A Transdisciplinary Framework for SLA in a Multilingual World

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THE PHENOMENON OF MULTILINGUALISM is as old as humanity, but multilingualism has been catapulted to a new world order in the 21st century. Social relations, knowledge structures, and webs of power are experienced by many people as highly mobile and interconnected—for good and for bad—as a result of broad sociopolitical events and global markets. As a consequence, today's multilingualism is enmeshed in globalization, technologization, and mobility. Communication and meaning-making are often felt as deterritorialized, that is, lived as something "which does not belong to one locality but which organizes translocal trajectories and wider spaces" (Blommaert, 2010, p. 46), while language use and learning are seen as emergent, dynamic, unpredictable, open ended, and intersubjectively negotiated. In this context, increasingly numerous and more diverse populations of adults and youth become multilingual and transcultural later in life, either by elective choice or by forced circumstances, or for a mixture of reasons. They must learn to negotiate complex demands and opportunities for varied, emergent competencies across their languages. Understanding such learning requires the integrative consideration of learners' mental and neurobiological processing, remembering and categorizing patterns, and moment-to-moment use of language in conjunction with a variety of socioemotional, sociocultural, sociopolitical, and ideological factors.

The field of second language acquisition (SLA) seeks (a) to understand the processes by which school-aged children, adolescents, and adults learn and use, at any point in life, an additional language, including second, foreign, indigenous, minority, or heritage languages, (b) to explain the linguistic processes and outcomes of such learning, and (c) to characterize the linguistic and nonlinguistic forces that create and shape both the processes and the outcomes. One of many contributors of knowledge into the learning and teaching of languages in the wider field of applied linguistics, SLA remains focused on understanding linguistic development in an additional language. Begun as an interdisciplinary endeavor over half a century ago (e.g., Corder, 1967; Selinker, 1972), SLA's early research efforts drew on scholarly developments from the fields of linguistics and psychology and drew on practical concerns for language pedagogy in the post-World War II era (see Huebner, 1998). In the early 1980s, Hymes's (1974) work in sociolinguistics and his notion of communicative competence were instrumental in the reconceptualization of proficiency in a second language (Canale & Swain, 1980) and thus in expanding SLA constructs (see Hornberger, 2009). However, the legacy of linguistics and psychology meant that most theories and insights remained strongly cognitive in orientation and generally ignored other research, such as Labov's (1970, 1972) in variationist sociolinguistics (Tarone, 1979, 1988). A process of epistemological expansion was initiated in the late 1980s and reached momentum by the late 1990s (Block, 2003; Firth & Wagner, 1997; Lantolf, 1996), resulting in a field that has undergone enormous interdisciplinary growth in the last 25 years or so (Atkinson, 2011; Swain & Deters, 2007).

In part, the expansion has been driven by an increase in the number of researchers from a wider range of intellectual traditions and disciplinary roots who are interested in the study of language learning by adults and youth. Informing their research efforts are concepts, theories, and methodologies from fields that are more

socially attuned, including anthropology, cognitive science (particularly in its variants of cognitive integration, situated cognition, and niche construction), education, and sociology. Various areas that are considered subfields of linguistics and/or psychology entered the SLA scene thereafter and have contributed to this expansion as well, such as anthropological linguistics, cognitive linguistics, corpus linguistics, cultural psychology, developmental psychology, neurolinguistics, bi/multilingualism, sociolinguistics, and systemic-functional linguistics.

Beyond the enrichment brought on by this interdisciplinary expansion, our present collective text is motivated by the conviction that SLA must now be particularly responsive to the pressing needs of people who learn to live—and in fact do live—with more than one language at various points in their lives, with regard to their education, their multilingual and multiliterate development, social integration, and performance across diverse contexts. A new SLA must be imagined, one that can investigate the learning and teaching of additional languages across private and public, material and digital social contexts in a multilingual world. We propose that it begin with the social-local worlds of L2 learners and then pose the full range of relevant questions—from the neurobiological and cognitive micro levels to the macro levels of the sociocultural, educational, ideological, and socioemotional.

To meet this challenge, we offer here a framework for SLA that is transdisciplinary. In agreement with scholars who have called for transdisciplinarity in other domains of applied linguistics (e.g., Hornberger & Hult, 2006), we characterize such a framework as problem-oriented, rising above disciplines and particular strands within them with their oftentimes strong theoretical allegiances. It treats disciplinary perspectives as valid and distinct but in dialogue with one another in order to address real-world issues. Specifically, it seeks to integrate the many layers of existing knowledge about the processes and outcomes of additional language learning by deriving coherent patterns and configurations of findings across domains and "over many different levels of granularity and timescale" (N. C. Ellis, 2014, p. 399).

In making this proposal we have four aims: (a) to advance fundamental understandings of language learning and teaching, including understandings of linguistic development in an additional language, taking into account forces beyond individual learners, (b) to promote the development of innovative research agendas for SLA in the 21st century, (c) to serve as a platform for the development of practical, innovative, and sustainable solutions that are responsive to the challenges of language teaching and learning in our increasingly networked, technologized, and mobile worlds, and (d) to improve communication with a wider range of audiences, especially any and all stakeholders that SLA investigates or whom it hopes to benefit, so they can use SLA work to improve their material and social conditions.

The document presents the framework using the following progression: We first position ourselves as authors in relation to the field of SLA. We then explore the changing nature of language learning and teaching in a multilingual world. Those considerations usher in our bid for transdisciplinarity. We describe the framework itself in terms of 10 closely interrelated themes. After briefly recapitulating them we sketch out some forward directions for language learning and teaching that it implies and conclude with an invitation to vigorous and fruitful professional debate of our proposal.

POSITIONING OURSELVES IN RELATION TO THE FIELD OF SLA

In order to provide an interpretive context for the rest of the document we would like to explain who we are and how the present text came about. The framework proposed here is the result of intensive collaboration over an extended period of time[2] among a group of 15 scholars with different theoretical roots, including in no particular order: sociocultural theory (Johnson, Lantolf, Negueruela, Swain), language socialization theory (Duff), social identity theory (Norton), complexity and dynamic systems theory (Larsen–Freeman), usage-based approaches (Ellis, Ortega), the biocultural perspective (Schumann), ecological and sociocognitive approaches (Atkinson), variationist sociolinguistics (Tarone), systemic functional linguistics (Byrnes, Doran), and conversation analysis (Hall). Many but perhaps not all of us would consider SLA as one of the main research communities in which we participate actively. We find it a strength that our disciplinary and theoretical allegiances with SLA should be so varied. Our views are also enriched by the diverse parts of the world in which each of us has worked, done research, and collaborated with others. Nevertheless, we must recognize that our affiliation with institutions in only two parts of the world, the United States and Canada, bound our intellectual views.

We also make explicit four fundamental choices of wording and substance with regard to the discipline of SLA, because they have consequences for positions taken in this document. First, in negotiating our successive drafts, we felt uneasy about certain labels. All labels come with a disciplinary history, but in SLA many are encumbered by deficit ideologies that have come to be contested (Block, 2003; Cook, 2002; Firth & Wagner, 1997; Kubota, 2009; Larsen–Freeman, 2014a; May, 2011; Norton & Toohey, 2011; Ortega, 2014b). For example, the language that is learned is often referred to as a 'second language' (L2), at times an 'additional language.' The people who do the learning are called 'L2 learners,' but they can also be referred to as 'L2 users' or as '(late) bi/multilinguals.' In the particular case of learning English in the United States, they have recently been designated as 'long-term English learners' and, even more pointedly, as 'English learners at risk of becoming long-term English learners' (cf. Olsen, 2010). What is being learned is denoted with the nouns 'acquisition,' 'learning,' and 'development,' sometimes used synonymously as alternative options, sometimes in strong opposition to each other. Our own attempt to navigate and resist facile yet consequential labels has been to choose less deficiency-oriented options where this was possible, though some nonsignificant alternation among terms occasionally seemed unavoidable.

Second, the timing of learning also posed uncomfortable challenges. On the one hand, it is crucial in the definition of SLA's object of inquiry (as the traditionally used adjective 'second' indicates). On the other hand, the disciplinary understanding of what constitutes 'a late(r) timing' is itself a matter of unresolved theoretical debate. For SLA researchers who interpret the extant empirical evidence to be in support of a critical period for the learning of human language (e.g., Hyltenstam & Abrahamsson, 2003), the purview of SLA should be postpubescent learners. We distance ourselves from that position and instead side with those who find the empirical evidence about critical periods thus far inconclusive and therefore remain agnostic about them (e.g., Birdsong, 2014; Muñoz & Singleton, 2011). Moreover, although we acknowledge competing theories that posit a marked difference in processes and mechanisms before and after a certain age (e.g., Bley–Vroman, 2009; Paradis, 2009; Ullman, 2005), we favor a fundamental continuity hypothesis: To us, there is good reason to consider the processes involved in the learning of first languages to be largely the processes also at work when new languages are being learned later in life (N. C. Ellis, 2015; Lee et al., 2009; MacWhinney, 2012). Consequently, we define the object of inquiry of SLA as additional language learning at any point in the life span *after* the learning of one or more languages has taken place in the context of primary socialization in the family; in most societies this means prior to formal schooling and sometimes in the absence of literacy mediation. Thus, not only the timing but also instruction and literacy development constitute three sites of difference that distinguish the object of study in SLA from that in two neighboring fields which, like SLA, are primarily concerned with language development, namely monolingual first language acquisition (Ambridge & Lieven, 2011) and bilingual first language acquisition (De Houwer, 2009). In both, the focus of interest is primary socialization inside the family, in other words, the period from birth to right before formal schooling and literacy enter children's lives.

Third, through the prolonged and open interactions that yielded this document all the authors came to see our ontologies and with them our theories of language and learning as broadly compatible in important ways, despite their different optics. When explaining what language is, our various theoretical understandings emphasize three attributes as central: meaning, embodiment, and self-adaptive local emergence of patterning. Further, when it comes to explaining what learning is, at least conceptually and often empirically, our various theories stipulate the mutual entailment of the cognitive, the social, and the emotional. This broad ontological agreement is not shared among all theories of SLA and, indeed, the group authoring this text did not include scholars representing theories that define language as a bounded system of formal rules and conceptualize learning as a solely or primarily cognitive phenomenon. These other theories have certainly shaped SLA as a field and contribute valuable knowledge about the research questions they pursue. However, we believe that the alternative ontologies we espouse are needed if researchers are to be able to shed a stronger empirical light on how multilingualism unfolds in the lives of people across their private, public, material, and digital social contexts.

