

The Dynamics of Agency and Context in Human Development: Holism Revisited

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To appear in: Wagoner, B., Christensen, B., & Demuth, C. (Eds.) (2021). *Culture as Process*.
New York: Springer.

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Recent work in the developmental sciences has highlighted the importance of considering metatheoretical paradigms guiding such work, noting increasing momentum for what has been referred to as the relational developmental paradigm (Budwig & Alexander, in press; Overton, 2015; Witherington, Overton, Lickliter, Marshall, & Narvaez, 2018). After a long period of the Cartesian split-mechanistic view of human development, we have increasingly witnessed a shift to more relational views. Moving beyond the separation of mind from body, organism from context, and linear accounts of human development based on additive models (all characteristic of the Cartesian split-mechanistic metatheory), the relational developmental paradigm embraces three key factors:

1. the role of the organism in their own development (agency);
2. the dynamic and unique patterns of human development across historical and ontogenetic time is central (process);
3. a holistic view of human development that emphasizes the importance of studying the organism as a system, including between the organism and environment (holism).

It is this third area, the holistic view of the organism and environment, that is the central focus of this chapter.

There is momentum in the developmental sciences for the view that organisms cannot be studied as a series of disconnected parts (Valsiner, 1998; Valsiner and Diriwchter, 2008). One example of the bidirectional relations between parts and wholes is put forth by Overton (2010, p. 13): “Holistically, the whole is not an aggregate of discrete elements but an organized system of parts, each part being defined by its relations to other parts and to the whole.”

Any attempt to examine only one part of a larger whole will fail if a systems approach is not adopted. For instance, one must look at levels of analysis rather than separating out in disconnected ways the study of an individual organism’s cognitive, social, and communicative development (Budwig, Turiel, & Zelazo, 2017).

While a number of theoretical accounts have argued for the centrality of holism, the specific relationships between individual and culture in such accounts are unclear and much confusion exists. For instance, some have claimed that Bronfenbrenner’s bioecological model falls short of adequately accounting for holism, while others say he was misunderstood (Tudge et al., 2009). Similar misunderstandings have been attributed to sociocultural accounts of individual and culture relations implying culture determines individual development, rather than being bidirectional (Mistry & Dutta, 2015).

In this chapter, we will look more closely at three approaches to individual and environment relations in discussions of holism in developmental science, with a focus on two questions. First, how does each account describe individual, culture, and their relationship to one another (*the what*); and second, how specifically does that interaction take place (*the how*). After reviewing Bronfenbrenner’s bioecological model, developmental systems theory, and sociocultural approaches, a discussion will examine how historical changes in the notion of context in

neighboring disciplines will help developmental scholars move forward in productive ways as scholars embrace more holistic views of human development.

Three views on the relation between individual and culture in holistic views of development

Bronfenbrenner's Bioecological Model

Bronfenbrenner's ecological approach to human development spanned several decades and phases. The version most often discussed, and presented in textbooks, examines four different aspects of what Bronfenbrenner described as the environmental context. The microsystem refers to relations between the individual and those in the proximate surroundings (e.g. home, school, work). The mesosystem contains inter-relationships between microsystems such as home and school, peer and school, etc. The third level is called the exosystem- structures such as public agencies or the media, that are not thought to interact directly with the individual, but are said to impinge upon microsystems in ways that impact development; and the outermost level is the macro-system, which refers to the norms and cultural beliefs that guide how other levels function. Each of the four levels is portrayed as essentially important, but it is also noted that the four levels function as a system that influenced the individual's development (Bronfenbrenner, 1977).

Some have compared this view of the individual-environment role as similar to that of cross-cultural psychologists who view culture as an entity external to the individual with "out there" qualities. For instance, Mistry & Dutti (2015 p. 370) argue:

Culture is represented as the outermost layer of context or macro-system. Although this model has conceptually focused on the interplay among the various layers of the context (i.e., psychological, biological, cultural, historical, institutional), empirically, the specific layers have been treated as split-off independent variables that influence behavior and development as efficient causes. Thus, culture is conceptualized as a feature of environmental or ecological context that exists independent of the person.

Tudge and colleagues (2009, 2016) remind us that it is important to note first that Bronfenbrenner's model changed over time, and second, whether taking into account early or later versions, the discussion of it as a mechanistic approach is misinterpreted. As Bronfenbrenner and Morris (2006, p. 795) summarize:

We begin with an exposition of the defining properties of the model, which involves four principal components and the dynamic, interactive relationships among them. The first of these, which constitutes the core of the model, is Process. More specifically, this construct encompasses particular forms of interaction between organism and environment, called proximal processes, that operate over time and are posited as the primary mechanisms producing human development. However, the power of such processes to influence development is presumed, and shown, to vary substantially as a function of the characteristics of the developing Person, of the immediate and more

remote environmental contexts, and the time periods, in which the proximal processes take place.

