

Purposive-Historical Systems Theory: An Emerging (Meta)Theoretical Framework for Second Language Development

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Abstract

Saeed Karimi-Aghdam (PhD in Applied Linguistics) defended his doctoral dissertation entitled “Developing a Metatheoretical Framework for Second Language Development: A Cultural- Historical Theory and Dynamic Systems Theory Perspective” at the University of Jyväskylä, Finland on 26 June 2017. This article is a slightly revised version of the *lectio praecursoria* delivered by him before the public defense of his doctoral dissertation. His supervisors were Professors Hannele Dufva and Mika Lähteenmäki, both from the Department of Language and Communication Studies, University of Jyväskylä and his opponent was Professor James P. Lantolf of the Department of Applied Linguistics and the Center for Language Acquisition, the Pennsylvania State University, USA.

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A review of the second language acquisition (hereafter SLA) literature shows that at least four critical issues stand in need of reappraisal. First, two broad-brush schools of thought currently reign in the field of SLA (e.g., Firth & Wagner 1997; Block 1996; Ellis 2010). These I have termed the social family of SLA theories and the cognitive family of SLA theories (Karimi-Aghdam, Dufva, Lähteenmäki 2016; Karimi-Aghdam 2017c). Each school consists of a collection of theories, approaches, frameworks, and hypotheses that share some family resemblances and similarities, without necessarily or categorically being identical in all their presuppositions, conceptual frameworks, methodological apparatus and data collection procedures. Some scholars hold that the cognitive-social gap in SLA is not monolithic (e.g., Hulstijn, Young, Ortega, Bigelow, DeKeyser, Ellis, Lantolf, Mackey, & Talmy 2014; The Douglas Fir Group 2016). Others argue that there is an epistemological gap while yet others maintain that there is no gap between the social and cognitive facets of SLA (e.g., Lantolf, 2014). In

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my dissertation, I argue that an ontological hiatus exists between the social and cognitive families of SLA theories. A few comments on this social-cognitive gap are thus in order. For the cognitive family of SLA theories, the ultimate *reality* resides in the mind of the learner. Thus, acquisition of the homogeneous competence possessed by an ideal native speaker is regarded as the learner's primary goal. Furthermore, in the cognitive family, second language acquisition is viewed as a deterministic, intra-individual, and subjective phenomenon (e.g., Gregg 1989; Long & Doughty 2003). In turn, for the social family of SLA theories, the ultimate *reality* resides in the social context in which the learner is situated. Moreover, second language acquisition in the social family is conceived as a probabilistic, inter-individual, and objective phenomenon (e.g., Block 2003; Firth & Wagner 2007).

The second crucial issue is to reach a consensus concerning the main goal of the field. Is it to explain second language acquisition causally or to understand it interpretively? It is apparent that thus far a collage of explanatory and interpretive methods of inquiry has been applied with scholars paying scarcely any attention to the affinity or commensurability of the core principles underlying them. The third issue that needs to be addressed concerns the lack of in-depth investigations of the putative assumptions upon which SLA theories are anchored. On any reckoning, the overwhelming majority of the SLA theories that have been in vogue, apart from a few notable exceptions such as sociocultural theory (e.g., Lantolf 1996; Lantolf 2017; Lantolf & Appel 1994; Lantolf & Thorne 2006), have not been adequately delineated in terms of their philosophical foundations. The fourth issue that calls for serious attention is the unfortunate dearth of critical yet constructive dialogue between the extant SLA theories and their offshoots. Instead of entering into nonviable discussions on superiority and endeavoring to protect the home turf of a favored theory, it would seem more appropriate to engage in *inter-theoretic* exchanges, marking out a common universe of discourse, and identifying unmapped terrain in the field of inquiry.

Seeking to address these lacunae, to motivate metatheoretical discussion, and ultimately to transcend the pernicious conceptual divisions that have plagued the field, I set out, in my doctoral dissertation, to construct a metatheoretical architecture for the study of second language development. I term this novel metatheoretical framework, which is still in its embryonic stage, '*Purposive-Historical*

Systems Theory’ or ‘PHiST’ for short (Karimi-Aghdam 2017c). By a metatheoretical framework, I mean a hierarchical, multilayered, coherent, and developing system comprising conceptual foundations, principles, beliefs, and practices about second language development with the worldview as its all-embracing touchstone. PHiST encompasses a diverse array of feeder approaches, disciplines, theories, and frameworks (see Karimi-Aghdam 2017c). Nevertheless, I would underscore the fact that I draw extensively upon three main theories in shaping the outlines of PHiST.