Fourth and finally, we embrace explicit educational goals for the field (e.g., Byrnes, Weger–Guntharp, & Sprang, 2006; Duff & Li, 2009; Johnson, 2009; Lantolf & Poehner, 2014; Larsen–Freeman & Anderson, 2011; Norton & Toohey, 2004; see Swain & Johnson, 1997, for bilingual and immersion education, particularly for

younger learners). In this, we side with many (but not all) SLA researchers. The National Federation of Modern Language Teachers Associations (NFMLTA), a major activity of which is the publication of *The Modern Language Journal*, declares as its main mission "the expansion, promotion, and improvement of the teaching of languages, literatures, and cultures" (NFMLTA, undated, see: http://nfmlta.org/). We share this aspiration to impact language education and offer our position here as one that is relevant not only to language theory and additional language learning but also—and crucially—to the teaching of languages. In our estimation, then, SLA, precisely because of its unmistakable focus on language development, ought to contribute useful knowledge for the improvement of education and instruction of any and all languages, including English with its special status as a global language. As we assert and affirm this link (see also Bygate, 2004; R. Ellis, 2010; Ortega, 2005), we readily acknowledge that in this document we draw little on the extensive language teaching scholarship that exists (Borg, 2015; Burns, 2010; Johnson, 2009; Kubanyiova, 2014; Kubanyiova & Feryok, 2015) or say little about the teachers who do this work. Instead, we focus on research into language learning and language learners/users. We are also aware that we run the risk of positioning SLA researchers as 'telling' language teachers what to do or how to think about who, what, and how they are to teach, thereby potentially leaving out their voices, their worlds, or their work. Even so, we wish to affirm, both as a statement of belief and as a statement of aspiration, a strong commitment on the part of SLA to language teaching and education and express the hope that this document might, in time, foster more collaborative forms of engagement between teachers and researchers.

THE CHANGING NATURE OF LANGUAGE LEARNING AND TEACHING IN A MULTILINGUAL WORLD

In today's multilingual world, the rising tide of globalization has penetrated all aspects of L2 learners' lifeworlds. Amidst globally felt changes that seem to occur in breathtaking succession, two closely related phenomena of particular durability have been technologization and mobility. We have chosen to emphasize globalization, technologization, and mobility for their potential to facilitate grass-roots agency and action. At the same time, we do not wish to naïvely deny the continued existence of traditional power dynamics, such as the commodification of language (Duchêne &

Heller, 2012); efforts to differentiate and disempower social groups ethnically, culturally, and religiously; and the continued influence and reentextualization of the nation-state, a market economy, and social inequality (Appadurai, 1996). Globalization, technologization, and mobility, however, are forces that exert especially profound and continuous pressure on what it means to learn and use more than one language. As such, they compel the research community to train its eyes with utmost scrutiny to how it investigates and comes to know its object of study (Reyes, 2013, p. 374).

New mobile technologies that increasingly integrate in complex ways diverse data sources and networks have reached even seemingly remote corners of the globe and are changing L2 users' worlds. We have come to understand that they are neither neutral nor innocent but, in oftentimes subtle ways, reproduce social, economic, and cultural inequalities (e.g., van Deursen & van Dijk, 2014). At the same time, they have also transformed the ways in which language learners interpret and make meaning, and thus the ways in which they need and want to use language. For example, although meaning and communication were always multimodal, using the many technologies of the body (Mauss, 1973), with new technologies multimodality has reached a qualitatively new level. Graphic, pictorial, audio, physical, and spatial patterns of meaning are integrated within, and even supplant, traditional spoken and written texts (The New London Group, 1996). Notions of space and time collapse online, and boundaries between private and public, real and virtual become blurred (Thorne, 2013). New technologies have also created new forms of leisure and new opportunities not only for exchanging and interpreting information but also for authoring knowledge and art and for building social networks "in the digital wilds" (Thorne, Sauro, & Smith, 2015, p. 215). As a result, the very scope and constitution of communication practices between individuals and within and across social groups and communities worldwide have also changed: They have created new needs for new language and new real and imagined discourse communities, and they have also created new desires for new products, commodities, and processes, such as online learning. The future is a moving target, and in coming years the emerging new technologies that people will want to use in their multiple languages include mobile devices, game-based learning, and (further on the horizon) gesture-based computing and learning analytics (e.g., Spector, 2013). In turn, educators will want to exploit them for transforming and expanding opportunities for

the learning and teaching of languages (Kern, 2014; Thorne, 2013).

The fabric of L2 learners' social groups and communities has also been altered by mobility, a term which denotes global movements not only of people, but also of objects, capital, and information across the globe. The movement of people is of great consequence for understanding today's multilingualism, especially the form of human mobility related to migration known as transnationalism, or "the crossing of cultural, ideological, linguistic, and geopolitical borders and boundaries of all types but especially those of nation-states" (Duff, 2015, p. 57; see also Appadurai, 1996). The patterns of such crossing or movement, as Duff notes, are further complicated by virtual and multigenerational experiences as well as by temporary mobility patterns, for example, involving short-term sojourners for tourism, study abroad, or work—and also by the multiple boundary crossing experiences of returnees (Kanno, 2003; Kubota, 2013a). The large-scale movement (including migration) of individuals, families, and larger social groups around the world, along with the movement of information and various forms of capital, creates communities that are linguistically, socially, and culturally extraordinarily diverse. To be sure, multilingual communities have long existed in traditional cultures around the globe. In parts of Africa, for example, it is common and, indeed, expected, for communities to function through multiple languages, so much so that the languages themselves become 'invisible' in many communities. One might say, then, that what globalization has accomplished is a heightened awareness of the reality of multilingualism in Western societies, which had accepted the monolingualism of the nation-state as the 'real norm.' Indeed, diversity is now being felt on an unprecedented scale, prompting anthropologists and, subsequently, sociolinguists and scholars in many other social science fields to use the term superdiversity (Vertovec, 2007, 2015).

Mobility and migration have triggered transnationalism and superdiversity and spawned an ongoing process of deterritorialization of meaning-making. As a result, communication now wellnigh requires the expansion of creative strategies from language users as they negotiate social and linguistic action in the face of minimal common ground and maximal semiotic demands (Canagarajah, 2013; Kramsch, 2009): Heterogeneous forms of social activity and options for participating in them emerge from mobility and transnationalism, by way of involving a multi-plicity of languages, discourses, literacy practices, and interlocutors. It is thus not surprising that in these superdiverse environments, transformed as they are by digital means for communicating across geographical boundaries and by expanding opportunities for learning and using additional languages, the once normative dichotomies in SLA of the 'second' and the 'foreign' (more recently applied as well to the 'heritage' and the 'indigenous') language context or the 'real world' and the 'classroom' setting become increasingly questionable. Affordances for language learning and use arise in multilingual and multimodal encounters with different interlocutors for diverse purposes, across space and time, and in face-to-face and virtual contexts. Moreover, the diversity of contemporary life outside of classrooms is transforming language classrooms, making them into "complex communicative space[s] criss-crossed with the traces of other communicative encounters and discourses both institutional and everyday" (Baynham, 2006, p. 25). It is then not surprising that the expanded potential for meaning-making also harbors enormous potential for miscommunication, as attested in major social tensions at all levels of communication in our world—among individuals and groups, within countries, across countries and regions, and globally.

A BID FOR TRANSDISCIPLINARITY

To make sense of the varying processes and outcomes of additional language learning arising from contemporary conditions, SLA and other applied linguistics researchers have looked to other disciplines for insights and research directions. These explorations have resulted in a wealth of approaches to the study of L2 learning and teaching that coexist nowadays in addition to the historically dominant cognitive and linguistic approaches (Atkinson, 2011). Among others, these include non-mainstream approaches represented by the present authors. These newer approaches to SLA have had a marked impact on the breadth and complexity of studies examining second, foreign, indigenous, and heritage language learning. However, they "have led, with a few exceptions, independent and even isolated existences" (Atkinson, 2011, p. xi). Citing the dangers of such isolation for advancing knowledge, some scholars have argued for engagement across perspectives and, where possible, the construction of bridges or broader frames of reference in which the complementarities (and differences) are visible (Hulstijn et al., 2014).

Others have argued that such bridge building may have limited usefulness in that "no matter how much traffic crosses the bridges, the abyss [to be bridged] is still there" (Lantolf, 2014, p. 370).

As a group, we have come to appreciate several important strengths of transdisciplinarity (Larsen–Freeman, 2012). Indeed, we see an interesting parallel between the mobility of people and transnationalism and the multidirectional, rhizomatic information flows enabled by technology and transdisciplinarity. Epistemologically, transdisciplinarity aspires to transcend the boundaries of disciplines and generate knowledge that is more than the sum of a discipline-specific collection of findings (Halliday, 1990/2001). Rather than privileging the disciplines "as the locus of intellectual activity, while building bridges between them, or assembling them into a collection," Halliday advocates creating "new forms of activity which are thematic rather than disciplinary in their orientation" (1990/2001, p. 176). As Hult (2011) notes, a transdisciplinary approach "lends itself to a certain intellectual freedom but also to practical and conceptual challenges to be considered along all phases of the research process" (p. 19). Closer to the ground, in its methodological orientation, transdisciplinarity seeks to help solve problems in socially useful and participant-relevant or emic ways with whatever theoretical-analytical tools are required (e.g., Bigelow, 2014). Mixed methods research that carefully considers the contexts of language teaching and learning seems to be particularly well suited to this task (cf. J. D. Brown, 2014; Hashemi & Babaii, 2013; Mackey & Gass, 2015). In both the sciences and the humanities, the movement to transdisciplinarity can also aspire to become a transgressive critique of normal science and normative knowledge (J. T. Klein, 2014), inviting individual researchers to turn critical moments of recognizing difference into opportunities for trusting communication and enrichment across epistemic boundaries (Holbrook, 2013).
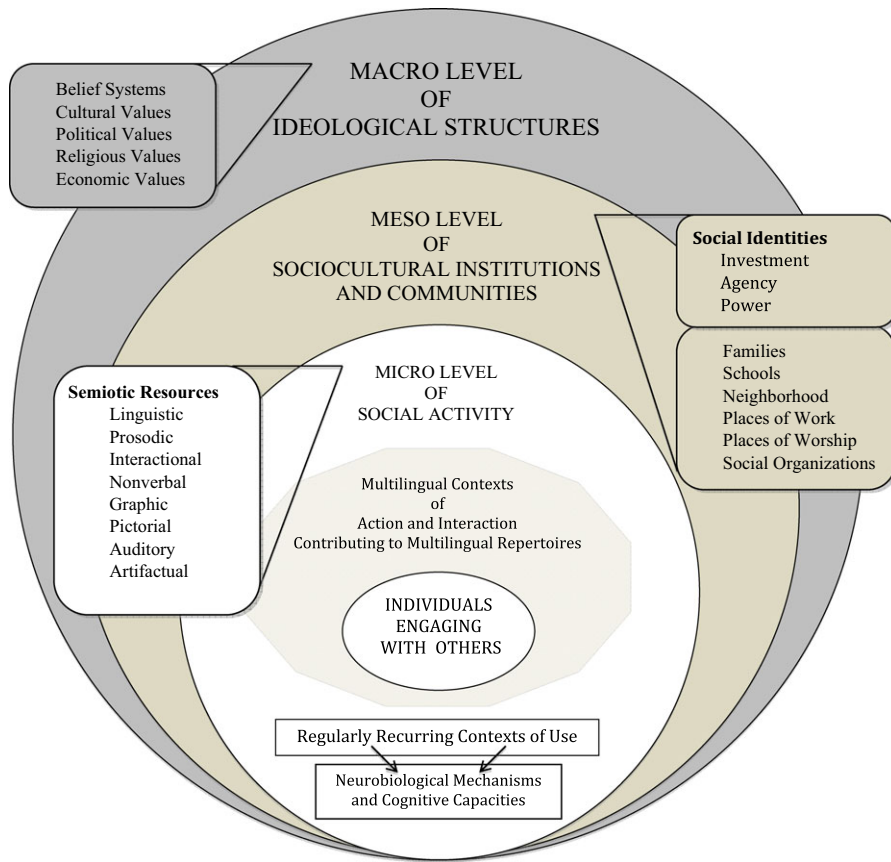
We thus offer a transdisciplinary framework that assumes the embedding, at all levels, of social, sociocultural, sociocognitive, sociomaterial, ecosocial, ideological, and emotional dimensions. Its goal is to meet the challenge of responding to the pressing needs of additional language users, their education, their multilingual and multiliterate development, social integration, and performance across diverse globalized, technologized, and transnational contexts. It does so by pursuing an integrative consideration of learners' mental and neurobiological processing, remember-

