanifest, unclear, or obscure. "The threat of ultimate insignificance weighs on all historical beings unable to locate sources of absolute and lasting value" (Ibid, 678). Death and memory were completely symbolic states as origins were recalled in myth and remembered in rite. Because memory encompassed both creation and death, it revealed the shared symbolic status of beginnings and ends; that is, memory (a species of imaginal existence) demonstrated

that symbolic language that first appeared in myths of beginnings was also a terminology disclosing meaning of ends. Moreover, memory was a symbolic medium of sacred beings who appeared in the creative period and disappeared at opening of the mortal age. In this manner, human death could recreate the physical and social universe. While the eschaton culminated human life, eschatologies assessed humanity and the material universe defined by constant subjugation to the obliterative tendencies of cosmic life (Sullivan 1988, 673).

In the symbolic dissolution that obliterated or transcended individuality, human existence discovered that its meaning coincided with the mythic history of the cosmos. Human death brought about the distribution of personality into a mythic geography of transmigration and metamorphosis. Death was the ultimate ritual seclusion as human life mysteriously assumed the unmanifest condition of sacred beings, objects of fear and awe (Ibid, 664). Since symbolic life was a disposition towards the sacred, human death reenacted processes that disposed of the first being and recapitulated, on scale of person, the cosmogonic process of the universe (Ibid, 668-669). Mythic landscapes and postmortem geography were "dotted with portrayals of struggle, for the full map of being issues from the ordeal of transcending limits and traveling beyond death" (Sullivan 1988, 670). And since the meaning of a symbol pointed beyond itself toward that which it was not, human being never escaped the bounds of symbolic meaning. Under terminological conditions, the collapse of spatial difference and catastrophic deconstruction of symbolic life furnished the staging for tragedy – the contemporary mode of historical existence – and drama became a central eschatological action (Sullivan 1988, 675).

For the end of world was a ritual achievement and the eschaton was an orchestrated event. Against a background of mythic beginning, eschatological performances (such as ritual dance) acted out the meaning of the present predicament of human life. "The entire cosmic age

is a period of waiting, an expectant quality of time constantly looking forward to specific ends" (Sullivan 1988, 675). However, the fulfillment of history required that it be destroyed, dispatched to an unmanifest mode, as were the gods when the primordium was breached. History was messianic myth and its written time signatures and ritual performances portended inevitable endings. Imagination itself, the locus of all symbolic appearances, needed to imagine its end, for the end of imaginable being became the ultimate expression of human destiny. The imaginal condition thus dissolved its symbolic horizons in order to escape its confines, renew its meanings, and accomplish its own fulfillment. Symbolism of assembly was part of every eschatological movement, for by reassembling all symbolic fragments that issued from the first universal destruction, millenialists desired to make destruction a total presence once again. For this reason, millennial movements endorsed unavoidable violence and destruction as necessary for reimagining competing and incommensurate visions of time. Paradise and apocalypse were polar extremes on the continuum of religious imagination that realized its own end and accomplished its integrity, a sense of entirety needed to assess the meaning and *telos* of symbolic existence (Sullivan 1988, 676). Paradise and apocalypse provided "two ways of envisioning the entanglement of the cosmos in the snarling significations of human history. Paradise is the set of conditions that allow for simultaneous fulfillment of all the separate and partial signs of this world … Apocalypse, on other hand, raises relative differences to monstrous heights" (Sullivan 1988, 677). Further, "paradise and apocalypse are both solutions to the insolubly symbolic situation of human existence: paradise being the glorious summation of all significant differences, apocalypse the hellish consummation of all differences" (Ibid, 678).

Sullivan's monumental synthesis of pre- and postcolonial South American religious imagination remains one of the most comprehensive treatments of temporal and spatial themes in

the history of religions. From primordial or prelapsarian beginnings through cosmic ages of symbolic being to terminological visions reuniting or dissolving the separations and divisions of historical existence, time and space are implicated in the constitution of human beings and societies as well as the creation of mythical and mundane worlds. Whether implicit or explicit, cosmogony, cosmology, and eschatology stretch the human imagination to its farthest extremes as part and parcel of the existential uncertainty and discretionary responses to cognitively undecidable questions posed in culture. The multiple objective worlds posited by human beings may display varying degrees of coherence and convincement, but ultimate "truth" quotient or fabulosity are less important than the meanings and motivations driving individual or group subscriptions. It is notable that indigenous South American religious narratives shared with many early Western philosophers the belief that time and space – at least the temporal and spatial parameters of human experience – were degraded conditions from some eternal plenum. Even Kant, of course, adopted the view that time and space as *a priori* sensibilities of thought – like symbols pointing towards that which they are not – were harbingers of a noumenal realm that was only accessible to human experience through phenomenal appearances. Herein lies the broader truth posit of Sullivan's exegesis, which happens to be the same truth posit of cultural psychology. We live in worlds of symbolic being and reflected times and spaces. Indeed, the time-space junctures of those worlds are always partial and ephemeral as the temporal character and eliding horizon of human consciousness as well as the fleeting positioning of our place in the world permits an ever-shifting perspective on being and becoming. While embracing the promise of psychic unity and contingent universalism, the cultural psychology of time and space demurs from proposing absolutist or hypothetical theories that are so abstract as to be irrefutable but unusable. Rather, cultural psychology concerns itself with the messy and inconvenient

