Translation, anthropology 
and cognition

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5.1 Anthropology: Translation of cultures, collectives, minds 
and modalities

Anthropology, as a discourse of disparate cultural communities, has always been concerned with 
translating the minds and behaviours of individuals and collectives within one culture, across to 
those from another context. Therefore, its inherent attribute is the translation of perception and 
social interaction (Ingold, 1994; Rubel & Rosman, 2013). As a first step, such mediation occurs 
between individuals within one social code and others within that same circle (Bateson, 1972). 
The web of complexity in the description of even a single society was early articulated by soci-
ologist David Emile Durkheim (1858–1917), who said that individual consciousness is steeped 
in and manifests collective social consciousness, which depends on and derives from the enabling 
language of a people (Darnell, 1998; Rapport & Overing, 2000, p. 71). From the anthropological 
tradition, particularly in its nascent years, descriptive mediation was done between worlds having 
unrelated and entirely unfamiliar linguistic codes for which there might not even be written 
forms. The process involved the interpretation of the world of users of one code in the modes and 
forms available to the world of users of another code, with language as the most articulate code 
of human experience. Standing at the interface of cultures that have evolved entirely different 
ways of interacting with each other and viewing the world, the challenge for anthropologists was 
to enable access codes to bi-directional portals between these divergent modes of experience.

Cultural anthropologist Franz Boas (1858–1942) expounded the potential of contrastive lan-
guage description for reinterpreting the human condition as a whole:

The investigation of the laws governing the growth of human culture is carried out by 
means of comparative methods …. Their great value for the study of the human mind lies 
in the fact that the forms of thought which are the subject of investigation have grown up 
entirely outside of the conditions which govern our own thoughts. They furnish, therefore, 
material for a truly comparative psychology. The results of the study of comparative lin-
guistics form an important portion of this material, because the forms of thought find their 
clearest expressions in the forms of language.

Boas, 1899, p. 96
As Boas suggests here, very different histories and ecologies led to very different ways of thinking, and a useful way in to experiencing such alternative ways of perception was comparative linguistics. In fact, Boas defined his project as “ethnolinguistics”: with ethnology being the science of the human mind and social customs within a culturally specific setting, as opposed to the more general science of anthropology (Barnard, 2004, p. 2); and with language as the most important manifestation of such ethnographies (Boas, 1899, p. 94; Boas, 1911, p. 63). His methodology was one which aimed to give the culture its own voice: whether that was through developing his own personal linguacultural fluency, working closely with native members of communities he studied to develop their writing systems and describe their grammars, or compiling texts that could speak for themselves of the narratives, myths, ritual and songs of the people. One distinctive contribution of anthropology to translation and cognition was that it was transdisciplinary and collaborative, as is typified by the two-volume work Ethnology of Kwakiutl (Hunt & Boas, 1921). Through such means, ethnolinguists worked towards pattern-based generalizations on the whole of the human condition (Benedict, 2005/1934), which in turn contributed to more specialized fields like psychology (Sapir, 1921), in a bi-directional process.

In the social anthropological tradition, anthropologists and their benefactors have been interested in speculating on the processes of human evolution, civil development, the transfer of innovations across societies and, more recently, interactionalism and auto-ethnography. This tradition was concomitantly concerned with interpreting diverse histories across distant regions of the world, in synergy with following common threads in social behaviour, collective motivation and phenomena that typify and unite us. In its infancy, social anthropology tended to approach the understanding of humanity from the dominant analogic discourse, which has resulted in affiliations with colonial hegemonies and indiscriminate versions of evolution and Eurocentric models of social progress, as well as xenophobic biological theories such as eugenics. The miasma from these associations lingers over the reputation of anthropology and socio-cultural theories even today. However, these earlier theoretical assumptions were refined in the face of important field-based work, such as Malinowski’s ethnography of Kiriwinan in Argonauts of the Western Pacific (1922). Significant in Malinowski’s work was the role of translation in developing frameworks for authentic discourse on divergent cultures in ways that are also meaningful to outsiders. The generalizations which emerged through such ethnographies helped to reorient much of the work in both social analysis and linguistics, towards more holistic and dynamic approaches to translating and imagining humanity (Barnard & Spencer, 2002).

The specific contribution of anthropology comes from its attention to the social and cultural aspects of humanity. While it is important to have a working definition of both society and culture, such definitions are notoriously hard to pin down: from dichotomies between mental representations and performance (such as cognitive: phenomenological, Ingold, 1994; or ideational: behavioural, Harris, 1999); to backgrounding filters (culture) against which the immediate environment of interaction (society) can be interpreted (Halliday & Hasan, 1985, p. 46). Consistent among these is the role of linguistic mediation between individuals and communities in a complex interweaving of mind–language–society (Rapport & Overing, 2000). The consequences of positioning on even such basic shared experiences as society and culture are often more clearly worked out within a focused setting. To give a cross-institutional example, in differentiating the often competing definitions of “society” in legal and anthropological terms in the outworking of National Native Title (NNT) in the Australian context, Palmer suggests that the legal interpretation recognizes society as a repository of traditional laws and customs held by groups with common language use and land stewardship; while the anthropological one implies sets of relationships that are uncertain, malleable and defy reification (2018, p. 37). This intercultural space between Indigenous Australian and scientific practice is illustrative of
social and cultural entanglements, so is continued in Section 5.3 to explore translations of spatial experience as temporal conceptualization. Before going there, it is helpful to review the formative dialogue within cultural and social anthropology that relates to translation and cognition.

5.2 Historical contributions of ethnolinguistics to translation and cognition

Dealing with alternative linguacultures at some remove from those of the anthropologists themselves and their audiences, meant that the tension between sameness and difference was intrinsic to their narrative. This tension has long been recognized in intercultural interaction, even where the cultures concerned were quite closely related, as on the European continent. The translation of minds and societies is inevitable and indelible in the translation of languages. Despite how innocuous, or even well-meaning, these contemplations might appear, it is a question that has been polarizing scholars since the period of Romanticism (Leavitt, 2011; Penn, 1972), and continues to incite invested debate (Chomsky, 2000; Jackendoff, 2002; Lakoff, 1987; Langacker, 1987; Pinker, 1994; Pullum, 1991). This is somewhat because agency is at stake in the question of the role that language might play in shaping our thoughts and realities.