ing language, and moment-to-moment language use.

THE FRAMEWORK

Our framework encompasses a growing body of theories and research, although we can do no more than refer to citations that are representative, rather than inclusive or exhaustive, of the relevant research. Inspired by Bronfenbrenner's ecological framework for human development (Bronfenbrenner, 1979; Bronfenbrenner & Morris, 2007), our integrated representation of the multilayered complexity of L2 learning distinguishes three levels of mutually dependent influence (cf. Ricento & Hornberger, 1996). As shown in Figure 1, we see L2 learning as an ongoing process that begins at the micro level of social activity (the smallest concentric circle), with individuals recruiting their neurological mechanisms and cognitive and emotional capacities and engaging with others in specific multilingual contexts of action and interaction, resulting in recurring contexts of use that contribute to the development of multilingual repertoires (Rymes, 2010). The engagement in these contexts uses all available semiotic resources, including linguistic, prosodic, interactional, nonverbal, graphic, pictorial, auditory, and artifactual resources. These contexts are situated within and shaped at a meso level (the middle concentric circle) by particular sociocultural institutions and particular sociocultural communities, such as those found in the family, school, neighborhood, places of work, places of worship, social organizations like clubs, community sports leagues, political parties, online forums of various kinds, and so on. Importantly, the institutions and communities at the meso level are powerfully characterized by pervasive social conditions (e.g., economic, cultural, religious, political), which affect the possibility and nature of persons creating social identities in terms of investment, agency, and power. Together, these institutions, communities, conditions, and possible identities provide or restrict access to particular types of social experiences. Finally, at the macro level (the largest concentric circle) there are large-scale, society-wide ideological structures with particular orientations toward language use and language learning (including belief systems and cultural, political, religious, and economic values) that both shape and are shaped by sociocultural institutions and communities (middle circle) as well as by the agency of individual members within their locally situated contexts of action

FIGURE 1
The Multifaceted Nature of Language Learning and Teaching

MACRO LEVEL OF IDEOLOGICAL STRUCTURES

Belief Systems
Cultural Values
Political Values
Religious Values
Economic Values

MESO LEVEL OF SOCIOCULTURAL INSTITUTIONS AND COMMUNITIES

Social Identities
Investment
Agency
Power

Families
Schools
Neighborhood
Places of Work
Places of Worship
Social Organizations

MICRO LEVEL OF SOCIAL ACTIVITY

Semiotic Resources
Linguistic
Prosodic
Interactional
Nonverbal
Graphic
Pictorial
Auditory
Artifactual

Multilingual Contexts of Action and Interaction Contributing to Multilingual Repertoires

INDIVIDUALS ENGAGING WITH OTHERS

Regularly Recurring Contexts of Use

Neurobiological Mechanisms and Cognitive Capacities

and interaction (smallest circle). While each of the three levels represented in Figure 1 has its distinctive characteristics, no level exists on its own; each exists only through constant interaction with the others, such that each gives shape to and is shaped by the next, and all are considered essential to understanding SLA. They persist only through constant interaction with each other and so exist in a state of continuous change (cf. Fairclough, 1996; Larsen–Freeman & Cameron, 2008).

The framework is built on an understanding that, ideally, should foster two goals of additional language learning and teaching. One goal is to expand the perspectives of researchers and teachers of L2 learners with regard to learners' diverse multilingual repertoires of meaning-making resources and identities so as to enable their participation in a wide range of social, cognitive, and emotional activities, networks, and forms of

communication and learning in their multilingual lifeworlds. Another goal is to foster in learners a profound awareness not only of the cultural, historical, and institutional meanings that their language-mediated social actions have, but also, and just as importantly, of the dynamic and evolving role their actions play in shaping their own and others' worlds. Learners as language users have this power via the semiotic resources they choose to use and respond to in their interactions with others. In short, the framework is intended to help multilingual users to thrive with and through their very multilinguality by the kind of research and practice it advocates.

Pursuit of these goals crucially necessitates several constructs. One is the construct of *community*, including speech communities (Gumperz, 1968), discourse communities (Swales, 1990, pp. 21–32), and communities of practice (Lave & Wenger, 1991). These notions have

contributed substantially to capturing the social nature of language learning. Most recently, the construct has become contested among other reasons because of its inability to capture adequately powerful social relationships outside the community, with individual networks of practice being suggested instead in order to describe people's engagement with other users and learners of language (cf. Zappa–Hollman & Duff, 2015). *Norm* and *choice*, *identity* and *agency* are other important constructs. It is communities or, as appropriate, social networks that give rise to always-changing but nevertheless operational *norms* of language use, form, and function, together with exploitable potentials for novel meaning-making through language *choice.* Both language norms and language choice must be developed through experience and both must be recognizable as such by a given community of users and more locally by a given co-interlocutor, if learners are to participate in particular types of discourse as legitimate speakers with the right to be interpreted favorably and to impose meaning and position themselves in a desirable light (Norton, 2013). In other words, flexible competencies over both norm and choice allow the speakers/writers to present themselves and their views in a particular way, not only accomplishing successful referential communication goals but also reflecting the person's fashioned *identity* in relation to the topic and audience members. Thus, learning such discursive norms and choices further enables new language users not only to participate in discourse but also to exercise *agency,* that is, to negotiate some impact on their local contexts and on the improvement of their material and social worlds (Byrnes, 2014b; Miller, 2014).

Ensuing from the framework are 10 fundamental themes. They obtain from the characteristics of the three levels, their interconnectedness, and their potential as affordances (Gibson, 1979), that is, their potential to offer action possibilities that can be appropriated, negotiated, transformed, and made into means or constraints for L2 researching, learning, and teaching. In the remainder of the article we present each theme in turn.

1. Language Competencies Are Complex, Dynamic, and Holistic

A new, reimagined SLA that addresses the realities of L2 learning in a multilingual world necessitates a reconceptualized understanding of linguistic competence: One that is complex, dynamic, and holistic (Larsen–Freeman, 1997; Tarone, 1983).

The totality of a speaker's semiotic resources must be considered her or his communicative and interactional competence. It goes without saying that our invoking the term 'competence' is markedly different from its use by Chomsky, perhaps even its use by Hymes. Multilingual speakers will deploy their semiotic resources by choosing across their languages and/or varieties and registers in response to local demands for social action. Multilinguals are well documented as handling this rich semiotic repertoire flexibly, sometimes keeping the languages separate, at other times alternating them, mixing them, or meshing them. The competence of multilingual speakers is the holistic sum of their multiple-language capacities (Blackledge & Creese, 2010; Cook & Li Wei, 2016; Grosjean, 1989; He, 2013). Their multilingualism "is fluid, not fixed: difficult to measure, but real" (Gorter, 2015, p. 86).

Learners' developmental trajectories, mediated by the opportunities and struggles of their multilingual lifeworlds, vary in and outside of the classroom. Some people develop comprehensive and elaborate repertoires of multilingual semiotic resources, while others develop more specialized resources linked to particular contexts (e.g., technical L2 vocabulary for academic, specific, or vocational purposes). Yet others craft minimal, transitory competences based on snippets of additional languages (e.g., isolated greeting/leave-taking patterns like *hola* from Spanish or *sayonara* from Japanese; see Blommaert & Backus, 2011), or bricolage and mesh resources from multiple languages and varieties (e.g., hip hop varieties; Alim, Ibrahim, & Pennycook, 2009). Still others appropriate limited linguistic repertoires for purposes of identity performance, play, and styling (Broner & Tarone, 2001; Li Wei & Zhu, 2013; Rampton, 2013). Other language users may imagine themselves to remain steadfastly monolingual, discounting their multilectal and multiregister competencies. And despite increased and varied social encounters marked by extensive use of multilingual resources, some may insulate themselves from other languages by choice or circumstance. Further shaping what it means to develop multilingual repertoires is the contested and ambivalent role of English as a global lingua franca, which affects the worlds of L2 learners and users in the realms of education, diplomacy, science, popular cultural media (e.g., movies, music, Twitter, dance), and technology.