These three parent theories are dynamic systems theory, Vygotskian cultural-historical theory, and Pepperian root metaphor theory. Dynamic systems theory signifies a multidisciplinary frame of reference for multiple approaches that purport to study the becoming-in-time dynamics of emergent, complex and non-linear systems, straddling multiple disciplines from psychology to biology. Within the purview of SLA, dynamic systems theory views language development as a dynamic, nonlinear, complex, and self-organizing system (e.g., Beckner, Blythe, Bybee, Christiansen, Croft, Ellis, & Schoenemann 2009; Karimi-Aghdam 2016a; Larsen-Freeman & Cameron 2008; de Bot & Larsen-Freeman 2011). Cultural-historical theory, better known as sociocultural theory in applied linguistics, is predicated upon Russian avant-garde psychologist Lev Vygotsky’s dialectical psychology (e.g., Cole 1996; Frawley & Lantolf 1985). Cultural-historical theory aims primarily to investigate the complex, dynamic, and processual relationality between culture and biology in engendering human consciousness and its constitutive higher-order functions (e.g., Vygotsky 1987; Vygotsky 1997).

Root metaphor theory was introduced by the American philosopher Stephen Pepper (1891-1972). In systematically categorizing the most comprehensive conceptual systems about the world, or worldviews, Pepper (1942) contends that only four worldviews or, in his own words, *world hypotheses*, are relatively adequate in their scope and precision. These four worldviews are *formism*, *mechanism*, *contextualism*, and *organicism*. Pepper (1935) argues that, at the beginning, every worldview is based on a small set of experiential facts and concrete evidential sources, which in turn are constructed on the basis of a root metaphor. The root metaphor of the formism worldview is similarity between different objects and events. The root metaphor of the

mechanism worldview is a machine. The root metaphor of the contextualism worldview is an ongoing historic event. Finally, the root metaphor of the organicism worldview is the process of harmonious unity and integration characteristic of a living organism (for an extended discussion of root metaphor theory, see Karimi-Aghdam 2017b).

Building upon these three theories, I pose a core set of three fundamental questions to serve as the cynosure for developing PHiST:

First question: Are the cultural-historical and dynamic systems theories commensurable?

Second question: Is it feasible to invoke root metaphor theory to expose the axioms and pillars of the cultural-historical theory and dynamic systems theory?

Third question: What are the fundamental axioms and guiding principles of PHiST?

My effort to answer these key questions consists of three broad, interconnected steps. In the first step, I present an immanent critique of the received interpretation of dynamic systems theory that I have dubbed 'contextual dynamic systems theory' and offer a new interpretation which I have called 'dialectical dynamic systems theory' (Karimi-Aghdam 2016a; Karimi-Aghdam 2016b; Karimi-Aghdam 2017c). I subsequently retitled dialectical dynamic systems theory as *Purposive-Historical Systems Theory (PHiST)* (Karimi-Aghdam 2017c). By an immanent or internal critique, I mean a critique that is leveled against a theory from within. Put differently, an immanent critique of a theory means to subscribe, for the sake of discussion, to empirically unfalsifiable assumptions and taken-for-granted underpinnings of the theory in question, and then try to demonstrate whether, with reference to those assumptions, the theory can answer various questions and solve existing problems. Here, I should point out that it is scientifically futile to attempt conclusively to refute the claims and findings of a specific theory by dint of carrying out empirical inquiries, or worse, by utilizing conceptual foundations and arguments drawn from a different theory. For example, to claim, based on a Chomskian view of language that

Vygotskian cultural-historical theory is categorically untenable or dubious seems indefensible (e.g., Gregg 1989; Gregg 1993).

In the second step towards answering the three guiding questions, I seek to cast new light on Vygotskian cultural-historical theory by drawing upon Pepperian root metaphor theory (Karimi-Aghdam 2017b). I conclude that Vygotskian cultural-historical theory draws upon the organicism and contextualism worldviews in an attempt to offer an integrative framework and to bridge the fundamental gap between subjective and objective psychology. I also argue that both PHiST and Vygotskian cultural-historical theory underwrite a non-reductive, and of necessity, monistic ontology. Likewise, both theories avoid committing the dualistic fallacy of reducing human and language development either downward to the natural-biological plane or upward to the cultural-social plane. To exemplify how the suggested metatheoretical framework contributes to a deeper understanding of issues, the seminal construct of the Zone of Proximal Development (ZPD) is reconceptualized drawing upon PHiST (Karimi-Aghdam 2017a).

My third step towards answering the research questions is two-fold. First, I articulate some of the ontological and epistemological postulations of PHiST, primarily invoking Pepper's root metaphor theory; second, I introduce and theorize some of the core conceptual apparatus of PHiST, such as circular causality, purposivity, teleotropism, time and temporality, self-organizational emergence, causality types, communicative *telos* and, last but not least, the speaking event (Karimi-Aghdam 2016a; Karimi-Aghdam 2016b; Karimi-Aghdam 2017c; Karimi-Aghdam, Dufva & Lähtenmäki 2016).