The debate is often formalized as an orientation to languages that is either essentialist or universalist (for a comprehensive overview, see Leavitt, 2011). Those holding the former view prioritize that each language has a distinct essence, which may be irreconcilable with others, and which is only arbitrarily connected to reality. By contrast, the latter position holds that languages are more similar than different, potentially deriving from a common history and mediating experiences in relation to a common “truth”. While these ideas extended much further back to the Enlightenment with Locke and Leibnitz on the arbitrary and innate nature of language, respectively, neither specifically identified thought with language (Penn, 1972, p. 47), so the early Romantic thinking is a useful point of departure. It is also the period of the emergence of anthropology in parallel with expanding global travel and trade. In the past, the essentialist and universalist positions have been used to rank and discriminate, minimize and homogenize speakers and communities (Koerner, 1999, 2000; Leavitt, 2011; Risjord, 2007), despite both being untenable in real-world communicative practice, implying an immutability that does not align with actual experience.

5.2.1 Essential matters: A particular interpretation

Franz Boas is known as the “Father of American Anthropology”. His extensive work on AmerIndian languages empowered him to caution against viewing language difference as reflective of disparity between mental capacities. Commenting on an apparent absence of linguistic categories for drawing generalizations in Kwakiutl (spoken on Vancouver Island), he observed that this had no impact on their ability to form such structures if they became relevant. Likewise, student of Boas, Edward Sapir (1884–1939), further reasoned that the linguistic forms of languages predispose speakers to certain perceptual interpretations, with their particular categories creating patterned speech-thought much like grooves in a road. Nevertheless, he reasoned that these grooves can be gotten out of, indicating that they were not chains determining and damning speakers to one code of representing the world (Sapir, 1921). By contrast, he shows that it is the connections between linguistic categories and associations between words that habituate linguistic thinking. Using translations from English into German and Yana, Sapir demonstrates that certain relational concepts associated with grammatical forms (reference, tense, plurality and gender) may be more or less salient to particular speech communities:
The Yana sentence has already illustrated the point that certain of our supposedly essential concepts may be ignored; both the Yana and the German sentence illustrate the further point that certain concepts may need an expression for which an English-speaking person, or rather an English-speaking habit, finds no need whatever. 

*Sapir, 1921, V, p. 13*

Where an essentialist position might interpret such linguistic oversights as evidence of inferior mental development or delayed social and cultural evolution, Boas and Sapir saw it as determined more externally, or ecologically—from a lack of necessity to conceptualize things in general terms (Boas, 1963, pp. 54–55). Importantly, it was recognized that there was some interplay between thought and culture, the individual and the social, for which language effected a crucial mediating role. For Sapir, the *instrument of language* makes the *product of thought* possible, while the product in turn refines the instrument (Sapir, 1921, I, pp. 14–15). Likewise, language was held to innovate social endeavour. In this way, early ethnolinguistic particularism voiced a scientific dissent to the rising fascism within Europe and racial disparity in America, where response to difference was otherwise reactionary (Boas, 1911, 1940; Sapir, 1921, X). It was clear that it was not that there was disparity in mental or civil development, but that there was just difference, which was habitualized through an inextricable tripartite of thought, language and culture (Lee, 2000).

A more fully articulated vision of this tripartite was given by Benjamin Lee Whorf (1897–1941), which might best be summed up in his notion of a “cultural mentality” (Whorf & Trager, 1938, in Lee, 1996). Whorf provided an initial procedure for shunting internally between language and mentality, and externally between language and culture, to reason about the implied metaphysics of a speech community. Incorporating field and process theory principles from the burgeoning discipline of quantum physics, Whorf conceptualized that the meaning associations that are activated by certain linguistic choices contribute to what is understood, and that such understandings are internalized through social sanction of norms for interpretation. Thus, what is explicit, or *overt*, takes its significance from what is implicit, or *covert*, in the whole of the language system. As examples, he offers the phonetically compatible names, *Alice* and *Ellis* (and a clever list of many others), as overt categories that activate the covert category of gender in English. To one less familiar with English, there is no outward indication of which name is assigned to which gender, whereas the native speaker/linguist is inducted into this custom through cultural priming, or reactances to mental associations with the deployment of the pronouns *she* and *he*, respectively (Whorf, 1937a, in *Language, Thought and Reality* [from hereon, LTR], Carroll, 1956, pp. 90–92). It is the interplay of, and rapport between, linguistic items of the language system as a whole that determines the potential of certain choices from that system to realize their significances to those who use them, revealing the essence of thought (Lee, 1996, p. 63; Whorf, 1936 [LTR], pp. 67–68). This insight into covert categories is not insignificant (Lee, 1996). If it is the covert categories that are most closely linked to unconscious behaviour, then this has consequences for the approach to the “calibration” of pictures of the universe between different language speakers (Whorf, 1940 [LTR], p. 214). This remains to be fully appreciated and extensively explored. In any case, to fuse field theory and Whorfian concepts, both the particles (overtly marked categories of the grammar) and the spaces that are perturbed between them (covert categories) contribute to *isolates of meaning* in the hidden workings of the mind of individuals, and by implication, the broader social consciousness of a speech community (Sapir, in Mandelbaum, 1949/1973).

Extending *isolates of meaning* out towards *isolates of experience* constitutes the “cultural” dimension of a cultural mentality. Working with a similar phenomenon to Kwakiutl for omitting generalized categories in Hopi, Whorf first describes the grammatical phenomenon: Hopi nouns
have an individual sense, and so can take singular or plural forms ("a water", "two waters"). This is contrasted to what he calls SAE (Standard Average European), which requires a body-type or a container to individuate what the language segments as mass nouns (thus, "a droplet of water" and "a glass of water"). Relating these findings on the grammar externally to the matter of existence, he claims that "[t]he language has neither need for, nor analogies on which to build, the concept of existence as a duality of formless item and form" (Whorf, 1939 [LTR], pp. 140–142).

In his own formulation, the tendency for matter to be pluralized in Hopi, rather than generalized or contained, constitutes a different segmentation of experience. Thus, in Hopi experience, all matters are individuated and are the main idea, while in English, it is the outline of the thing that is foregrounded, resulting in divergent interpretations of matter within the world (Whorf & Trager, 1938, p. 8). For both languages, the grammar is the initial framework for the analysis of everyday phenomena, through which its distinctive categories preference certain interpretations over others, which in turn influences personal and cultural activities (Whorf, 1939 [LTR], pp. 134–135). Taking from the early holographic model of the human brain, where the part contains the whole (Lee, 1996), consciousness was held to be an unfolding coherent whole, projected through semiotics such as language, onto the universe. Here again, elaborating isolates of experience as habitual patterning contributes to the depiction of generalized cultural mentalities, which might be calibrated in order to determine the factor of relativity active between distinct cultural mentalities. When Penny Lee states that "Linguistic Relativity [...] is predicated on the hypothesis that there are universal configurations of experience upon which different linguistic schemes of classification operate in a variable way" (Lee, 1996, p. 96), she highlights that relativity is far more sophisticated than a compromise between universalism and essentialism. At the very least, its beginning hypothesis incorporates ideas inherent in both.