2. *Language Learning Is Semiotic Learning*

Semiotic resources include a wide array of conventionalized form–meaning constructions that vary in degree of analytic specificity, ranging from minimal meaningful units, such as morphemes and words, to collocations of units and other groupings comprising idioms and routines, as well as the more conventionally recognized linguistic units such as sentences (Boyd & Goldberg, 2009; N. C. Ellis & Robinson, 2008; Pawley & Syder, 1983). Semiotic resources also include larger, more holistic types of meanings, for example, at the level of discourse and rhetoric. In the case of oral language use, they also include patterns for taking turns, and paralinguistic resources such as intonation, stress, tempo, pausing, and other such features that accompany talk as well as the full array of nonverbal signs—gestures, facial expressions, body positioning, accompanying action, head movement, etc. In the case of written language, resources also include orthographic and typographic representations. Semiotic resources further include visual, graphic, and auditory modes of meaning-making (Kress, 2009).

All semiotic resources, individually and in combination, have meaning potentials, that is, conventionalized form–meaning combinations that develop from their past uses in contexts of action in the world that, in turn, are shaped by larger social institutions (e.g., the family, schools, places of work and worship, civic organizations, etc.). These resources offer particular visions of the world, that is, they create "specific complexes of values, definitions of the situation, and meanings of possible actions" (Morson & Emerson, 1990, p. 22) that bind their users, to some degree, to particular ways of construing the world (Hall, 2011). This is where the macro level has a powerful influence through the politico-economic system that impacts schools, work, civic, and religious institutions, etc. The meaning potentials of all semiotic resources are considered affordances in that in their local, emergent contexts of use they enable certain possible construals of experience by their users and certain possible interpretations by the recipients (e.g., hearers, readers) (Byrnes, 2006; N. C. Ellis & Robinson, 2008).

Meaning potentials of semiotic resources, then, are not neutral, value-free, systems. Rather, each resource "tastes of the context and contexts in which it has lived its socially charged life" (Bakhtin, 1981, p. 293). In this way all semiotic resources function as the "carriers of sociocultural patterns and knowledge" (Wertsch, 1994, p. 204), which are reinstantiated with each new use in a slightly different context.

The greater the number and diversity of contexts of interaction within and across social institutions that L2 learners gain and are given access to and are motivated to participate in, the richer and more linguistically diverse their evolving semiotic resources will be. Likewise, the more extended the learners' opportunities are for deriving form–meaning patterns from these meaning-making resources (e.g., through transparency of connections in their use and guided support from others to notice and remember the connections), the more robust their multilingual repertoires are likely to be. Importantly, however, access is neither easy nor assured and, in some cases, is in fact blocked, whether intentionally or unintentionally.

3. *Language Learning Is Situated and Attentionally and Socially Gated*

Language learning begins at the micro level of social activity (see the inner concentric circle in Figure 1) through L2 learners' repeated experiences in regularly occurring and recurring contexts of use, often characterized by interpersonal (oral, signed, or written) interaction with other social actors. From these situated, local iterative contexts, language use and language learning can emerge—though they do not always do so. The scope of these contexts can be wide-ranging and includes everyday, informal contexts of interaction, such as ad hoc conversations, text messaging, online game-playing, as well as more formal contexts such as those comprising L2 classrooms where students instruct and are instructed, inform, discuss, problem solve, and so on. These encounters can be very brief or longer lasting; their purposes can be varied, and the means—the semiotic resources—by which they are accomplished can vary as well (see, e.g., Tarone, 1979, 1985; Tarone & Liu, 1995).

In the field of usage-based developmental linguistics, a well-known principle is that regularly occurring and recurring social interactions are characterized by joint actions that are dependent on intersubjective or shared cognition, that is, a human being's recognition that she can share beliefs and intentions with other humans (Clark, 1996). Shared attention develops in the first 2 years of life, when infants develop their capabilities of attention detection (gaze following), attention manipulation (directive pointing), intention understanding ("theory of mind" or

the realization that others are goal-directed), and social coordination with shared intentionality (engaging in joint activities with shared interest, negotiating meanings) (Tomasello, 2003). Shared attention, shared cooperative activity, and shared cognition are key to the emergence of language in infants through socially contingent, meaningful usage. Furthermore, this crucially important activity of joint attention is a process into which novices are socialized in their particular culture (e.g., P. Brown, 2011). In these usage events unfolding at the micro level of social activity, the semiotic resources that more mature communicators tool and retool to accomplish social actions are afforded for the infants, as novice communicators, to appropriate, recycle, and expand in contextually adaptive ways, as they co-construct meaning. Such contextually adaptive ways ideally serve language development, and positive outcomes can be expected given average conditions of health and social and emotional well-being. In sum, infants' language learning is gated by both attention and sociality at the same time (N. C. Ellis, 2014, 2015). Within the fundamental continuity hypothesis we espouse, these processes are equally relevant to infants learning their first language(s) and to youth or adults learning an additional language (N. C. Ellis, 2015; Lee et al., 2009; MacWhinney, 2012). The development of an additional language is thus also attentionally and socially gated, as learners' multilingual repertoires in their varied micro contexts likewise depend in part on neurobiological mechanisms with which all human beings are endowed.

Socially meaningful interaction is partly dependent on an interactional instinct, that is, a biologically specified attentional and motivational brain networked system that pushes the infant to seek out emotionally rewarding, affiliative relationships with others, and to bond emotionally and affectively (Lee et al., 2009; Schumann, 2010). As with all learning, for young children, adolescents, and adults, too, L2 learning is an emotionally driven process, one that requires minimally that they be motivated to participate with others in particular contexts of action, in classrooms and society at large. To determine the reward potential that may be afforded by L2 contexts of action, humans evaluate them according to five dimensions: novelty, pleasantness, goal or need significance, coping potential, and self- and social image (Lee et al., 2009). This is part of regular brain functioning: Human brains "integrate 'emotional' (e.g., value, risk) and 'cognitive' computations (e.g., prediction error, attention allocation, action selection) in ways that

support adaptive behavior" (Okon–Singer et al., 2015, p. 6). For L2 learners this may mean that the more they experience emotionally and motivationally positive evaluations of their anticipated and real interactions, the more effort they will make to participate in them and affiliate with others.

As Schumann (2010) and Lee and colleagues (2009) note, infants in normal situations acquire their primary languages through bonding relationships with their caregivers that are almost unconditionally offered to them; by comparison, the older the learner, the more complicated interpersonal and social relations become. This means that older learners are likely to experience reduced intensity of the brain reward system from such affiliations, although these can occur under certain circumstances. Consequently, their interest or motivation to seek out and sustain affiliative interactions within L2 contexts of action (i.e., their emotional investment) and, concomitantly, their opportunities for learning, are likely to be also reduced. By the same token, extraordinarily high, and highly emotional, motivation can occur with adult learners. For example, Henry, Davydenko, and Dörnyei (2015) found what they call 'directed motivational currents' in their study of unusually successful immigrants learning Swedish. Dewaele and MacIntyre (2014) also found that many foreign language learners report intense feelings of enjoyment, as well as anxiety, in L2 classrooms. Moreover, in another study Denies, Yashima, and Janssen (2015) showed that the behavioral manifestation of the interactional instinct that SLA research has referred to as 'willingness to communicate,' can be realized differently in one and the same learner group, depending on whether the interaction takes place in a classroom setting or in the larger society. It turns out that perceived competence of self in both the classroom and larger society, more so than motivation in and of itself, helped predict users' willingness to communicate. Such differences explain in part the great variability of outcomes that is observed in L2 learning.

Also playing a significant role in additional language learning and use is the set of general cognitive and emotional capabilities on which learners draw to register and catalogue their encounters with the various semiotic resources comprising their contexts of interaction. These include the abilities to select and attend to particular meaning-making components and their patterns of action, to form schemas based on their recurrences, to create mappings across units based on functional similarities, and to

hypothesize about and continually test their understandings of their meanings. Learning first and second languages, like learning about all other aspects of the world, involves the full scope of cognition and emotion: the remembering of utterances and episodes; the categorization of experience; the determination of patterns among and between stimuli; the generalization of conceptual schema and prototypes from exemplars; and the use of cognitive models, metaphors, analogies, and images in thinking (N. C. Ellis, 2008, 2015). Conscious and unconscious learning processes similarly affect the dance of dialogue where conversation partners align perspectives and means of linguistic expression. Language is used to focus the listener's attention to the world, potentially relating many different perspectives about the same scene or referents. What is attended to focuses learning, and so language is both constitutive of and constituted by attention. The functions of language in use determine its usage and learning (N. C. Ellis, 2014). The more routine, frequent, and stable the occurrences of particular resources are in the interactions and the more L2 learners' attention is drawn to their form–meaning pairings, the more entrenched the resources become as cognitive–emotional representations of their experiences. All else being equal, the more extensive, complex, and multilingual the contexts of interaction become over time, and the more enduring learners' participation is in them, the more complex and enduring their multilingual repertoires will be.

4. Language Learning Is Multimodal, Embodied, and Mediated

Supporting learners' neurobiological and cognitive processes are cues used by others, typically more experienced participants, which index and at times make transparent the form–meaning patterns and can assist L2 learners in noticing and remembering them. Such assistance can take many forms, such as the use of verbal and nonverbal actions that explicitly direct learners' attention to the semiotic resources and their meaning-making potentials, and other less explicit actions including repetitions, recycling, and recasts of one another's words; tone, intonation, and pitch changes; eye gaze and gesture; and so on.

Nonlinguistic, multimodal semiotic resources are used to make the coupling of a form and a meaning socially available during unfolding interactions. They are not peripheral or complementary to language learning. Instead, they provide crucial social cues to grammar

(Atkinson, 2014; Eskildsen & Wagner, 2015; Goldin–Meadow & Alibali, 2013; Ibbotson, Lieven, & Tomasello, 2013). Moreover, "humans use the entire body to participate in socially organized processes of understanding and learning, [a fact] which ultimately challenges a strict Cartesian division between mind and body. Instead, the mind *is* the body" (Eskildsen & Wagner, 2015, p. 442; cf. also Harris, 1998, and his advocacy of 'integrationism').

Language learning happens by mediation, through cultural resources and tools that individuals use to move through, respond to, and make sense of their social worlds (cf. Scollon, 2001; Vygotsky, 1978; Wertsch, 1994). The role of mediation in L2 learning is seen as central in sociocultural theories (Lantolf & Thorne, 2006; Swain, Kinnear, & Steinman, 2015) but cannot be ignored in any attempts at understanding language learning, regardless of theoretical predilections. The semiotic resource of language is itself considered to be a mediational tool (see earlier section); in addition, across various modes of communication, mediational semiotic tools can include a potentially infinite set of cultural artifacts, such as diagrams, maps, books, computers, and even furniture, including tables, desks, and chairs (Nishino & Atkinson, 2015).