As Bronfenbrenner and Morris (2006, p.799) themselves acknowledge, the later versions of the model go much further in not only adding new constructs (e.g. the concept of proximal process including the addition of time), but also in describing human development as “bidirectional, synergistic interrelationships.” Bronfenbrenner and Morris (2006) highlight the power of proximal processes playing a major role in development, noting that variations in characteristics of both individuals and context, as well as space and time can lead to different developmental outcomes. The model appears to fit with the relational developmental paradigm to the extent that agency, process, and holism are all central and defining features. Organisms and environments are distinct but both mutually play a role in development, similar to what Valsiner (2001) refers to as inclusive separation. As Bronfenbrenner and Morris (2006, p. 815) suggest:

Not only do developmentally generative features of the surroundings have greater impact in more stable settings, but they also function as a buffer against the disruptive influences of disorganizing environments.

This framing begins to take up Valsiner’s (1997, 2014) notion of inclusive separation which attempts to look at the catalytic relationship between individual and environment. Note though that the bioecological model adopts what Valsiner (2014, p. 70) refers to as a causal influence, rather than that articulated in his construct of inclusive separation, which describes the process of internalization/externalization as involving:

a sequence of boundaries that distance the internal personal infinity with that of the outer world. This language use is intentional—distancing within the context (rather than from it) entails the dialogical unity designated by inclusive separation—a boundary creates a relationship between the two sides distinguished by it.

The distinction is critical because it shows that one can adopt a holistic systems view that stipulates distinct conditions that are said to cause (in the bioecological model) or enable the organism in its relations with the environment:

different layers of the internalization/externalization system—are structural units that separate and unite the system at the same time. The critical role played in this act of inclusive separation is that of catalytic conditions that are bound to the different locations on these borders. These conditions *enable*—rather than cause—the self-regulatory functioning of the organism in its relations with the surrounding world. It is the catalytic functions that dominate in the organization of the meaning-making process (Valsiner, 2014, p. 90).

Developmental Systems Theory

A set of articles synthesizing a tremendous amount of work in the developmental sciences from a Developmental Systems Theory perspective (Ford & Lerner, 1992; Overton, 2015) examines malleability, plasticity, and individuality of children’s learning and development in context

(Osher, Cantor, Berg, Steyer, & Rose, 2020; Cantor, Osher, Berg, Steyer, & Rose, T., 2019). Borrowing from Fischer and Bidell (2006) the metaphor of a “constructive web”, these articles aim to understand “the dynamic interrelationships between children’s development, knowledge, complex skill construction, and environmental supports” (Cantor, Osher, Berg, Steyer, & Rose, 2019, p. 316). Developmental Systems Theory (DST) is noted to provide a framework that allows scholars to understand the various factors of both the individual and their environments that work together as children develop across longitudinal time. Adopting “a dynamic, holistic developmental systems framework ... enables a deeper understanding of the whole child in context.” (Cantor et al. 2019, p. 327). Following others (Fischer & Bidell, 2006; Oyama, 2000), the authors note that adopting the dynamic systems framework allows the researchers to move beyond both genetically predetermined or nature vs. nurture alternatives. The DST framework advocated here is noted to relate to Bronfenbrenner’s bioecological framework. What specifically is meant by culture and context in this framework, and how culture and context link up with individual function within the developmental systems paradigm is a central question to which we now turn.

Culture does not figure much in the DST framework, though notions such as context and ecological systems do. As we will see more clearly in the next section, the developmental systems framework assumes both flexibility and agency on the part of the individual as individuals construct meaning out of experiences in much the way others have described (Bronfenbrenner, 2005; Overton & Mueller, 2012). While noting terms such as embodiment and socially and culturally situated development, little more is said about these aspects and it is not clear what Osher et al (2020, p.1) mean by these terms:

The framework enables us to view children’s development as embodied, contextualized, and socially and culturally situated, which is understood in their ecologies and affected by the ecologies of those who interact with them.

More central to the DST perspective are what are called two drivers of human development—namely, relationships and context. Specifically, relationships, micro- and macro-contextual factors and cultural and structural factors are said to support or undermine healthy development (e.g. institutionalized racism, poverty). Relationships include the key actors who affect development (e.g. parents, peers, teachers), as well as contexts within which development takes place (e.g. families, schools). While the individual is said to be active, much of the terminology used by Osher et al. (2020, p. 1) to describe the process of development suggests that it is the “influences of key contexts and relationships within contexts in young people’s lives that drive their development over time, and address growth and malleability throughout the life course.”