Even to consider relativity as a hypothesis (as in the Sapir–Whorf hypothesis) is misleading, since it only points to the beginning assumptions rather than its evolution into a quite complex axiom (Hill & Mannheim, 1992, p. 383), having more evidence in its support than otherwise. Whorf at times refers to his formulations as a Culture Complex, which is apt in that it underscores both its elegance and the priority of culture. Yet this option does not emphasize the place of language and thinking, which are also at the heart of the theory. Even in his own use, Whorf is compelled to elaborate that it encompasses linguistic thinking (Whorf & Trager, 1938). Avoiding this shortcoming, Lee reformulates this as the Whorf Theory Complex (1996), yet this is perhaps even more of a nominal removal from the core concepts of the mind–language–culture tripartite, focusing only on one great thinker of the tradition. This focus on "Whorf" denies both the richness of the traditions that informed it, including ethnolinguistics, Theosophic Orientalism and also the startling epiphanies of relativists of the early 20th century (including Max Planck, David Hilbert, Albert Einstein, Niels Bohr, Paul Dirac and many more). It should not be disparaging at all to recall that Whorf incorporated a spectrum of world views in his thinking (Lee, 1996; Tymoczko, 2010), from Eastern philosophy and mathematical process theory to the biochemistry of his vocation. He interpreted the evidence for the language forms of thought by drawing together an interface of disciplines and epistemological orientations. This was a natural inclination of Boasian ethnolinguistics, given that its ethos was to encourage other cultures to speak of themselves, for themselves (Whorf, 1937b, [LTR]). More usefully, Lee also refers to it by an assignment Whorf himself gave: the Linguistic Relativity Principle (1940 [LTR], p. 214). In accordance with the fact that a principle encompasses a more considered system of ideas associated with an explanation for observed phenomena, the term is adopted here, along with cultural mentality to refer to the procedure of explanation.

An important critique of Whorf has been that the ways of talking exemplified in his contrastive studies between SAE and Hopi, and indeed in the fire incidents he investigated (see
Whorf, 1956 [LTR]), were not the only ways of talking about them. This is a valid point: Whorf’s explanations were certainly empowered through his epistemological eclecticism, yet the extent of his engagement with data and informants and also the depth of his knowledge of the languages he was describing are not immediately apparent. It is not that he did not engage comprehensively with primary material: the reader of his work is only presented with the select cream of instances supporting any particular argument. Further, it could be argued that his fixation on morphosyntax was rather limited as an interpretation of human experience. However, it should be acknowledged that there was a place for anchoring contrastive grammatical descriptions in the real world, through texts, songs and other social artefacts and institutions, which he categorized under stylistics in his framework for language description in *Language: Plan and conception of arrangement* (1938 [LTR], pp. 126–133). The collation of texts and artefacts, as examples of habitual and symbolic ways of talking and representing the world, were fully consistent with the theory—see for example Sapir’s emphasis on discourses of literature, art and aesthetic (1921, XI; see also Benedict, 1934; Hunt & Boas, 1921; Mandelbaum, 1949)—and anticipates contemporary approaches, such as Critical Discourse Analysis and ethnopoetics. Indeed, even Boas has been criticized as being excessively emic to the point of theoretical sterility, suspending any productive form of praxis (Harris, 1968, p. 251). Yet, his was an inductive approach: taking that mass of evidence together to reason by way of culminating waves of generalizable patterns in order to present the picture of the native as closely as possible from their own perspective (Benedict, 1943, p. 60; Boas, 1899, p. 95; Harris, 1999; Liron, 2003). Unsurprisingly, Boas held an important place for the comparison of languages in elucidating a broader vision of the universe and our experiences in the world of our immediate surroundings. The result of these principles was a more neutral approach to the significance of divergences observed between languages and cultures (Boas, 1940; Lucy, 2011). Even its strongest critics credit his form of particularism as a breaking away from the exoticism of essentialism towards a more relative rendition of humanity and lived experience. In, fact the entire project constitutes a pioneering effort towards interdisciplinarity, and issues a challenge for more systematic approaches in representing local contingencies towards explaining the Linguistic Relativity Principle (hereafter, the LRP).

### 5.2.2 Universal concerns: Systemic generalizations

In contrast to the essentialist programme, a practical consequence of universalism would be that translation was a simple process of linguistic transfer from one code to another. While even the most legendary of thinkers have held to this belief (see, for example, Penn on Aristotle, 1972, p. 42), anyone who has attempted the über perfectible process of translation would know that this is far from the case. This is partly due to the multivalency of meanings that can be imagined from a single utterance, where each of the translation options depends on the social situation, surrounding environment, rapport between interlocutors and so on (Catford, 1965; Jakobson, 1959). The refractile properties of a linguistic structure and its senses lends itself to a tension between acknowledging what was intended in the original and the spectrum of available selections to address norms in the alternative language (Toury, 1995). Although a universalist orientation to language (being uniform and unidirectional) has paved the way for innovations based on a principle of simplification, such as natural language processing (NLP), machine translation (MT) and translation memory (TM) applications, it also diminishes the complexity of real-world communication and cognitive reasoning, critical for navigating sameness and difference, generality and particularity within everyday contexts (Killman, 2015).

Rather, the linguistic behaviour of translation reveals something of the distinctiveness of different language speakers and alternate speech communities. If, in the infamous logic of
Wittgenstein in his *Philosophical Investigations*, language is the frame tracing our outline of reality rather than its essential nature (Wittgenstein, 1958, p. 148a point 114), then translation has to manage a double framing of reality, and often even a reality that is neither shared nor visible, being more like a picture frame than a window. The image of the world beyond may be only impressionistic. Nevertheless, it affords an image of realities that otherwise might be unimaginable. In this sense, it is a language activity that inherently assumes a role of calibration between cultures. In turn, reflecting systematically on translation can help identify patterns in divergent ways of understanding reality, and also reframe them in meaningful ways.