In classrooms, in addition, mediation is typically accomplished via a wide range of instructional actions that direct learners to perceive or notice the relevant resources and their form–meaning connections and to make connections between them and their contexts of use. For example, the type of materials used in formal learning contexts such as L2 classrooms have been shown to play a significant role in shaping students' contexts of interaction and participation structures, demonstrating that they are not only a primary source of the design of curriculum, but also highly influential to the scope and types of instructional interactions that occur within that learning community (Guerrettaz & Johnston, 2013; Toohey, 2000).

5. Variability and Change Are at the Heart of Language Learning

Language learning is characterized by variability and change. It is a ceaseless moving target, with periods of stability but never stasis, and describable via probabilistic predictions but never via deterministic laws. These qualities must be accounted for within and across units of observation, be it constructions, stretches of discourse, learners, classrooms, or communities.

First, no two people, even those in the same classroom, will experience exactly the same social contexts of language use or resolve them in exactly the same way. Thus, differences at the micro level of social activity and in L2 learners' history of usage across situated, local, iterative contexts will create differences in the learning trajectories at the individual level of observation (de Bot, Lowie, & Verspoor, 2007; Eskildsen & Wagner, 2015; Larsen–Freeman, 2006; Larsen–Freeman & Cameron, 2008). This is true even when it is also possible to observe regular, more general patterns of development at larger grain sizes (N. C. Ellis, 2008, 2015). There is no learning without change, and thus, when a learner exhibits high variability in the deployment of semiotic resources, this is theoretically important and can be studied in its own right (de Bot et al., 2007; Geeslin, 2014; Larsen–Freeman & Cameron, 2008; Preston, 1989; Tarone, 1988). Variability is not measurement error begging for better control. Acknowledging inter- as well as intra-individual variation helps counter deficit orientations in the description of linguistic development in an L2 (W. Klein, 1998) and focus on what learners can do rather than what they cannot do (Donato & Tucker, 2010).

Second, cognitive abilities involved in pattern detection appear to be more variable among adults than among children. Differences in them create variation in L2 development across individuals. The sources of such differences appear to be located in phonological short-term memory, associative memory, and implicit learning (Linck et al., 2013) as well as perhaps in pattern-detecting ability for general statistical learning of artificial language (nonmeaningful) stimuli (Misyak & Christiansen, 2012). All else being equal, L2 learners with higher capacities for detecting patterns are likely to do better than those whose capacities are lower (MacWhinney, 2012). However, rather than accepting meager learning outcomes as biologically given once learners have passed a certain age and finding ways of theorizing them as insurmountable, our stance is that responsible educational approaches can go a long way toward fostering other learner abilities that are also known to affect learning success, particularly in adult learners.

Third, in learning multiple languages another factor that mediates processes and outcomes and creates variability is knowledge of a previous language or languages, including a first language (L1). As Slobin (1993) describes,

> [f]or the child, the construction of the grammar and the construction of semantic/pragmatic concepts go hand-in-hand. For the adult, construction of the grammar often requires a revision of semantic/pragmatic concepts [available through the L1], along with what may well be a more difficult task of perceptual identification of the relevant morphological elements. (p. 242)

In other words, knowledge of the L1 results in a 'learned attention' to language whereby the processing of the L2 proceeds in L1-tuned ways (N. C. Ellis, 2008). The languages and cultural schemata of a multilingual interact, both facilitating and complicating the learning of new language at the level of forms, concepts, and form–meaning mappings (Jarvis & Pavlenko, 2008). The more similar, broadly speaking, these L1 forms, concepts, and form–meaning pairings are to those in the L2, the easier it may be for L2 learners to learn them, while at the same time even slight variations and subtle differences across languages can complicate the development of apparently similar L2 forms, concepts, and form–meaning mappings. These cross-linguistic influences are pervasive, but they are also bidirectional; and they are dynamic and variable, rather than deterministic or constant (Jarvis & Pavlenko, 2008).

6. *Literacy and Instruction Mediate Language Learning*

When language is learned during primary socialization in the family, this usually means not only from birth or soon after, but also without the involvement of formal schooling or literacy mediation. In many—though certainly not all—societies and for many individuals, on the other hand, additional language learning tends to be characterized by the mediation of instruction and literacy. Therefore, both instruction and literacy need to be understood as sources of influence on L2 learning, and disciplinary knowledge about them has particular potential to improve the learning experiences of the millions of children, adolescents, and adults worldwide who, by choice or circumstance, embark on the journey of additional language learning in educational settings. A wealth of psycholinguistically oriented SLA research into the development of L2 literacies has illuminated the complexities of learning to become biliterate (Grabe & Stoller, 2011), and particularly in languages with different writing systems (Koda, 2005). We now know that alphabetic print literacy shapes the way oral second languages are processed and learned (Tarone, Bigelow, & Hanson, 2009), so the fact that almost all SLA research on

L2 processing fails to include learners who are not alphabetically literate constitutes a major gap in the database for SLA (Bigelow & Tarone, 2004).

Admittedly, however, the contexts for additional language learning can vary greatly within and across people, times, and places, and bilinguals and multilinguals will avail themselves of instruction and/or literacy to differing degrees and at different points in their learning history. This complicates the roles of instruction and literacy in multilingual development (Bigelow & Tarone, 2004; Byrnes et al., 2006; Cumming, 2013; Pettitt & Tarone, 2015; Schleppegrell, 2013), because multilingual learners develop both language and literacy along continua as Hornberger has proposed:

> multilingual learners *develop* biliteracy along reciprocally intersecting first language–second language, receptive–productive, and oral–written language skills continua; through the *medium* of two or more languages and literacies ranging along continua of similar to dissimilar linguistic structures, convergent to divergent scripts, and simultaneous to successive exposure; in *contexts* scaled from micro to macro levels and characterized by varying mixes of monolingual–bilingual and oral–literate language practices; and expressing *content* encompassing majority to minority perspectives and experiences, literary to vernacular styles and genres, and decontextualized to contextualized language texts [. . .]. (Hornberger & Link, 2012, p. 265; emphasis in original)

Moreover, educational responses to the realities of additional language learning in a multilingual world demand that educators and researchers fully engage with the semiotic repertoires of students. Traditional SLA concerns for appropriate instruction have included the question of whether explicit and implicit (or direct and indirect) teaching of language is more effective, for example, in discussions of L2 pedagogical interventions designed around focus on form for grammar teaching, incidental versus preplanned error correction, or experiential task-based curricula. These traditional discussions and proposals, however, are insufficiently attuned to the newly theorized multilingual and hybrid competencies of older children, adolescents, and adults who use and learn a new language in many parts of the world (e.g., Heugh, 2015). With more and more such learners/users connected to the internet inside and outside classrooms, the affordances for autonomous learning, tailored instruction in classrooms, social interaction, and learners' own reflection of such interactions need to be better understood. Computers also offer the possibility

of adaptive testing, which may make viable more developmentally sensitive, self-referenced assessment, instead of traditional standardized examinations, which assume a universal definition of success (McNamara & Roever, 2006; Shohamy, 2001). In addition, new instructional approaches are needed (Larsen–Freeman & Tedick, 2016) and their linguistic and educational potential must be empirically understood, including genre approaches (Byrnes, 2014a; Byrnes et al., 2006), translingual approaches (García, 2014), content-based approaches (Cenoz, 2015), immersion education (Swain & Lapkin, 2005; Tedick, Christian, & Fortune, 2011), systemic theoretical instruction (Zhang & Lantolf, 2015), and ways to support language instructors in teaching their students to adapt—to mold their language resources to a rapidly changing world (Larsen–Freeman, 2014b).

7. *Language Learning Is Identity Work*

Influencing learners' motivation, investment in, and access to learning opportunities in L2 contexts of interaction in particular social institutions, and ultimately, the substance of their multilingual repertoires, are their social identities (Block, 2014a; Kramsch, 2009; Norton, 2013). When L2 learners participate in particular social contexts of action, they do so as actors with specific constellations of historically laden, context-sensitive, and locally (re)produced social identities. Social identities are aspects of L2 learners' personhoods that are defined in terms of ways in which individuals understand their relationship to the world.

At a first, broad level this can entail self- or other-categorization along socially constructed understandings of the various groups and cultures into which people are born, including, for example, groups defined by ethnicity, nationality, or religion. Beyond the influence of these social categories, it may well be the case that the most powerful factors are politico-economic, in other words, related to social class (Astarita, 2015; Block, 2014b). A second level of social identities must also be considered, defined by the role relationships people create or are assigned to in the various activities of social institutions. For example, when people interact in activities that are associated with the social institution of the family, they may take on the identity of parents to children and/or of children to parents. In activities associated with schools, they may take on identities as students to teachers or peer learners to other students.

Furthermore, identities are not simply static or fixed (based on ethnicity or nationality or role), but they are shaped, performed, foregrounded, and backgrounded in actual contexts of interaction depending on how interlocutors attend to or construe aspects of their own and others' identities (Firth & Wagner, 1997). Through varying degrees of access to and membership into these new communities, including discourse communities and communities of practice, new identities become available as well (Lam, 2000; Norton, 2013), such as language user, or multilingual speaker, not language learner. Thus, identity work shapes language learning, and language learning shapes identity work, both being mutually constitutive.

Expectations about how L2 learners' various identities are enacted or expanded are influenced in part by larger sociocultural norms tied to the discourse communities within social institutions shaping their contexts of interaction. These expectations, in turn, shape learners' investments in particular linguistic practices and their motivations for seeking out and pursuing interactions with others. These social institutions give shape to the kinds of groups to which they have access and to the role relationships they can establish with others, which in turn give them access to certain resources for enacting these relationships. Learners' social identities, subjectivities, and sense of agency are further significant to the development of their multilingual repertoires in that they influence the kinds of L2 activities and the particular semiotic resources for realizing them to which they have access; and, vice versa, their growing repertoires and abilities will influence their identities, and their roles, rights, status, means, and agency within their learning communities.