As a constructive web (Fischer & Bidell, 2006), Cantor et al., (2019) describe the individual as an agent of their development drawing on the contextual supports that positively or negatively influence their development. The specific developmental trajectory is imagined as unique, produced jointly from individuals’ cognitive and affective attributes and the dynamic web of contextual supports surrounding him/her over time (Fischer & Bidell, 2006; Lerner, 2018; Rose et al., 2013). In addition to contexts, Cantor et al. (2020, p. 3) claim that relationships play a

central role: “Relationships between and among children and adults are a primary process through which biological and contextual factors influence and mutually reinforce each other.”

Those adopting a DST perspective argue that individuals develop in context and propose that ignoring contextual factors would inaccurately portray the process of development. Furthermore, while the focus on micro- and macro-contexts and relationships might suggest that development depends solely on specific interactions, the idea is put forth that there can be intergenerational transmission, both positive (assets) and negative (adversity) that cumulatively ripple within and between generations (Osher et al., 2020, p. 15).

While the notion of context is similar to Bronfenbrenner’s bioecological models, the developmental systems framework focuses more on the role of relationships with others, and highlights to a slightly larger extent the complexity of interaction between nature and nurture, and the role internalization plays in leading to a diversity of outcomes across historical time and place, as well as individuals. The organism is described by Osher et al., (2020, p. 18) as “continuously adapting, organizing, and reorganizing, and subject to change across the lifespan.” As Valsiner notes (2005) in his discussion of the importance of the shift to examine processes of development within the dynamic systems model, the theory has moved the field of developmental science forward by emphasizing the level of organization of organism relating to environment exemplifying the dynamics of the system. Nevertheless, as he notes, this work has primarily been descriptive and has yet to explain the specifics of the active role of the self. “The formal notion of attractors has been descriptive of dynamic processes, rather than explicative of their generation (Valsiner, 2005, p. 13). Developmental systems approaches offer a more holistic approach to development, which examine the dynamics at the level of the system, but DST has yet to establish how the dynamic organization is constructed as development unfolds.

Sociocultural Perspectives

It is interesting that sociocultural approaches have received little attention within the discussion of the relational developmental paradigm. As Stetsenko (2016) has noted, this may in part be due to early reports suggesting that Vygotskian theory should be viewed within a Marxist “split” tradition where cultural mediation was said to be distinct from individual agency (Overton, 2006). A careful review of Vygotskian and neo-Vygostkian positions, including both sociogenetic and sociocultural approaches though suggests more transformative views of development in contrast to descriptions that view sociocultural perspectives as simple transmission models (Lawrence & Valsiner, 1993; Mistry & Wu, 2010). For those adopting a sociocultural framework, culture is not directly internalized and individuals are actively involved in meaning making processes. So the question can be raised: Is the view of individual – culture relations in sociocultural accounts similar to the bioecological and DST perspectives reviewed above? We turn to this now.

According to sociocultural views, culture and individual interactions are central to development, and these interactions are mediated by symbols and artifacts (Lawrence and Valsiner, 2003). Here the individual is not viewed as being nested within culture (e.g. it is not like a flower in a vase, where the vase supports the flower), but rather the perspective here focuses on ways

personal sense making and socio-cultural meanings indicate bidirectional support and reciprocal change (Lawrence & Valsiner, 2003; Valsiner, 1998; Saxe, 2012). Interactions with others, including more experienced others and peers, play a central role in development, as does the notion of social infrastructure (Bielaczyc, 2006).

Particularly rich examples of the dynamics of both developmental and cultural change can be found in longitudinal fieldwork in Mexico and New Guinea over extensive periods of historical time. Such work, with successive waves of data collected at the same field sites, illustrates not only how the children develop, but also ways in which the communities studied simultaneously participated in significant socio-historical changes (Greenfield, Maynard, & Childs, 2000; Saxe, 2012). This illustrates that in accounting for human development it is not as if the organism is developing *in* culture. The sociocultural approach makes clear that cultures also evolve, and even within cultural communities, rich variation exists.