"stuff" of human culture, the contentful forms that are available to human understanding in multitudinous guises and expressions. The times and spaces of our imaginings are perpetually under construction as we move in and out of the places that situate and embody our stance in the world. Time and space are thus many things as individuals in culture engage in phenomenological momentary experiences while scaling their temporal and spatial constructions across a broad spectrum of near- and longer-term conceptualizations. Even "objective" clocks and mathematical-scientific spaces are cultural tools and scaffolds for human thinking. We can suggest that time and space in a primordium or paradisal or apocalyptic termination would be radically different than our current circumstances. But we live in symbolic times and spaces that, however reflected or degraded, provide the meanings that bring content and form together in the particularized achievements of mind and culture.

Seminally, our sensations and representations of time and space are about discrimination. For we attune our minds to subtle discrepancies while detecting changes and discriminating thresholds in temporal and spatial processing in the brain. So too do we employ temporal and spatial variables in the classifications and categorizations of our physical, social, and cultural universe. That is, we discern separations and divisions in everything from sensory and perceptual processing to the finer distinctions of intellectual thought. Those discriminations are literally and figuratively "inscribed" in our connectionist neural networks in plastic and varyingly durable configurations that are modified by the very experiences they condition and inform. Recalling Sullivan's treatise, what mythology really teaches us is that we are also voracious meaning-makers in imagining and organizing experiences as well as constructing and cohering patterns of meaning that bring everything from bodily maturation and decline to cosmic cycles under scrutiny. At every scale – from neuronal firing patterns to perceptual affordances to

mental images to conceptual constructs – our representations of time and space are cultural achievements. For Sullivan, the singular instance is capable of piecing together a unified whole and the particular is, ironically, the context and key to understanding the entirety, the ensemble:

> … The countable infinity of the universe's space and time, the entire universe of manifold evolutions on every level … point to the inescapable value of the individual, the locus where all this is being perceived, endowed and infused with the perceptiveness and significance of the meaning that this embodied consciousness is evaluating. Of course the individual has all along been acknowledged and understood as located in a context of other individuals and communities of culture and language. (Sullivan 2017, personal communication)

While not neglecting the scientific reasoner, we are also very much like Lévi-Strauss's (1966) *bricoleur* who always pieces together multi-source patterns and arrangements of meaningful contents just as we stitch together the fabric of our conscious lives. In seeking to decipher 'the totalizing savage mind' – which is still a part of all of us, whether in recesses or occasional breakthroughs of thought -- Lévi-Strauss conjured a 'roomfull of mirrors' wherein a complex whole is imagined from interreflecting congeries of 'imagenes mundi': "The object … is to grasp the world as both a synchronic and diachronic totality, and the knowledge it draws therefrom is like that afforded of a room by mirrors fixed on opposite walls which reflect each other (as well as objects in the intervening spaces) although without being strictly parallel. A multitude of images forms simultaneously, none exactly like any other – none furnishing more than a partial knowledge – but … characterized by invariant properties expressing a truth" (Lévi-Strauss 1966, 263; also cited in Fernandez 1986, 162).

Employing a similar "argument of images" as Sullivan, anthropologist James Fernandez (1986) culled his work on revivalist movements to document how feelings of affinity, consanguinity, metamorphosis, "conviviality in experience," polyphony, metaphoric predication, restorative belief in the relatedness of things, and pictorializing and visualizing activity can lead

to a "return to the whole" that overcomes our particulate existence. While the millennial or eschatological performances chronicled by Sullivan and the revivalist movements studied by Fernandez provoke an emotional intensity uncommon to everyday projects, the subtle or sophisticated ways we envision our multiple objective worlds requires that our normal discriminations be sometimes suspended, dissolved, or cohered in order for our imagination to bring concord to our intuitions, concepts, conceptions, and conceptualizations. We are compilers, constructors, storytellers, timekeepers, and wayfinders who gather together the shards of human experience. Without a singular timepiece or compass, the human mind-brain draws from its innate equipment and from the perceived patterns and regularities of its environment to produce a rich phenomenology of temporal and spatial experiences that can be bricolaged together in elaborate timescapes and geographies that lend interpretation and purpose to our endeavors. Again, we are symbolic beings in the reflected times and spaces of culture. We can, like Kant, claim that time and space are inherent features of mental life, but we still need to account for the times, spaces, and places attributable to those multiple objective worlds making us imaginable to one another. For human life ultimately demands imaginative projections across the divide between sense and understanding, between "reality" and our underlying conceptions.