Polish anthropologist Bronislaw Malinowski (1884–1942) was among the first to recognize the contribution of translation to his work of describing the Kiriwinan language and culture of the Melanesian Trobriand Islanders. In his seminal monograph, *Coral gardens and their magic* (1935, Volume II, Part IV), he outlines procedures for translating “untranslatable words”, such as *buyagu*, *bagula* and *baleko* (which have semantic overlaps), in his “Theory of Meaning” (1935, p. 231). Noting that an informant will refer to the contingent circumstances within which a word was used in order to elaborate its meaning, he highlights the interdependent existence of words (1935, p. 23). Each item in a language relates to another within the context of a certain situation (for any given culture), from which its comparative and contrastive salience emerges:

Translation in the sense of defining a term by ethnographic analysis, that is, by placing it within its context of culture, by putting it within the set of kindred and cognate expressions, by contrasting it with its opposites, by grammatical analysis and above all by a number of well-chosen examples—such translation is feasible and is the only correct way of defining the linguistic and cultural character of a word.

*Malinowski, 1935, p. 17*

In elaborating the meaning of the term *buyagu* (left undefined earlier), Malinowski’s informant furnished the social, technical, physical, seasonal, economic and other associations implicit in its meaning as “a cleared plot of enclosed and fenced soil intended as a communal garden”. The notion is further understood in comparison to *bagula* and *baleko* (referring to different stages of cultivation and ownership arrangements) as well as in opposition to *odila* and *yosewo* (uncut bushland outside the fenced/unfenced garden site). Thus, the meaning of *buyagu* could be conveyed comparatively, against cognates, and, also, in contrast to agnates. In translation, *buyagu* could no more be encapsulated by the commercial field of barley or rye than by the garden bed of pansies and peonies, since these have neither cognates nor agnates contributing to their particular meanings in the Trobriand context.

In his thesis on meaning, Malinowski’s cognates and agnates were instruments to be indexed to their immediate and historical, situational and cultural contexts. For Malinowski to participate in and also relate the magic of coral gardens, he had to contemplate linguistic constellations situated within a different hemisphere and, indeed relate these very different interpretations of old and newly visible ones across hemispheric divides (1935, pp. 1–22). Within these contexts, the primary function of language was held to be pragmatic, that is, oriented toward some sort of social accomplishment (1946, in Jaworski & Coupland, 2006, p. 286). So, where the contrastive language descriptions of Boasian cultural anthropology led to representational insights, it was in the functional act of translation that social implications of language were foregrounded. In both cases, the anthropological task of having to translate across cultures provides a useful linguistic behaviour for reflecting on divergences between social groups and mentalities (Ingold, 1994; Rubel & Rosman, 2003).
Despite being criticized for a lack of training in linguistic structural analysis by Charles Voegelin and Zellig Harris (in Young, 2011, pp. 14–17), Malinowski’s ideas made a lasting impression on European linguistics, including constructivist and functionalist thought. For example, his “sets of kindred expressions […] and their opposites” (see earlier) can be seen in John Rupert Firth’s (1890–1960) collocations, colligations and systems of alternatives in language use. This theoretical development engages Malinowski’s context of situation and context of culture, to reason axially about the selections of collocation/colligations along a structural “horizontal” plane, with the systems of options that give such structures their value on a “vertical” plane (Firth, 1957, VII, p. 17). Malinowski’s ideas also entered the Copenhagen linguistic circle, where Louis Hjelmslev (1899–1965), interestingly, brings his discussion of conjuncts and disjuncts into the territory of linguistic relativity:

In a way, we can say that all functives of language enter into both a process and a system, contract both conjunction, or coexistence, and disjunction, or alternation, and that their definition in the particular instance as conjuncts and disjuncts, coexistents or alternants, depends on the point of view from which they are surveyed.

Hjelmslev, in his Prolegomena, 1961, p. 35

From this it is clear that the selection of constituents in a structure is relative not only to others within that same structure, but also to all alternatives that might be selected from the system of language. The notions of process and system, like covert and overt, may be equated to the particle and wave of field theory. The particle, as observable social and linguistic forms, emerges as a manifestation of the wave of potentiality carried in the socio-linguistic system. This way of thinking opens up a way for the description of languages that is based on inherent relevancies; that is, categories can be developed depending on the relationship between language features and their reflexivity to the situational context. Such description highlights the function of words and grammatical tendencies within their situations of use. In addition, the range of structures available from the paradigmatic resources of a language offers a descriptive template for ways that certain language speakers are habitualized to attend to different aspects of the world (Whorf, 1939 [LTR], 1956).

Translation in this discussion has been used to illustrate the implausibility of the universalist approach that takes its standards for categorizing phenomena from a limited collection of linguacultures. Yet, by the same token, the attentive description of languages enables reasoning towards more general principles that do make certain translation options more suitable than others for a given target audience context. It ought to be kept in mind that Malinowski reasoned towards generalizations, and that such an approach might continue to challenge linguistic theories, which is an important consideration, given the dynamic and ever-evolving nature of language. As with Boas, his logic began from extensive and intimate fieldwork with those cultures, from which he amassed copious data (including sacred ceremony, song and narratives) and worked with local participants in its interpretation towards outlining intrinsic linguistic categories.

To return to the theme of essentialism and universalism in reflections on languages, while there are arguments for either position, they fossilize the archaic idealisms of the arbitrary and non-arbitrary views of language and reality. Given the exclusivity of the universalist and essentialist relations to reality, it would be ideologically naïve to think that linguistic relativity is somehow a milder version of the two. The LRP has been conceptualized beyond either hypothesis towards a cultural mentality complex, where the particular informs the general. Furthermore, Malinowski’s theory of meaning offers a complementary and principled approach to systematically representing what he identified as relative realities through translation and participant
research, with translation as a means towards calibrating cultures. Indeed, where the Boasian approach sought for languages to speak of themselves, the Malinowskian one sought for them to speak to each other, and both revealed a relativity principle at work.

5.3 Contemporary approaches to translating cultures

Despite a brief dominance of the innate perspective through the early 20th century, aligning nicely as it did with the development of computerized technology, this has gradually been giving way to a renewed interest from the social sciences in the distinctiveness of diversity (Enfield, 2013; Hill & Mannheim, 1992). Among the avant-garde of the cultural turn was Clifford Geertz, with his manuscript *The interpretation of cultures* (1973). In this, he offered that cultures are intricate webs of symbolic meanings and enigmatical social expressions, which might only be interpreted through complementary *thick descriptions* (Geertz, 1973, pp. 5–6). Thick descriptive practice compels ecological validity through tracing intersecting networks between specific contextual manifestations, regular social activities and private realities, as well as reactances to external cultural contact (Hymes, 1996; Mühlhäusler, 2000). Crucially, the tension between difference and sameness is pre-eminent: where the calibration of cultures in the anthropological tradition validates diverse voices (Blommaert, 2005), and being heard, the theories themselves are enriched. The following discussion includes contemporary studies that have specifically focused on the LRP, and it draws upon ethnographic insights within Australian Indigenous contexts.