Against this general background, I will now sketch out the broad contours of PHiST. Purposive-Historical Systems Theory seeks to avoid three fallacies. These three '*nothing but*' fallacies are: 1) the *adduction fallacy*; 2) the *reduction fallacy*; and 3) the *eduction fallacy*. By the adduction fallacy, I mean reasoning that proceeds on the assumption that a second language developmental system as an interconnected totality is nothing but a timeless, unorganized, and additive aggregation of cognitive effects that are caused by language uses in a linear fashion; By the reduction fallacy, I mean the presupposition that a second language developmental system is nothing but an aggregate of social causes *or* a summation of cognitive effects. By the eduction fallacy, I mean the assumption that a second language developmental system is nothing but

a maturational unfolding of an inborn language faculty that is triggered by the linguistic input that an L2 learner is exposed to in the environment and thus converted from potentiality to actuality (Karimi-Aghdam 2017c).

To circumvent these three 'nothing-but' fallacies, PHiST proposes an integrative framework for understanding, describing, explaining, and optimizing second language development. From the PHiST vantage point, an L2 developmental system is as an emergent, dynamic, complex, and purposive ensemble, which depends, on the social and cognitive as well as on the purposivity and agency of a learner for its genesis and functionality. In striving to developing a unifying framework for scrutinizing the processual trajectory of a second language developmental system over different timescales, PHiST offers a solution to the cognitive-social impasse by adopting a dialectical logic. I shall now present just a few of the insights that PHiST offers (see Karimi-Aghdam 2017c: 54-87):

1. the objective and the subjective aspects of a second language developmental system stand in a constitutive relationality with one another rather than as an exclusive disjunction or additive conjunction;
2. a second language developmental system is not simply engendered by the cognitive dimension divorced from real language uses that are embedded in the social context. Nor can the totality of a second language developmental system be expressed or explained as a mere collection of language uses in the social context divorced from the purposivity and agency of a learner;
3. a second language developmental system is an *individuum*, meaning that a second language developmental system is essentially a temporal and qualitative totality which cannot be divided quantitatively without destroying its essence and properties;
4. a second language developmental system is different from language use. Language use is a necessary but insufficient condition for the emergence of a second language developmental system;

5. a second language developmental system does not deterministically unfold along a predefined path; rather, a second language developmental system is shaped by preceding second language uses over various timescales coupled with the agentive and purposive influences of a learner;
6. a second language developmental system is neither an additive summation nor a purpose-shorn aggregate of second language uses over time;
7. a second language developmental system changes ceaselessly at multiple levels and over different timescales as a learner engages mediationally with meaning-saturated sociohistorical and situational contexts;
8. second language use exerts both a constraining and facilitative influence on a second language developmental system and vice versa;
9. a speaking event is a time-locked process that welds together the past and the future of a second language developmental system in its present timescale;
10. a speaking event is also a welding point for the subjective and objective dimensions of a second language developmental system.

To conclude, the main contribution of Purposive-Historical Systems Theory (PHiST) is that it could offer new, multi-disciplinary and conceptual insights and impetus for expanding our understanding of second language development. Furthermore, the arguments based on PHiST that are suggested here have pedagogical and practical implications for teaching, learning, and assessing second language acquisition in classroom and non-classroom settings.

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References

- Beckner, C., Blythe, R., Bybee, J., Christiansen, M. H., Croft, W., Ellis, N. C. and Schoenemann, T. 2009. "Language is a Complex Adaptive System: Position Paper." *Language Learning* 59 (Suppl. 1): 1–26.
- Block, D. 1996. "Not So Fast: Some Thoughts on Theory Culling, Relativism, Accepted Findings and the Heart and Soul of SLA." *Applied Linguistics* 17(1): 63-83.
- Block, D. 2003. *The Social Turn in Second Language Acquisition*. Edinburgh: University of Edinburgh Press.
- Cole, M. 1996. *Cultural Psychology: A Once and Future Discipline*. Cambridge: Harvard University Press.
- de Bot, K. and Larsen-Freeman, D. 2011. "Researching Second Language Development from a Dynamic Systems Theory Perspective." In M. Verspoor, K. de Bot and W. Lowie (Eds.), *A Dynamic Approach to Second Language Development*. Amsterdam: John Benjamins.
- Ellis, R. 2010. "Theoretical Pluralism in SLA: Is There a Way Forward?." In P. Seedhouse, S. Walsh, and C. Jenks (Eds.), *Conceptualising Learning in Applied Linguistics* (pp. 23-51). Basingstoke: Palgrave Macmillan.
- Firth, A. and Wagner, J. 1997. "On Discourse, Communication, and (Some) Fundamental Concepts in SLA Research." *The Modern Language Journal* 81:285-300.
- Firth, A. and Wagner, J. 2007. "Second/Foreign Language Learning As a Social Accomplishment: Elaborations on a Reconceptualized SLA." *The Modern Language Journal* 91(s1): 800-819.
- Frawley, W. and Lantolf, J. P. 1985. "Second Language Discourse: A Vygotskian Perspective." *Applied Linguistics* 6(1): 19-44.