For example, in the United States and in many other parts of the world, depending on their perceived or ascribed race, ethnicity, gender, or social class, some L2 learners may find that the opportunities they have access to for language learning and for participation in their communities are limited or constrained by the ways in which they are positioned by others, while other L2 learners may find their opportunities to be abundant and unbounded (e.g., Collins, 2014). Since group identity categorizations are not natural or pregiven, but socially constructed, the barriers they create are likewise socially constructed—and also often mutually intertwined. For example, race and ethnicity are shaped by one's social class and are not independent of it (Ratner, 2011), and self ascription to simultaneous identities, such as middleclassness and blackness (Mocombe,

Tomlin, & Wright, 2013), can be lived as conflictual and ambivalent. A considerable amount of L2 research has examined newcomers' variable degrees of success negotiating their participation in new, L2-mediated communities of practice or other social networks and their opportunities to obtain meaningful assistance to facilitate their membership and development (e.g., Morita, 2004; Toohey, 2000). Some of the barriers they may encounter may be related to how they are perceived by others (e.g., as outsiders, incompetent) even when such ascriptions may be incorrect, unjustified, or simply discriminatory. Research on L2 learning that actually incorporated the learners' voices has begun to document identity struggles that can be explained by the entanglements of local dynamics of linguicism, racism, sexism, ageism, and/or classism: these struggles point to ideological structures and practices (see Figure 1, largest concentric circle; and later sections) that, potentially, have dire consequences for language learning.

Another aspect of learners' social identities that influences their access to particular social institutions and learning opportunities within them is not only their desired memberships in their present communities but also in their imagined future communities (Dörnyei, 2009; Kanno & Norton, 2003; Norton & Toohey, 2011; Pavlenko & Norton, 2007). Imagined communities, drawing on Anderson's (1983) original conception, are those in which learners desire to become, or anticipate becoming, members because they perceive that such communities can offer them and/or their family members, such as their children, enhanced opportunities and better social experiences. For example, they might gain greater access to a wider range of semiotic resources and, concomitantly, greater economic and/or social mobility. Learners' imagined identities can have a significant impact on their investment in language learning, in that these identities can compel them to seek out and pursue L2 learning opportunities that might not otherwise be available to them. Such was the case, for example, for a group of immigrant parents of diverse language origins residing in Canada who chose to enroll their children in French immersion programs so that they would be better equipped to take on identities as English–French bilinguals and thereby have access to economically more powerful contexts of interaction within their desired social institutions (Dagenais, 2003). Economic privilege and identification with middle class identities may help some multilinguals imagine membership in

future communities as more attainable (Mo-combe et al., 2013). In reverse, learners may encounter so many obstacles as they attempt to take on a new identity in an imagined community that the hurdles are close to insurmountable, as Kozol (1991) has shown for other student populations in U.S. inner-city schools.

8. *Agency and Transformative Power Are Means and Goals for Language Learning*

In their multilingual contexts of interaction, which are tied to social groups and communities that themselves participate in larger social institutions, L2 learners construct and inhabit multiple, intersecting social identities, both real and imagined, and they use these understandings of their identities and of those they ascribe to others in order to negotiate their engagement in these contexts (Norton, 2013). While their understandings are to a great extent shaped by larger social institutional expectations, they, as individual agents, also play a vital role in shaping them. In these ways, not only identity and participation in real and imagined communities involving the L2 but also agency may dramatically affect learners' L2 trajectories (Duff, 2012; Duff & Doherty, 2015; Zappa–Hollman & Duff, 2015).

For example, in contexts of interaction where L2 learners struggle to participate from one identity position, they may be able to refashion their relationships with others by taking on alternative identities—for instance, by moving from being considered 'low-value' immigrant laborers to being valued colleagues. When they are able to do so, they can change their access and opportunities to use particular resources. In so doing, they take on alternative identities and social roles from which they can participate (Higgins, 2015; Morita, 2004; Norton & Toohey, 2011; Rampton, 2013).

However, the degree of influence L2 learners can exert in shaping their identities is not equal across contexts, as their identities are often a product of others' perceptions, actions, and social construction in interaction with them. Thus, agentive shaping of identities and refashioning of their relationships with others are "an aspect of the action" (Altieri, 1994, p. 4), negotiable in and arising from specific social and cultural circumstances constituting local contexts of interaction in which social and economic power are deeply implicated.

For example, in formal learning settings such as the classroom, situated within certain geographical regions within the United States, there is often more conventional authority ascribed to teachers' roles than to students' identities: Teachers have much greater power to determine the types of activities and resources to which learners will be given access and the opportunities they will have to engage in the activities; furthermore, it is normally on the basis of the teachers' assessments that students may proceed with further study. Variation in access to opportunities across learners within a classroom or across classrooms plays a significant role in shaping learners' investment in these contexts (Darvin & Norton, 2015; Morita, 2004). Those who are offered more opportunities are more likely to be positioned as 'good' learners, an ascription that is likely to advance their investment in and continued pursuit of L2 learning activities. Others who are offered fewer opportunities, or who choose not to participate in what is made available to them, are more likely to be positioned as 'poor' or 'resistant' learners, an ascription that is likely to further decrease their investment in seeking out L2 learning opportunities in those contexts (Hall, 1998; Norton & Toohey, 2011).

9. *Ideologies Permeate All Levels*

Language ideologies are especially significant to the endeavors of multilingual learning because "beliefs, feelings, and conceptions about language structure and use […] often index the political economic interests of individual speakers, ethnic and other groups, and nation states" (Kroskrity, 2010, p. 192). Thus, ideologies influence the access, investment, and agency into a new language that learners may or may not (be able or willing to) exert. There are at least three reasons why the influence of ideological structures (see Figure 1, largest concentric circle) are key to understanding additional language learning.

First, language ideologies are important because they influence language policy and planning on all levels of social activity (Ricento, 2000; Ruíz, 1988; Tollefson, 2002). Language policies exist at the individual, family, community, state, and national levels. They shape decisions on which language or languages are official, which languages and language varieties are valued, how they are to be used in community settings, and the educational opportunities that are made available to individuals to learn, use, and maintain them (De Costa, 2010; Farr & Song, 2011; Hult, 2014). Many countries have official language policies at the national level that bestow special status on certain languages. Canada, for example, passed a law in the 1970s giving equal status, rights,

and privileges to English and French as official languages of the country. According to Statistics Canada (2011), of the 33,121,175 total population of the country, 57% are English speakers (i.e., they list English as their mother tongue), 21.3% are French speakers, and 3% are Chinese speakers. Chinese Canadians are the seventh largest Chinese diaspora in the world and the second-largest visible minority group in the country after South Asian Canadians, and Chinese represents the largest cluster of mother tongue in Canada after English and French. The designation as official language gives French a very different status than Mandarin Chinese. This distinction then enables far more learners to study the former than the latter language because of the institutional, political, and public support for French programs of various types, despite the fact that in some municipalities (e.g., Vancouver and Toronto) a very large proportion of the population is Chinese-speaking or would like to learn that language. Similarly unintended negative consequences are reported by Moore and MacDonald (2013) who point to the way the complex set of rulings by different indigenous and provincial authorities in British Columbia can result in no teaching licenses being issued for a particular indigenous language.

While the United States does not have an official language policy at the national level, there are widely shared ideologies about language that impact language policy and planning at all levels of social activity. Ideological structures at the macro level operate in tandem with the other two levels (Figure 1): If one's own communities or surrounding local policies (high school, university entrance, graduation) characterize learning another language as a waste of time, social micro-interactions will likely have little impact. Ideologies, thus, can limit learners' (and teachers') access to a fuller range of semiotic resources, often through competing discourses over the societal goals of classroom language learning. A case in point is high-stakes tests that function as gatekeepers to limit access to scarce higher education resources vis-à-vis the need to compete in an increasingly globalized economy (McNamara, 2012).

Second, several negative language ideologies, often in conjunction with other ideologies of difference, function to create unfavorable social, academic, cognitive, and personal evaluations of multilingual speakers as well as of speakers of minority varieties. Negative language ideologies create ethical liabilities and also distort the object of study, thus posing serious validity threats for the study of bilingual development over the lifespan.

One of these ideologies is the ideology of the standard language or the belief in the linguistic correctness of one variety that is held superior to other coexisting ones: "where there are two or more variants of some word or construction, only one of them can be right" (Milroy, 2001, p. 535). For example, a pervasive perception of an ideal standard form of English shapes the practices of social institutions and their members' beliefs and attitudes about users of English whose language varieties are perceived to differ from the norm. Certain English language varieties associated with some groups and geographies—typically higher class groups in English-majority speaking countries—are generally considered more correct, and thus more prestigious, than varieties associated with other—typically lower class—groups or geographies—typically in countries where the majority language is not English (Tupas, 2015). Further, a more prestigious variety is treated as the invariant standard against which other varieties, and their users, are judged (Labov, 2006). Such an ideology has significant implications for the kinds of learning opportunities that social institutions such as schools make available to L2 learners and, more particularly, for the ways in which learners think about their own and others' language varieties and about language in general.

An equally pervasive ideology with dire consequences for L2 learners is the ideology of monolingualism (Flores, 2013). For example, particularly common in the United States is the belief in English monolingualism as the defining characteristic of American citizenship, despite "*ongoing* multilingual and multicultural 'super-diversity'" (Wiley, 2014, p. 28, emphasis in original). Under this pernicious way of thinking, language diversity is considered to be an inevitable, even regrettable result of immigration, and thus something that should not be maintained, an asset and commodity "not worn again [or used], except perhaps on special ethnic holidays when it is considered appropriate to celebrate diversity" (Wiley & Lukes, 1996, p. 520). The consequences of such an ideology include a continued lack of perceived need in the United States for the study of languages other than English at all levels of schooling, ongoing small and large-scale anti-bilingual education movements, and tenacious English-only policies enacted officially and unofficially across social institutions. Such an ideology is also complicit in the thriving but contradictory demand for new college-level programs that are supposed to support heritage speakers in the (re)learning

of ancestral, community, or home languages, yet are often designed as an afterthought (and an aftermath) of tremendous societal pressures to shift to the majority language during early schooling (Leeman & King, 2015).