5.3.1 Conceptualizing space-time

The cognitive sciences were not untouched by the cultural turn, where the cognitive revolution was expressed through increased interdisciplinarity, involving psychology, linguistics, computer science, neuroscience, anthropology and philosophy (Miller, 2003). Rather than “pure cognitive sciences”, thick descriptive practice scoped across disciplinary boundaries to cross-pollinate ideas on the nature of the interpenetrating biological brain, the conceptualizing mind, linguistics and society-culture (Enfield, 2000; Lee, 1996). Aligned with both a mental and a cultural orientation, there has been a surge in the number of cognition-based studies and monographs into the LRP (Darnell, 1998; Kockelman, 2010; Lee, 1996; Lucy, 1992; Penn, 1972; Seiferle-Valencia, 2017) as well as a number of broad scoping compendiums (Achard & Kemmer, 2004; Cook & Bassetti, 2011; Everett, 2013; Gentner & Goldin-Meadow, 2003; Gumperz & Levinson, 1996; Levinson & Wilkins, 2006; Niemeier & Dirven, 2000; Pütz & Vespoor, 2000). In particular, some seminal studies have debunked the primacy of previously assumed universals, such as left/right asymmetrical relations in the linguistic realities of the Central American Tenejapan world (Levinson & Brown, 1994) or an intrinsic experience of “coming” and “going” between Australian Arrernte and Solomon Islander Longgu speakers (Wilkins & Hill, 1995). With consideration of cultural and environmental agency in spatial reasoning through language, such studies concur with Sapir’s suggestions on Yana, German and English (see Section 5.2.1).

Experiential conceptions of space have especially preoccupied investigations into linguistic relativity. Lucy, in his meta-studies on cognitive approaches to linguistic relativity, labels these domain-centred or behavioural-centred approaches (1996, 1997), depending on whether linguistic divergence with respect to a domain of shared reality results in variation in experiential framing or linguacultural behaviour. Where the two approaches conflate, these are distinguished from more structural, strictly linguistic approaches. As a physically accessible dimension of experience, space has been modelled along synesthetic transversals, where spatial behaviour is
taken as indicative of less concrete experiences, such as temporal reasoning (Boroditsky & Gaby, 2010) or sound interval discrimination of pitch (Casasanto, 2016; Dolscheid et al., 2013). This resonates with Whorf’s metaphysics of Hopi and his prediction that linguistic divergence would influence behaviour in the domains of space, time and matter (1936, 1941 [LTR]). So, it seems to be wholly congruent with canon.

However, many such studies are conducted in ways that can only be defined from an anthropological perspective as emaciated (thin treatments of all axes of the thought–language–culture tripartite) or even amputated (exploring only in part). For example, Boroditsky & Gaby’s (2010) study of temporal reasoning through cardinal direction accuracy in the Pama–Nyungan language, Kuuk Thaayorre (Hale, 1964) is somewhat problematic. They conclude that “there is no overlap between absolute spatial reference frames and time in the lexicon” (2010, p. 1638, emphasis added; see also Gaby, 2003, pp. 14–15), yet this can only be true if the lexica of absolute reckoning is restricted to the Western terms given on a compass. Taylor’s earlier ethnographic study of Thaayorre (1984) reveals the prominence of place in the conceptualization of time, tracing the common classifier for place, raak, through its abstraction to time-related events (such as raak karrtham and raak wurripan for wet and dry time, respectively) and larger stretches of time, as is imputed in phrases such as “the beginning of things/ place-time” (raak kanpa minch) and “the continuing of the present into the future/ the persistence of place in time” (raak yuu-karr-ontam) (1984, Ch. 2). Although it does not translate as a point on the Western compass, as an indicator of place, raak contains the possibility that the present physical world persists in the past and the future. If so, distant time need not be remembered, because the current place inhabits it and east meets west. Gaby had separately noted the integration of features of place in the cardinal orientation linguistic system of Thaayorre, such as the north and south banks of the river (2006/2017), and this would indicate the role of environmental features in cardinal fluency. The contribution of Boroditsky and Gaby’s work is not in reckoning with Kuuk Thaayorre conceptualizations of time, but in highlighting the limitations of applying Western constructs of absolute/relative frames of reference. It points to a need to expand the account of space-time beyond specific lexical indicators of cardinal orientation to the complex web of geospatial and social discourses, which resonate with Thaayorre conceptualizations of time (Gaby, 2019, pers. comm.; Palmer et al., 2019).

It is critical to move beyond representational domains towards social relativity (Enfield, 2015). One means to do this is to move beyond morphosyntax towards more discursive and conversational explorations. Some innovative approaches to generating discourses for analysis employed in cognitive linguistics are exemplified by Ruth Berman and Dan Slobin (1994), Slobin (1996, 2000, 2003), as well as Christiane von Stutterheim (1999) and von Stutterheim et al. (2002). The premise here is contriving a “common” or “shared reality” to develop event-time narratives (Slobin, 1996, 2001) or text production tasks (von Stutterheim, 1999) in participants’ respective languages. Using the wordless picture book, Frog, where are you? (by Mayer, 1969, cited in Slobin, 1996), Slobin and colleagues report that English, German, Spanish and Hebrew introduced linguistic-sensitive subjectivity to the “shared reality” (Slobin, 1996, p. 91), so that “[w]e were repeatedly surprised to discover how closely learners stick to the set of distinctions given to them by their language” (1994, p. 641), impacting the overall rhetorical style of even the youngest pre-schoolers (1996, pp. 77, 84). Likewise, findings from cross-linguistic text production stimulus tasks substantiate that the available linguistic devices preference different orientations to event-time conceptualization (von Stutterheim, 1999, p. 175; von Stutterheim et al., 2002). One thing to note about the Frog Story study is the scale of it. It has led to the general postulate of thinking for speaking, which lends cognitive processing priority to a linguistically determined model of language behaviour (see Slobin, 1996, 2000, 2003). The sheer number of participants, languages
and cross-studies over time constitutes a collaborative tenor requisite to the discovery of new LRP generalizations. While the sequencing of events in the Frog Story might be questioned as privileging a Western narrative style, even critics incorporate the task in their toolkit of elicitation tasks (see later).