- Gregg, K. R. 1989. "Second Language Acquisition Theory: The Case for a Generative Perspective." In S. M. Gass and J. Schachter (Eds.) *Linguistic Perspectives on Second Language Acquisition* (pp. 15-40). Cambridge: Cambridge University Press.
- Gregg, K. R. 1993. "Taking Explanation Seriously; or, Let a Couple of Flowers Bloom." *Applied Linguistics* 14(3): 276-294.
- Hulstijn, J. H., Young, R. F., Ortega, L., Bigelow, M., DeKeyser, R., Ellis, N. C., Lantolf, J. P., Mackey A. and Talmy, S. 2014. "Bridging the Gap: Cognitive and Social Approaches to Research in Second Language Learning and Teaching." *Studies in Second Language Acquisition* 36 (3): 1-61.
- Karimi-Aghdam, S. 2016a. "A Dialectical Reading of Dynamic Systems Theory: Transcending Socialized Cognition and Cognized Social Dualism in L2 Studies." *Language and Sociocultural Theory* 3(1): 31-58.
- . 2016b. "Moving Toward a Supertheory for all Seasons: Dialectical Dynamic Systems Theory and Sociocultural Theory – A Reply to McCafferty (2016)." *Language and Sociocultural Theory* 3(1): 65-71.
- . 2017a. "Zone of Proximal Development (ZPD) as an Emergent System: A Dynamic Systems Theory Perspective." *Integrative Psychological and Behavioral Science* 51(1): 76-93.
- . 2017b. "Rethinking Vygotskian Cultural-historical Theory in Light of Pepperian Root Metaphor Theory: Dynamic Interplay of Organicism and Contextualism." *Human Development* 59(5): 251-282.
- . 2017c. *Developing a Metatheoretical Framework for Second Language Development: A Cultural-historical Theory and Dynamic Systems Theory Perspective*. (Published Doctoral Dissertation), Jyväskylä Studies in Humanities Series 320. Jyväskylä: Jyväskylä University Printing House.
- , Dufva, H., and Lähteenmäki, M. 2016. "Dancing with Alternative Lyrics: Integrating Sociocultural, Dialogical and Dynamical Conceptualizations of Language and its Development for L2 Studies." *AFinLA (The Finnish Association of Applied Linguistics) Yearbook 2016*, 74: 163-183.
- Lantolf, J. P. 1996. "SLA Theory Building: "Letting all the flowers bloom!"". *Language Learning* 46(4): 713-49.

- . 2014. “A Bridge Not Needed: The Sociocultural Perspective.” *Studies in Second Language Acquisition* 36 (3): 368-374.
- . 2017. “Materialist Dialectics in Vygotsky’s Methodological Framework: Implications for Second Language Education Research.” In C. Ratner and D. N. Henrique Silva (Eds.), *Vygotsky and Marx: Toward a Marxist Psychology*. New York: Routledge.
- and Appel, G. 1994. *Vygotskian Approaches to Second Language Research*. Norwood: Ablex.
- and Thorne, S. 2006. *Sociocultural Theory and the Genesis of L2 Development*. Oxford: Oxford University Press.
- Larsen-Freeman, D. and Cameron, L. 2008. *Complex Systems and Applied Linguistics*. Oxford: Oxford University Press.
- Long, M. H. and Doughty, C. J. 2003. “The Scope of Inquiry and Goals of SLA.” In Doughty, C. J. and M. H. Long (Eds.), *Handbook of Second Language Acquisition* (pp. 3-16). Malden: Blackwell.
- Pepper, S. C. 1935. “The Root of Metaphor Theory of Metaphysics.” *The Journal of Philosophy* 32: 365-374.
- . 1942. *World Hypotheses: A Study in Evidence*. Berkeley, CA: University of California Press.
- The Douglas Fir Group. 2016. “A Transdisciplinary Framework for SLA in a Multilingual World.” *The Modern Language Journal* 100(S): 19-47.
- Vygotsky, L. S. 1978. *Mind in Society: The Development of Higher Psychological Processes*. Cambridge: Harvard University Press (M. Cole, V. John-Steiner, S. Scribner, and E. Souberman, Eds. and Trans.; original works published 1930-1935).
- . 1997. *The Collected Works of LS Vygotsky: Vol. 4. The History of the Development of Higher Mental Functions* (M. Hall, Trans.; R.W. Rieber, Ed.). New York: Plenum.