This same ideology that holds monolingualism as the "implicit norm" and "default for the human capacity for language" (Ortega, 2014b, p. 35) has also had a particularly negative influence on the research agendas of SLA (Blackledge, 2005; Makoni & Pennycook, 2007; May, 2011). The monolingual bias has its historical roots in the process of standardization that took place in Europe in the 18th and 19th centuries as a part of the project of the nation-state (Gal, 2012). In contemporary linguistics it found its strongest continuation in Chomskyan conceptualizations of language as a single system of abstract structures that resides in the mind of "an ideal speaker–listener, in a completely homogeneous speech community" (1965, p. 3). Despite the substantial body of empirical evidence revealing the diversity and variability of individual knowledge across contexts within and across communities, and despite ongoing critique from various disciplinary perspectives (e.g., Firth & Wagner, 1997; Hall, Cheng, & Carlson, 2006; Larsen–Freeman, 2014b; Ortega, 2013, 2014a; Zuengler & Miller, 2006), the bulk of research in SLA and many areas of applied linguistics continue to rely on the monolingual native speaker's idealized competence as a benchmark for defining and evaluating L2 learning. The majority of practices in language classrooms across the world, as well, continue to hold to the ideal of an imagined monolingual native speaker (and prospective interlocutor and role model) who possesses a powerful, standard variety of the target language that the learner aspires to learn (Seidlhofer, 2001). Moreover, many well-intentioned educators and researchers may harbor ambivalent sets of ideologies that motivate their work. On the one hand, they subscribe to the positive ideologies of bilingualism as a source of cognitive and social advantages. On the other hand, they act on the concurrent negative language ideologies of monolingualism and nativespeakerism, which posit that learners should develop the pure competence of two monolinguals in one head. For example, French immersion teachers may teach for bilingualism while banning from their classrooms hallmark behaviors of bilingual competence such as code-switching, uneven language proficiencies, or bilectal or multilectal repertoires (e.g., Cummins, 2007; Roy & Galiev, 2011). When researchers and educators insist on a monolingual native-speaking golden rule for their interpretations of development, progress, or success, they are setting up L2 learners for failure, since multilingual competence is simply different in nature from monolingual competence (Cook & Li Wei, 2016).

The third reason we can give here for the importance of accounting for ideological structures in the study of additional language learning is that, as all humans, language learners themselves are ideological beings. While the actual usage of the multilinguals' languages may not need to reflect their language ideologies, these are "mobilized for particular purposes in specific contexts" (Gal, 2012, p. 29) and influence people's choices for approaching language learning, their investments in their target languages, and their identity negotiations along the life project of multilingualism.

For example, some multilinguals will profess a relationship to the mother tongue that feels more authentic, as the language of emotions, home, and intimacy, and a relationship to the second language (often English) that is an instrumental one, viewing it as the economically useful language reserved for work (Duchêne & Heller, 2012; Gal, 2012). Yet other contradictory and complicating ideologies may make available investments to learn English for economic advancement at one level but also, on another level, for enjoyment and romantic desire (Kubota, 2011). Some learners may be negatively affected in their language learning efforts by an internalized ideology of deficit that attributes communication failure to the inadequate linguistic self, whereas others may develop the more liberating ideology of communication as a shared enterprise (Subtirelu, 2014). Some transnationals may be convinced by their experiences using English or other lingua francas to abandon ideologies of efficient communication as scripted and uniform and instead develop an ideology of language as transportable resources to negotiate diversity (Canagarajah, 2013), or they may value no particular set of bounded knowledge about a language (for example, English) for the workplace and instead place a premium on their ability to piece things together in order to communicate by bricolaging whatever bits of language knowledge they can muster together with relevant cultural knowledge of the micro contexts of interaction (Kubota, 2013b). Inside the family, as well, parents who want to make more use of a new language in the home to support their children's learning, for example, of an endangered language such as Scottish Gaelic, may struggle to negotiate conflicting ideologies that

make an authentic speaker one who is natural, un-selfconscious, and fluent and a good parent one who does not force a child to speak a language (Armstrong, 2013).

10. *Emotion and Affect Matter at All Levels*

Soviet-era psychologists like Luria and Vygotsky have long held the dialectical unity of thinking and emotion, in both their theoretical model of consciousness and as a guiding principle of their empirical research (Luria, 1978; Vygotsky, 1978; cf. Toomela, 2010). Recent neuroscience research has come to adopt this insight. As synthesized by Okon–Singer et al. (2015), brain imaging research has now accumulated that demonstrates that "emotion and cognition are deeply interwoven in the fabric of the brain" and that, therefore, "widely held beliefs about the key constituents of 'the emotional brain' and 'the cognitive brain' are fundamentally flawed" (p. 8). Phenomenologically, people normally experience cognition and emotion as distinct mental faculties. However, imaging evidence has led current researchers to conclude that emotional and cognitive processes overlap in brain functioning and are therefore highly integrated. Thus, on the one hand, attention is emotionally gated in that, for example, "emotionally-charged cues are more attention-grabbing than neutral cues" (p. 2; see also Todeva, 2009), and negative emotional information can overload and obstruct working memory, deteriorating attention to cognitive cues. Conversely, cognition is emotionally attuned in that it can be used to regulate emotions through flexible strategies that are sensitive to the specific emotional context. These mutual influences are not fleeting but can be lingering, which suggests cognition and emotion interact at multiple time scales. Furthermore, they exhibit high plasticity, that is, while they arise early in development and tend to be influenced particularly by early experiences, neural plasticity and reorganization continue to influence learning throughout the lifespan. In sum, Okon–Singer et al. conclude,

> this work demonstrates that emotional cues, emotional states, and emotional traits can strongly influence key elements of on-going information processing, including selective attention, working memory, and cognitive control. Often, this influence persists beyond the duration of transient emotional challenges. (p. 8)

If the human brain is a cognitive-emotional brain (Pessoa, 2015) as well as a highly attuned social brain, then multilingual learning is an accomplishment of the emotional-cognitive-social brain (Swain, 2013). Language learning is an emotionally driven process at multiple levels of experience. At the neurobiological level, information with affective and emotional content affects language perception and language cognition through an interactional instinct driven by motivational and reward neural systems (Lee et al., 2009; Schumann, 2010). Concurrently, however, language learning is also an affectively driven process, that is, a process that is experienced (and reflected upon and expressed and talked about, with different degrees of emotion) as an inter-relational, socially co-constructed phenomenon (Swain, 2013). Emotions may appear to be raw in the brain, but they are socially conditioned, and affect is imbued with social meanings; social action and interaction supports and is supported by "the co-construction of [both] a cognitively permeated set of emotional processes [. . . and] an emotionally permeated set of cognitive processes" (Swain, p. 203). And although emotions are often "the elephants in the room – poorly studied, poorly understood, seen as inferior to rational thought" (Swain, p. 205), they have recently begun to be the object of study in SLA (Dewaele, 2016; Pavlenko, 2013). Emotions are also enmeshed with identity, agency, and power, all central in the learning and teaching of languages in today's multilingual world.

RECAPITULATION AND FORWARD DIRECTIONS

With the framework we have just presented and its 10 attendant themes, we hope to have ignited readers' imagination toward a more comprehensive understanding of additional language learning and teaching that comes out of a serious and wide-ranging dialogue among maximally diverse yet compatible approaches to SLA phenomena.

Language learning is a complex, ongoing, multifaceted phenomenon that involves the dynamic and variable interplay among a range of individual neurobiological mechanisms and cognitive capacities and L2 learners' diverse experiences in their multilingual worlds occurring over their life spans and along three interrelated levels of social activity: the micro level of social action and interaction, the meso level of sociocultural institutions and communities, and the macro level of ideological structures. Emerging from variations in the patterns of interplay across these dimensions are equally varied multilingual repertoires, comprising organized collections of recurrent semiotic

resources, each "with affinities to different contexts and in constant structural adaptation to usage" (Bybee & Hopper, 2001, p. 3). Semiotic resources are conceived as an open set of ever-evolving multilingual and multimodal possibilities for making meaning.

The dynamic and malleable repertoires of resources that L2 learners develop from their life-world experiences are cognitive in that they are represented in learners' minds as automatized (to varying degrees), functionally distributed, and context-sensitive. They are, therefore, provisional and fluid collections of constructions, patterns, and practices. They are, at the same time, social, ideological, and socioemotional-affective, in that the development of L2 users' repertoires is an emergent and social process, always in a state of construction as they navigate their way through their multilingual contexts of perception; of social action; and of agency, power, and emotion (Halliday, 1975; Vygotsky, 1978). Life and experience are intertwined beyond referential messages and symbolic expression; language *is* experience: "embodied, situated enactments of language in situ articulate with thinking, feeling, consciousness, and the 'incessant emergence' of existence" (Ochs, 2012, p. 152).

The body of evidence revealing the neurobiological mechanisms and cognitive capabilities underpinning L2 learning in their locally emergent contexts of social action and interaction (cf. the micro level in Figure 1) is compelling. It is, however, incomplete in that it does not recognize the constitutive, if not to say causative, role of the social, economic, cultural, and political conditions present across contexts of interaction and social institutions and communities (cf. the meso circle in Figure 1). These conditions fundamentally shape learners' access to specific types of social experiences and their ability and willingness to participate in them and engage with them in affiliative and transformative ways. As expected, the experiences and the particular semiotic resources to which learners are exposed or to which they have access will vary substantially as a function of these variations in social, economic, cultural, political, and religious conditions. In turn, these conditions give shape to both the route of development and the substance and functions of learners' multilingual repertoires.

At the meso, sociocultural level (see second concentric circle in Figure 1), L2 learning is mediated by learners' engagement in particular contexts and cultures of interaction and the "socially constituted repertoires of identificational and affiliational resources" (Bauman, 2000, p. 1) to which they have access by virtue of their real and imagined memberships in the various groups comprising their social institutions. As we have emphasized, the current social order is particularly strongly influenced by technology-derived contexts. From the choices and actions learners take using their available resources of identification and affiliation within "the opportunities and constraints of history and social circumstances" (Bronfenbrenner & Morris, 2007, p. 820) over their life spans, their multilingual repertoires emerge as highly adaptable, "biographically assembled patchworks of functionally distributed communicative resources" (Blommaert & Backus, 2011, p. 9), suggesting that the core function of all learning is environmental adaptivity and co-adaptivity (Atkinson, 2014; Gamble, Gowlett, & Dunbar, 2014).

At the macro dimension of our framework (see largest concentric circle in Figure 1) are large-scale, society-wide ideologies, or collectively operational, power-driven systems of beliefs, valuations, and feelings that intersect with social constructs such as identity, agency, language, learning, and education and social issues such as linguistic rights and language policies. Ideologies are individual- and group-held cultural, political, religious, and economic values and beliefs that circulate in discourses and behaviors that are socially recognizable and expected. They may be hidden when they are taken for granted, and they are often heterogeneous and contradictory (Philips, 2004). Ideologies are pervasive, enduring, and permeating all levels of social activity. They influence the ways in which individuals view their worlds, guiding how they act within them and how they interpret the actions of others. Particularly important in the study of additional language learning are ideologies of language, which are beliefs about what language is and the roles it plays in the construction of social experiences and the social identities of its members (Kroskrity, 2010; Woolard & Schieffelin, 2004). Furthermore, widely circulating ideologies about additional language learning itself, such as its impact on learners' primary language or academic achievement, the speed with which languages can or should be mastered, and the means by which proficiency can or should be assessed, are other dimensions of macro-level discourse that affect language learners' educational opportunities, expectations, and experiences.