Innovating narrative through studying *interactions* affords a novel approach to behaviour during space-oriented tasks. An important example here, of course, is the series of studies on parent–child interactions in protolanguage (Bowerman & Choi, 2003; Choi & Bowerman, 1991). Perhaps the best example of rich comparative grammatical profiling of cultural mentalities in the spatial domain is that exemplified by the systematic work associated with the Max Planck Institute for Psycholinguistics (Levinson, 2003; Levinson & Wilkins, 2006). Native speaker interactions in negotiating meanings while performing orientation tasks, such as giving/taking directions, evidence how spatial linguistic items are spread variously across the clause. Based on the collaborative work in over 40 languages, they have proposed a typology for conceptual subdivisions of the spatial domain, including frames of reference (*Intrinsic, Relative* and *Absolute*) and spatial categories (*Topology* and *Motion*). Importantly, these categories are not claimed to be mutually exclusive systems, with a language being definitively located as a certain “type”. Rather, the typology accounts for how different languages may incorporate aspects of each system to differing degrees in webs of semiotic resources (Levinson & Wilkins, 2006, p. 22). Wilkins, for example, finds that the use of Absolute frames of reference in Arrernte (a Central Australian language) is deployed for the description of motion, with other systems available for representing static location. It follows that cardinal directions are most prevalent in everyday language use and traditional narratives. In addition to remarking on the role of paralinguistic systems such as gesture, sign language and sand drawings, both indicate that the spatial orientation systems in Australian languages have fundamental social import (Levinson & Wilkins, 2006, pp. 58–62).

The project is sophisticated and useful for comparison, validating findings such as: “There are robust correlations between frames of reference used in languages and frames of reference used in non-linguistic memory and reasoning, suggesting a major ‘Whorfian’ effect on language and cognition” (Levinson, 2003, p. xix). It would be timely for a complementary exploration beyond space and into the translation of time.

What is positive about the studies discussed so far is that they address the Boasian imperative of language contrast, which is what Enfield (2000) calls a *linguocentric* approach: centred not merely on language but on more than one language with both grammar and discourse in focus (in contrast to *linguaeaculture*, also used here, representing something more like a Cultural Complex). Yet, the complete picture needs to also entail comparative work, actively exploring points of similarity.

### 5.3.2 Translating the gravity of space-time relativity

Translation is a discipline that realizes some degree of calibration between languages, with written texts as units of comparative analysis. As such, it is a disciplinary space where Whorf can meet Malinowski. One translation scholar who has been particularly inspired by these two traditions is Juliane House (2000, 2011, 2016). House promotes culture through her assignment of a *Linguistic-Cultural Relativity* to refer to the recontextualization of full discourses (House, 2000). Now, while “culture” is intrinsic to the LRP, the focus she puts on it here reminds us of the importance of the context of situation in formulating meanings, since “translation is conceptualized not solely as a cognitive process, but as a sociocognitive act of recontextualization” (2011, p. 526). She posits that re-contextualizing the norms of discourse within one culture into those of another addresses the relativity paradox of translatability. In other words, translation is
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possible, despite the fact that a relativity of textured norms holds across linguacultures (House, 2000, p. 76; 2011, p. 521).

Yet, two things must be recognized before proceeding. The first is that the move from the individual to the collective in socio-cognitive norms of discourse demands a similar problematization of the “cultural mentality” beyond referential domains to functional events (see Enfield, 2015); and the second is the premise that there are conventions across all languages that might be considered “discourse”, which necessitates legitimating discourses rather than reinventing them. To begin with, it is important to explore what a congruent cultural mentality beyond morphosyntax might entail (Lee, 2000). In her formulation, House recruits Whorf’s notions of “overt” and “covert” morphosyntactic units up to the discourse unit, where a text as overt translation displays unfiltered discourse norms of the Source Culture (SC), whereas a text as covert translation is effectually disguised as a text generated within another linguaculture, and thus meets the norms of the Target Culture (TC). While she claims that the covert translation is more instructive on relativity, it is not clear whether the covertness of a translated text reveals more about SC or TC. The translation of these categories as explicitness and implicitness in text may assist in describing translation artefacts but may be only anaemic in translating the full implications of the LRP.

A thematic example may help to illustrate this, while also further tracing space-time realizations in Australian Indigenous cultures. Translation trends in conceptualizing cosmological narratives of Dreaming (Tonkinson, 1974; Walsh, 1997), such as Jukurrpa (of the Martu cultural groups of the Western Desert Pilbara region), reflect divergencies in temporal reasoning between those linguacultures involved. The early anthropological misnomer, the Dreamtime, sets up a distinct period through its individuating abstraction as a unit of time. This evinces Western associations of a creative period as existing in a mythologically ano- dyne or temporally impervious past. Thus, the covert option reveals more about TC subtexts. But its rejection by Aboriginal groups in favour of the more overt preference, the Dreaming (Stanner, 1953/1979), is more revealing of SCs. This is consistent not only with the Kuuk Thaayorre space-time metaphors of “the beginning of place” and “the continuing of place into the future” (see Section 5.3.1) but also with the social significances of place in Dreaming re-enactment, as Dreaming places (raak wooroorrm) and clan spirit centres (raak purr’ wooroorrm) (Taylor, 1984, p. 249). The unexpectedness of the gerund form, as nominalized action, gives the reader reason to pause and thus stands as a flag to a distinction in the linguistic modelling of temporal experience, where “Dreaming is dynamically manifest in the present and its spirituality traverses the temporal dimension such that it is neither solely of the past nor the present” (Palmer, 2018, p. 111, emphasis added). It is unlikely that the subtext of a present ongoing is hidden from those groups who reject the more covert translation.6

Indeed, the coalescence of past–present–future in Indigenous linguacultures such as Thaayorre and Martu points to the contribution of cultural filters to the perception of the external world of space and time phenomena.7 At the very least, this interpretation of space-time fusion commends itself to deeper contemplation on the gravity of cardinal direction competency in Indigenous groups. Michael Agar would identify these features of overtness as “rich points”, since they are sites of cross-cultural learning in the face of incompetence (Agar, 1995). The point here is that both overt and covert translation can be revealing of relativity in different ways (Son, 2018), since overt and covert categories are operative both within a culture as well as across cultures. It was overt differences in everyday Trobriand Islander procedures that led Malinowski to many of his greatest insights. Likewise, Lee reminds us that the strong connection Whorf made between covert classes and the implicit metaphysics of a language “does not mean that he discounted the possibility of connections also between overt classes and world view” (Lee, 1996, p. 175). This is
apposite in the case of translation, where the covertness of a translation may bury more deeply what is most different from the target readership. What insights might be gained with respect to the LRP depends on the set of linguistic-cultural sensitivities brought to the evaluation, and the particular orientation to the matter, since perspective and frames of reference are intrinsic to the relativity principle.8