While both the bioecological and DST emphasize that development depends on bidirectional relationships, through a discussion of the role of artifacts and tools, sociocultural theorists identify *how* particular relationships and interactions are transacted (Nasir & Hand, 2006; Nasir, Rosebery, Warren, & Lee, 2006). Artifacts and tools provide a major way to better understand how culture and individual meaning making transform human development at multiple timescales (historical, ontogenetic, microgenetic). Just as tools and artifacts structure the cultural and individual development of mathematics in Saxe's sociogenetic work, others have highlighted the centrality of language as a symbolic tool, playing a role both in the development of thought and socialization (Budwig, 2003a; Wertsch, 1998). Humans interact in and through goal-directed activities involving tools. Culture does not exist separate as a readymade dimension of experience, nor does context. A child, for instance, hears regular form-function patterns in language that are imbued with cultural meaning in the context of everyday interactions, which become tools for individual children's own meaning making systems (Budwig, 2003b).

Two points are central to claims about the role of tools and artifacts. First, much evidence exists of children using language and other cultural tools and artifacts in unique ways based on their own personal meaning systems, showing their active role in meaning-making. Second, over time, studies have shown how cultures themselves transform and use tools and artifacts in evolving ways. Although much of the critique of Vygotsky's notion of zone of proximal development is based on the examination of specific goal directed behaviors involving the use of readymade tools and artifacts, it is important to note that typically tools and artifacts are not static, which makes them especially powerful contributors to the transformative process of cultures (Rosa, 2018). Tools and artifacts also provide methods for individuals to guide their own actions without others being involved directly. That is, humans develop tools to contextualize culturally relevant meanings. Gumperz (1982, 1992) refers to contextual cues - specific symbolic means that when used systematically come to stand for or index larger meaning systems, often without direct reference. For instance, shifting from formal titles to less formal titles in an ongoing interaction marks a new level of intimacy between interactants. As Gumperz argued, context is not fixed or out there, but is embodied and emerges in and through semantically mediated

interactions. In this sense, contextual cues contribute to participants understanding of everyday interactions.

Sociocultural perspectives also have highlighted the importance of considering social infrastructure. Bielaczyc (2006) describes several dimensions of what she refers to as the social infrastructure framework (e.g. cultural beliefs, cultural practices, spatial relations), that can be useful to consider when thinking about holism and individual-culture bidirectional relations. The beliefs individuals have about individuality, agency, development, and norms develop in and through practices and the organization of spatial relationships. For instance, Rogoff, Moore, Correa-Chavez, and Dexter (2007, p.472) highlight the dynamics of interactions arguing:

People actively develop their individual histories, identifications, and resulting interests and familiarity with multiple cultural traditions, and the traditions themselves change as successive generations adapt them to current circumstances.

What is central about work such as that by Rogoff and colleagues, as well as other sociocultural scholars is the importance of considering what is often left tacit, namely that individual and cultural expectations about how events are organized continually evolve, as individuals jointly participate in actual interactions. Members of different communities organize and structure activities with others in culturally different ways, and individuals develop repertoires of interaction based on experiences they participate in.

Whether tacit or explicit, Bielaczyc (2006) suggests that spatial relations contribute to and are guided by other aspects of social infrastructure. As Bronfenbrenner and Morris (2006) note, environments can be open to or discourage exploration by children. As Bielaczyc (2006), Rogoff (2003, Rogoff et al., 2007) and Valsiner (2000) have shown, the special configurations are not only constitutive of, but also built upon cultural beliefs. As cultural notions change over time, so too do spatial configurations. For instance, as collaboration has become a desirable 21st century learning outcome, spatial configurations in modern classrooms come to support collaborative learning with new furniture and spatial positioning of furniture developed to support collaboration, compared to spatial arrangements where students work independently at desks in rows with a teacher at the head of the class. In summary, spatial configurations can act as semiotic means of constructing how individuals experience physical space.

Pulling together a wide range of symbolic means, sociocultural perspectives argue that these systems (language, participant structures, artifacts, tools, spatial configurations) contribute to the bidirectional relationships between individuals and cultures. Meaning is not fixed- either culturally or individually, but rather mutually constituted in actual interactions.

Discussion

A careful review of Bronfenbrenner's bioecological approach, developmental systems theory, and sociocultural perspectives all show evidence of adopting a view of holism that aims to support an understanding of both organism and environment dynamically impacting development. But as Lawrence and Valsiner (1993, pp. 150-151) argue:

It is not sufficient to make repetitive declarations that psychological development is socially constituted. Instead, there is a pressing need to make it conceptually clear in what ways the social determinacy of human psychological functions is at work in the course of development.

In terms of conceptually clarifying how organism and culture play out in dynamic ways is something we argued the sociocultural perspective has elaborated on more than the other frameworks. Interestingly, in discussions of relational developmental theorizing this perspective is not given much treatment, nor have socioculturalists themselves been active in discussions related to the growing momentum for relational developmental approaches.