In *Metaphoric Worlds: Conceptions of a Romantic Nature* (1988), Samuel Levin presented a theory of metaphor as an expression that evinces a degree of linguistic deviance and presents a mismatch or lack of correspondence between that expression and the world we're accustomed to think about. Of course, we have already seen that temporal and spatial processing in the brain is a constant exercise seeking (degrees of) congruency between an external "world out there" and our mental representations of that world. Unlike traditional theories of metaphor examining incompatibility between what was said and what was meant – with the assumption

that our conception of the world is fixed while our interpretation of the expression must be modified – Levin examined the metaphorical relation between what was thought and what was said (intentionality), and contended that we should take the expression literally (fixed) and modify our conception of the world. In this regard, Levin made a crucial distinction between concepts, or direct mental representations of objects, and "conceptions," "conceptions of," or "conceiving of." Whereas for Kant, the function of schematization was to provide a means of transition from experience to understanding, or to bring intuitions under concepts, Levin sought to rationalize a contrasensical state of affairs by trying to schematize a conception from the literal metaphoric expression to envision something that departs and transgresses from conditions of the actual world (Ibid, 23-26). In Levin's theory, conception is a schema whose form is defined by linguistic expression and in which the mind exerts itself to fit somehow with an image or representation; while the effort of mind to provide the schema with intuitive content may fail, the schema nevertheless represents the possibility of instantiation, and recognition of that possibility lends credibility and counts as an accession to knowledge. For Levin, conception was somewhere between a Kantian category, which was purely abstract, and cognition, where something intuitive falls under and satisfies a category. Ultimately, Levin's concern was to demonstrate how Romantic poets employed metaphoric conceptions to inspire sublime feelings and to conceive of metaphoric worlds estranged from common notions interrelating humans and nature (Levin 1988). For purposes herein, Levin's work affirmed the signal importance of fusing form with content through our inherent spatiotemporal sensibilities of mind, but reminded that our contents or conceptions of thought extend beyond empirical realities to imaginative constructions opening up new vistas and possibilities for worlds we might still encounter. In "conceiving of" worlds that stretch imagination towards make-believe, fantasy, and "irreality,"

Levin's composition ventured into "then" and "there" elements reaching beyond personal biographical experiences or memories. For cultures include inherited or acquired repositories of images, texts, artifacts, ideas, and symbols that we may never witness firsthand but which nevertheless help shape the times and spaces we deem possible.

Our basic perceptual and representational processes – our dynamic streams of conscious intuitions, concepts, and conceptualizations – are filled with seemingly endless accomplishments that arise briefly only to disappear forever. For each percept is unique. Each fleeting "present moment" in the past-present-future temporal horizon is unrepeatable. Each memory is a one-of-a-kind constellated reconstruction serving a present purpose. Each ephemera of consciousness will never pass again. Each specific activation of neural networks is distinct from similar exercises that precede or follow. Each iteration of our self is just one telling ready to be retold. Shweder's cultural psychology is a completion of the Kantian project because the psychic unity of mind is a potentiality that only finds expression in particularized fusions of form and content concretizing the fate of time and space as transcendental absolutes in lived experience and sociohistorical existence. But those particularized expressions are never "completed"; rather, they must be constantly renewed and reconstructed with every eliding retention and pretention of consciousness. Equating Shweder's inherited heterogeneous complexes with psychobiological dispositions that are activated, brought "on line," or refashioned through cultural learning, we confirm Geertz's "incompleteness" hypothesis and Levinson's bio-cultural hybrids through the manner in which human universals demand cultural experiences that are ingredient from the start. This dissertation has considered the perennial question of whether time and space are parts of our mental furniture imposed upon the world; discovered in the rhythms, regularities, shapes, objects, and movements in environment; or built up, cognized, and abstracted from bits and

pieces of experience. The cultural psychology of time and space proposed herein – accepting the basic tenets of Kant's philosophy of sensations, intuitions, concepts, categories, and active species of understanding, as well as Shweder's theorization of psychological pluralism and "universalism without the uniformity" – insists that all three propositions are necessary. For mind brings its inherited, active sensibilities (i.e., in Kant's parlance, the pure *a priori* intuitions of time and space) to experiences demanding content-filled things, properties, and processes that, in turn, are interrelated through schemas of imagination aligning intuitions and concepts into near-and longer-term conceptualizations that inform increasingly elaborate worlds of meaning.

Mediating between incomplete structures in mind and inchoative structures in environment, human time-space is the ultimate fusion of form and content in our cultural orchestrations of self and world. So too is place – which gathers time and space in a common mediatrix – for the very structure of mind is tied to locality and spatiality. As theorized by Malpas and Casey, place is a precondition for the very possibility of subjectivity – a structure within which experience, action, thought, and judgment is possible. It remains that where and when we are, the places we occupy, have everything to do with what, who, and that we are since our time-space locus deeply influences what we perceive and what we expect to be the case. Indeed, local knowledge comes down to an intimate understanding of what is generally true in the locally obvious, as places are neither purely formal nor merely substantive but rather always contentful. As we pass through every "specious present" that will never appear again, located in a place we will never revisit exactly like we are currently constituted, we arrive back – actually, for the very first time – at the realization of what it means to be here and now.

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