Our framework is also a bid for transdisciplinarity that emerged out of our prolonged interactions (see Note 2). It has paid off, we feel, as

we have moved closer to the ideal of transdisciplinary researchers who accept different conceptualizations of reality (cf. Holbrook, 2013); are open to other views; and are willing to take risks, learn, and become more creative in their own inquiry by crossing disciplinary knowledge boundaries (Augsburg, 2014). Transdisciplinarity helped us strive to rethink our own understanding of language learning and teaching in today's multilingual world in a fashion that is less encumbered by turf wars over intellectual boundaries and gets closer to the ideal of serving "development and enrichment through dialogue of all the disciplines and theories involved" (Fairclough, 2005, p. 64).

Our transdisciplinarity bid therefore also turns here into a call to SLA researchers: to expand their analytic gaze to different dimensions of social activity and—without necessarily giving up or even expanding their particular approach—to think integratively. We do not envision that all researchers and research programs will attempt to investigate the dimensions of language learning as depicted in Figure 1, or will do so all at once or within the same study. This would be daunting, potentially opening novice researchers and graduate students to unsustainable vulnerabilities (Bigelow, 2014). It may even be unnecessary, either because a division of labor across research programs can be harmoniously achieved (N. C. Ellis, 2014) or because a given theory may provide a dialectical solution that enables traveling along several dimensions within a given epistemology (Lantolf, 2014). There is no single way to achieve integrative but flexible transdisciplinary thinking; the achievement is partial and liminal — an emergent transdisciplinarity that is nevertheless hopeful as a worthwhile pursuit (Ortega, 2014a).

CONCLUSION

The value of being multilingual in our globalized world is contested and entangled in contradictory accounts. Collective ideologies abound that make particular languages "a source of pride" for some, for others "a source of profit" (Duchêne & Heller, 2012). The specialized research finds that bilingualism in general confers cognitive advantages to children and adults (Barac et al., 2014; Bialystok et al., 2014) although such conclusions are also the ongoing object of heated debate in scientific circles (see Valian, 2015). Multilingualism is frequently associated with lower academic achievement during the first years of schooling (Han, 2012; Hoff, 2013). At the same time, claims are made that bilingualism yields economic re-

turns to the individual and to society (Callahan & Gándara, 2014; Chiswick & Miller, 2015; Grin, 2003). Yet other research finds bilingualism to be almost synonymous with lower socioeconomic income. Much of this confusing picture rests on the power of ideologies to shape not only policy bodies and public perceptions but also education and research actors. At the same time, part of the present dismal state of knowledge about the social and individual impact of bilingualism and language learning must be attributed to the traditional ways in which key research evidence, such as evidence for linguistic success, developmental progress, or communicative attainment, is sought and measured, a critique that was at the forefront of the SLA paradigm wars of the mid 1990s (e.g., Firth & Wagner, 1997). The SLA research community has responsibility and expertise to contribute substantially improved new knowledge in all relevant areas, if there is willingness to recognize and tackle the challenges of L2 learning and teaching in all their complex and multifaceted nature. The very preparation of this document has made us aware of the extent to which the research community is likely to be challenged as it strives to present its findings in more accessible ways for colleagues outside its own (sub)specializations and, even more important, for the public at large.

The ever-changing landscapes of L2 learners' multilingual worlds call for solutions that can best be addressed by research collaborations undertaken from multiple disciplinary and stakeholder perspectives and in a true spirit of transdisciplinarity. Moreover, bridge-building "still retains the disciplines as the locus of intellectual activity" (Halliday, 1990/2001, p. 176). Concepts, theories, and methodologies shape the kinds of data that are gathered and analyzed, and ultimately what is found. When questions central to SLA are posed within the confines of each theoretical and epistemological approach within the discipline, we may be left with a collection of theory-internal findings with no principled way of integrating them. This would mean that we would lose out on the opportunity to make visible the multilayered complexity of additional language learning and, on that basis, begin to craft contextualized solutions for improving opportunities for the teaching and learning of languages. A transdisciplinary perspective on language learning and teaching, on the other hand, helps SLA recognize that its object of inquiry, bi/multilingualism, which is partially shared with many other disciplines, is a complex, ongoing, multidimensional phenomenon that involves, as we have proposed, the dynamic and variable interplay among a range

of individual neurobiological mechanisms, cognitive and emotional capabilities, and peoples' diverse experiences in their social worlds. These occur over their life spans and along three interrelated dimensions of social activity: micro contexts of social action and interaction, meso contexts of sociocultural institutions and communities, and the macro level of ideological structures.

Like proponents of other recent movements in SLA towards integrative perspectives (Atkinson, 2011; Beckner et al., 2009; de Bot et al., 2007; N. C. Ellis & Larsen–Freeman, 2006; Firth & Wagner, 1997, 2007; Hulstijn et al., 2014; MacWhinney & O'Grady, 2015; Watson–Gegeo, 2004), we recognize that language inextricably involves cognition, emotions, consciousness, experience, embodiment, brain, self, human interaction, society, culture, mediation, instruction, and history in rich, complex, and dynamic ways. In addition, we have proposed that a new, rethought SLA begins with the social-local worlds of L2 learners and then poses the full range of relevant questions, from the neurobiological and cognitive micro levels to the macro levels of the sociocultural, educational, ideological, and socioemotional. This new SLA addresses all these levels, from cell to society, as it were, without losing sight of the local multilingual contexts from which the questions arise and of the emic meanings of those questions for people in the flesh. A central value for it should be ecological validity (Cicourel, 2007), that is, fair and credible representations of the possibilities and constraints faced by L2 learners in their social worlds on all levels of activity and across time spans. A main target of its research efforts would be to understand the varying conditions that enable and constrain opportunities for and outcomes of language learning across private, public, material, and digital contexts of social action and interaction. Another main goal would be to communicate with and serve learners themselves and other stakeholders, including teachers; administrators; appointed and elected officials; parents; community members; business leaders; and educational, business, and health organizations. In sum, the new, rethought SLA would contribute to the development of innovative and sustainable lifeworld solutions that support language learners in a multilingual world.

Our collective rethinking is firmly grounded in carefully sought points of synergy, earnest ethical commitment, and a transdisciplinary flexibility achieved from prolonged engagement with the substantive challenges and with one another. Nonetheless, our present proposal for a reimagined SLA is provisional and needs to be debated, subjected to close scrutiny, adapted, and remade. We offer this article as a first step in that process.

NOTES

[1] The authors of this article are, in alphabetical order: Dwight Atkinson, University of Arizona; Heidi Byrnes, Georgetown University; Meredith Doran, The Pennsylvania State University; Patricia Duff, University of British Columbia; Nick C. Ellis, University of Michigan; Joan Kelly Hall, The Pennsylvania State University; Karen E. Johnson, The Pennsylvania State University; James P. Lantolf, The Pennsylvania State University; Diane Larsen–Freeman, University of Michigan and University of Pennsylvania; Eduardo Negueruela, University of Miami; Bonny Norton, University of British Columbia; Lourdes Ortega, Georgetown University; John Schumann, UCLA; Merrill Swain, The Ontario Institute for Studies in Education of the University of Toronto; and Elaine Tarone, University of Minnesota.

[2] The seeds of the framework were planted 7 years ago, in a colloquium in 2009 that Dwight Atkinson organized at the American Association for Applied Linguistics (AAAL) conference in Denver, Colorado. This resulted in the publication of an edited volume entitled *Alternative Approaches to SLA* (Atkinson, 2011) whose purpose was to present and compare six approaches to SLA in order to build "a richer, more multidimensional understanding of SLA" (p. xi). The efforts resumed in 2013 in a 2-day symposium held at the Pennsylvania State University, co-organized by Atkinson and James Lantolf. This meeting was financially supported by the Center for Language Acquisition, in the College of the Liberal Arts, The Pennsylvania State University, and by Xiaofei Lu, a Gil Watz Early Career Professor in Language and Linguistics and Associate Professor of Applied Linguistics and Asian Studies at The Pennsylvania State University. It brought together 12 of the present authors. Participants were asked to consider areas of commonality and difference between their own approach and those of others in the group, with the overarching goal of finding synergies across these emerging traditions and possibilities for greater integrativeness or complementarity among seemingly allied perspectives. The 2-day symposium ended with a discussion, involving a public audience, of the need to design a more encompassing, integrative framework for understanding and doing SLA that would speak to both language teachers and researchers. Following this event, Heidi Byrnes, editor of *The Modern Language Journal* and one of the symposium participants, invited the group to contribute a jointly authored paper that formally developed our insights into a framework, to be published in this *MLJ's* centenary issue. We agreed and arranged to meet again to begin the process of writing the paper, this time upon the conclusion of the 2014 AAAL conference in Portland, Oregon, with financial support from the NFMLTA, the

governing organization for *The Modern Language Journal.* In planning and crafting our contribution to this centenary issue of *The Modern Language Journal,* we were greatly inspired by the example of The New London Group's 1996 ground-breaking paper. In a personal email communication to Heidi Byrnes (May 22, 2013), Courtney Cazden provided detailed insights about the process by which The New London Group, comprised of 10 educators from the United States, Great Britain, and Australia, developed the framework of their collective paper, and the description of this process influenced ours. The New London Group's 5-day meeting was held in New London, New Hampshire, in the United States, hence their name. Except for the last morning, the 2014 meeting of our group took place in the Douglas Fir room, located in the AAAL conference hotel, hence our collective-author-group's name. The substance of our framework was crystallized at the 3-day meeting of the group in a wholly collaborative spirit. Together, we brainstormed what we considered to be the overarching themes, elaborated on the ideas, and negotiated the scope and depth of the argument to be presented in the article. By the end of the meeting we had constructed an outline of a framework of language learning and teaching (the object and scope of inquiry) for SLA (the field). Joan Kelly Hall agreed to write a first complete draft of the article following the meeting, which was then circulated to the other authors for their input and modifications. Meredith Doran, one of the authors who had played an important role in organizing the 2013 meeting and in co-monitoring the 2014 meeting, and Kimberly Buescher, a doctoral student at The Pennsylvania State University, compiled and systematized all the individual and collective feedback. Using that feedback, and with the further benefit of the interactions among most of the authors at an invited colloquium organized by Atkinson and funded by *Language Learning* at the AAAL conference in Toronto in 2015, Lourdes Ortega prepared a revised document, which was vetted by all authors and further revised. It was then sent to Nancy H. Hornberger, The University of Pennsylvania, and D. Richard Tucker, Carnegie Mellon University, who graciously agreed to serve as external reviewers, and revised once more.

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