Evolving Notions of Context: A Look to Other Fields

The patterns we have seen with regard to holism are remindful of those discussed several decades ago as the notion of context and the holistic relationship between language, thought, and culture were examined in neighboring fields (Goodwin & Duranti, 1992; Gumperz and Levinson, 1996). After a long while of viewing language separately from contexts of use, there began to be calls to consider bidirectional relations between notions of language and context. A phase similar to that of early Bronfenbrenner of a nesting of an individual's language was noted to require examinations of that linguistic behavior, in light of contexts of use. Context here was something existing independent from the symbolic activities of interactants. This view for the need to examine language *in* context, while well-received and important, was replaced by a more dynamic and embodied view of context. Meaning was not determined by virtue of being uttered in a particular context; rather, verbal and non-verbal forms contributed to the determination of context. This more interactional and emergent view of context relates to what Gumperz called contextual cues (1982, 1992). As noted above, these are verbal and non-verbal signals used by co-participants to dynamically construct context. This view of context is similar to that held by sociocultural scholars who also believe that context and culture are mutually established through evolving practices.

While examples of this more dynamic approach to context are rare in developmental science, examples do exist. For instance, Di Paolo, Cuffari, and De Jaegher's (2018) build the case for bodies, agency, and culture to be intersubjectively constructed within the flow of ongoing verbal interactions. For instance, when examining autistic children's development, rather than adopting an approach based on cognitive deficits, the authors explore how these individuals make sense of and participate in activities with others. They, like others, argue for the importance of studying language practices and the constitutive role they play in processes of human development (Budwig, 2003b; 2019).

Bamberg (1997, 2020) similarly has illustrated the dynamic role that interactional practices play in identity formation using the small story and narrative practice approach to identity formation. Culture and context are not fixed entities impacting individuals' development, rather they are emergent properties of interactions. Highlighting the value of examining narrative practices, especially as participants are engaged in ongoing story telling in real time, Bamberg argues that participants bring to these interactions, a set of shared and embodied cultural practices of

storytelling in the form of both bodily and verbal practices in their social interactions. In these contexts, narrators are not simply telling stories revealing an underlying identity; rather participants are engaging in navigation practices involved in identity work. Bamberg's narrative approach looks at identity formation in terms of interactive practice, suggesting the sort of contextualization process outlined above. Individuals are not developing "an identity"; rather, interactants have fluid repertoires available to deploy to construct a sense of who they are and how they position others in ongoing activities. This work highlights the importance of examining a holistic relation between identity and practice as individuals negotiate what it means to belong to a community with others.

Conclusions

This chapter has provided the chance to examine one of the central principles of the relational developmental paradigm that has been gaining significant attention in developmental science, namely the principle of holism. Reviewing three dominant frameworks provides evidence for emerging momentum in identifying bidirectional relations between organism and culture. In order to avoid the confusion noted though, there is need for further precision in the nature and processes of *how* bidirectionality impacts developmental trajectories. We have noted that modern sociocultural perspectives with their extensive linkages to other disciplines have borrowed methodological frameworks and tools from work going on in linguistic and cultural anthropology. This has led to a much more nuanced account that incorporates not only *that* bidirectional relations between organism and culture exist, but also describes *how* organisms and culture dynamically interact in the course of development.

Psychology, like many disciplines, has become fragmented, and its connections to other disciplines has decreased significantly. While consistent with the Cartesian split-mechanistic meta-theories, relational developmental metatheory opens the door to consider the advantages of disciplines within broader systems approaches. Piaget (1972) encouraged interdisciplinary considerations arguing epistemological holism is central. I have argued that the trajectory for considering bidirectional relationship between individual and culture in some developmental approaches, while an improvement over mechanistic accounts seem outdated, replicating the historical shifts witnessed in other disciplines that transitioned from decontextual studies, to embedding studies *in* cultural context, to looking at contextualization processes as emergent within interactional frames. Developmental scholars have much to learn from disciplines that have considered bidirectional organism-culture relations several decades ago.

The conceptual frameworks that scholars bring to their work influences both theory and practice (Budwig & Alexander, in press). It is exciting to consider the implications of the shift toward relational metatheoretical approaches. But to make significant gains as a field, developmental science has further work to do in better untangling how holism, and in particular the nature of the bidirectional relationship between individual and culture are imagined in developmental science. Relational perspectives not only open the door to clarifying theory and research, but also for moving beyond long held western ideologies in ways that could make inclusive and equitable practice possible.

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