It may be helpful to return to two important influences in Whorf’s formulations: the hologram and field theory, which have increasingly been explored across both micro- and macro-domains of life. In a linguistic interpretation of field theory, texts and their subtexts might be related as the particle is to the wave. That is, a given linguistic form (including its overt and covert realizations) might be considered a particle that manifests from a wave of potential meanings (including all possible linguistic symbols and their meanings, explicit and implicit). The contribution of the hologram is one way to focus on the particle as it emerges (or is observed) from its waves of discrete settings. Somewhat analogous to the holographic model, the Peircian notion of metaphor iconicity maintains that there is a resemblance between semiotic forms and the phenomena they represent in the world. Similarly, the Hallidayan view conceptualizes text as standing in a metaphorical relation to the grammar of the clause (1981, 1997), and this idea is predicated on the clause having a semantic, non-arbitrary relation to its context.9 The clause, in other words, maps onto text as an informational projection of multidimensional reality. Taking this approach to the LRP, Jim Martin, in his Grammatical conspiracies in Tagalog (1988), accumulated lexical, morphemic (as prototype) and grammatical (as cryptotype) evidence from clauses in Tagalog to suggest their collusion in cultural values of family, face and fate, with some contrast to Western emblems of individualism, forthrightness and mastery of destiny, traced in English (1988, pp. 282–286). This interpretation of grammar as covert is extended in Macdonald’s thesis (2019), where she elaborates the contribution of disjunct at more general grammatical features (through system network modelling) to departures in the relative representation of music in English and Korean discourses, calibrating meanings through translation.10 The idea of grammatical conspiracies as colluding towards cultural values hinges upon conceptualizing languages as socio-semiotic systems (Halliday & Hasan, 1985), with discourse interpreted as instances of socio-semiotic processes (Matthiessen, 2015). Thus, the isolate model of relativity is expanded to one of systems of meaning collaborating in systems of experience (see also cryptosystems in Halliday & Matthiessen, 1999). Furthermore, there is a shift in the conceptualization of “experience” from interaction with the environment to the enactment of relationships and embodiment of shared values as systems of meaning-making experience.

One obvious danger here is in mistranslating cultural values from grammatical and discourse evidence, due to cultural projections from the language of description, resulting in a “typing” of linguacultures somewhat synonymous with stereotyping. Is it realistic to say, for example, that family is not a cultural value of English-speaking cultures—particularly as a global language spoken even by speakers of Tagalog (see Enfield’s warning against making value claims; 2013, p. 162). One particular virtue of the use of Natural Semantic Metalanguage (NSM) (Goddard & Wierzbicka, 2002, 2004; Wierzbicka, 1992) to craft cultural scripts from translations (Wierzbicka, 2013) is its commitment to cultural neutrality. Cultural scripts deploy limited universally available linguistic currency to get a purchase on the associations activated in a particular cultural concept, without imposing associations from the language of description (Wierzbicka, 2013, p. 3—note that the binaries left/right and come/go are absent). By “articulating what is tacit knowledge about norms of evaluating, emoting, anticipating and so on” (Wierzbicka, 2013, p. 12) through the use of reduced scripts representing the logic of what is or is not implied in a domain of definition, these “fashions of speaking” may be verified by bilingual native speakers. In the
NSM model, these covert culturalized ways of thinking and emoting are formulated through overt universal primes.

Yet the depletion of language-specific descriptive resources may also be unnecessarily reductive. Given the reciprocity of the thought–language interrelationship to emancipate each other (Mandelbaum, 1949/1973), the stripping of language in scripting spare cultural assertions disaffects linguistic potential, compartmentalizing it too conclusively from value-laden thinking. How Western the logic of abductive validation is in the successive approximation method of developing cultural scripts might also be challenged. Arguing against a Bernsteinian tendency to view explicit forms as universal and implicit forms as more particulate and context specific, Hymes objects that “the actual fabric of relationships among kinds of meaning, communicative style and social consequences is more intricate” (Hymes, 1996, p. 48). A more ecologically expansive picture might better allow linguacultures to speak for themselves with respect to each other in an ultimately more cultivated yet comprehensible manner. One way in which anthropology contributes to this dilemma is through thick ecological description.

5.3.3 Calibrating the social implications of spatio-temporal frames of reference

While there are a number of neo–relativity theories that foreground both representational and pragmatic functions of language (see Hill & Mannheim, 1992; Leavitt, 2011), the second relativity model, or Functional Relativity (FR), proposed by Hymes (1964, 1996), is overviewed here because its capacity to calibrate cultures has some potential for translation and cognition. Emerging from ethnopoetic and folklorist traditions, this orientation is associated with spoken language and non-literate cultures. Yet, because of this focus on norms of interaction and the universal currency of speech, its techniques have been useful in reflexive introspection within literate cultures as well, as developed in sociolinguistics and ethnomethodology (Barnard, 2004; Gumperz, 1992; Ingold, 1994). Since the spoken word is far less contained than written text, it must be indexed more cohesively and creatively to the contexts complicit in meaning making (Gumperz, 1992), where “to describe the stratification of layers of significance is to describe increasingly thickly” (Rapport & Overing, 2000, p. 350). Given the emphasis on functional rather than linguistic relativity, it should be noted that there is not only an obvious bias towards the social dimension of the tripartite but even an assumption of social causality and priority. That said, this paradigm offers a comparative canvas where time and place themselves might become the medium for relating frames of reference and temporal reasoning, with social interaction as the centrepiece. Moreover, certain moves towards voice within this school provide useful means for hearing what is expressed as a whole, without the noise and interference of the artist or alternative projections.

Consider the following explanation of one mode of Dreaming discourse, Songlines, by Fitzroy Crossing man Joe Brown (2008, cited in Milroy & Revell, 2013, p. 3):

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every water got a song …
people got to tell you story to make you happy and safe.
Every place got a story
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In FR, this constitutes a communicative act. Analysing it for its internal content and function builds somewhat on what has been revealed of Indigenous “cultural mentalities” in previous sections. That is, features of the landscape are prominent enough in Indigenous thinking to be connected to discourses of songs, also identified here as story. Such stories have a central social function, reflecting both more immediate concerns of navigating a sparse environment as well as the continuity between place and the cosmology of the creative era (Davenport, 11
2019, pers. comm.). Under this analysis, a deeper function of cardinal direction fluency is its use in pointing to places of Dreaming, the locus of Martu-specific notions of time and of Law. Furthermore, linguistic patterning in such communicative acts corroborate in habitual ‘ways of talking’ that reveal highly valued concepts, such as balance (water-place), moral reciprocity (responsibility-response) and continuity (place-discourse-time) (see Marsh, 1977, p. 29; Stanner, 1979). For Martu man, Joshua Booth, the principle of ‘rhyme’ encapsulates these values and is essential to convey the meaning of any expression in translation into Martu Manyjilyjarra (Marsh, 1977, p. 25).

Yet this basic linguistic evidence only goes so far in terms of translatability and comprehensibility. In a number of interrelated communicative events, initiated elders from different Martu language groups have used Songline content to map waterhole locations of Dreaming stories, providing a semiotically tangible link between knowledge of country through stories of time. Ground truthing of the waterhole maps was verified in real space, which in turn validated their claims to stewardship of those lands since antiquity. The need for such semiotic shifts (from language to cartography) becomes apparent in contested discourse spaces, such as conflicting stories of the past (historical records of contact) and courtroom disputes over place (Native Title law courts of land stewardship), especially where communicative habits are almost incompatible. Although the enactment of Songlines may be broadcast in chant or dance, the message they imbibe of persistent connection to place is unlikely to offer a satisfactory testimony in the Native Title courtroom, where there is a strict dyadic protocol for engagement (see Walsh, 1997; Palmer, 2018). Indeed, access to sharing and listening to Songlines is highly restrictive, with Westerners almost entirely excluded from the Dreaming and matters of law (Stanner, 1979; Tonkinson, 1974). Rather than focusing on the exclusionary aspects of either language, an elaboration of the field of interaction can mediate divergent communicative styles and legitimate communicative events, through a dialectic of context. This has the potential to defuse the dangers of communicative divergence through highlighting the shared contextual spaces. Such elaborated communicative situations, whose properties include historical and politico-economical orders of indexicality, enables competing voices within these same contexts to be heard (Blommaert, 2005).

An important principle here is the operationalization of Sapir’s notion of a speech community (1921) as one which is shifting, unstable and stratified, as opposed to the generic and unassailable terms of culture, society and language. The acknowledgement of Martu as comprised of multiple linguacultures with overlapping claims over land and Dreamtime stories facilitated their collaborative mapping project. Alignment of legal and anthropological definitions of “society” (see Section 5.1 and Palmer, 2018), allowed Songline maps to be admitted as evidence in Connection Reports (required by the states of Western Australia and Queensland) (Finlayson, 2001) in the successful Native Title bid, 1997–2002, of the Martu peoples (Rynne, 2002). Therefore, an important corollary of ecological validity is the validation of voices, or the “trusting that what people are saying is worth saying” (Davenport, 2019, pers. comm.), in order to penetrate why communicative acts are so fashioned. Indeed, articulating communication situations defines the field through which waves of communicative events are propagated. This has value towards the LRP, because the validation of voice equates to the calibration of communities.

Each of the approaches surveyed in this section has contributed variously in exploring physical, socio-cultural and conceptual experience between linguacultures. It would be useful to bring together both the field and the wave in a unified approach, exploring covertness/overtness on the micro-scale, implicitness/explicitness on the macro-scale and the interface between them.
5.4 Some suggested ways forward: Particle and wave as fully tripartite

David Bohm has adroitly argued for consciousness as holographic and reality as process (Bohm, 1980). Likewise, a process-oriented approach allows a reconfiguration of both the particle and the wave as fully tripartite. The veiled nature of cognitive processing, and the equally hidden social norms, might be seen as contributing more to covert wave-like potential (with overt expressions, nonetheless). By implication, language is perhaps a more salient overt particle-like feature that emerges from both fields (yet it, too, has covert features). Language and other forms of semiosis not only mediate the mind and culture in an observable way, but also radiate waves of implicature between individuals and society in all directions at once. The fully tripartite particle-phenomenon (revealed thought-speech-situation) is emergent from a wave that is also fully tripartite (implied ideology-semiotic valency-cosmos). Furthermore, translation as an endeavour mediates between these embodied tripartite complexes, mediating, in other words, between worlds.

One approach that aligns with this interpretation is exemplified in the work by Risku and colleagues at the University of Graz (Risku, 2014, 2017). Incorporating translation process research (TPR) and ethnographic description of the translator workplace environment, the focus of analysis is not the translation product in isolation, but the ecology of processes that influence translating as business performance (Risku, 2014, p. 334). To perhaps reformulate Risku, the research focus is on the waves of cognitive and social processes during a communicative event involving more than one speech community. Micro-behaviours measured through TPR technology (pause ratios, activity rhythm through eye gaze and keystroke logging) provide explicate points on the wave of mental processing. As a mirror to Functional Relativity, TPR conceptualizes these behaviours as cognitive events, while cognitive acts are the more implicit and immeasurable workings of the mind (Jakobsen, 2017). This inversion is not necessarily a contradiction but an enantiomorphism between the micro- and the macro-scale. Cognitive implicitness increases in the smallest of acts, while social implicitness becomes increasingly layered and more nuanced at the broadest scope. The ethnographic analysis emerges from an understanding that cognitive processes are variable according to material and socio-historical contexts.

Both cognitive and ethnographic dimensions allow for a degree of participant research to portray microcosms of translating within situated and dynamic performance boundaries. It should be rewarding to graft these microcosms into larger-scale collaborations, such as those comprehensive longitudinal studies that have yielded general frameworks and theoretical insights from the separate realities explored (Levinson & Wilkins, 2006; Slobin, 2003). The confluence of contrastive description and translation as comparison is paramount in managing the original paradox of sameness and difference. A further recommendation would be the use of interpreting. As a spoken form of speech community mediation, interpreting would lend itself nicely to ethnographic techniques. There may be quite distinct and revealing findings in a discourse space where meanings are negotiated online, with less room for revisions or embellishment. Furthermore, science and technology are advancing at such a rate that it should be possible to integrate thick descriptions of the psychology of interpreter behaviour, interpreting processes and outcomes of interaction within clearly depicted social ecologies. The recording and analysis of interpreting may offer a means of mitigating what has been identified by Risku as the potential for translator bias and positioning in retrospective interviews (2017). Interpreting deserves far more attention than it has received.

One final consideration for the future of explorations into the LRP is more comprehensive investigation into alternative semiotic systems which encode culture and cognition, such
as social media, gaming, live streaming interaction, art and music. An outstanding example has been discussed in the Martu mapping of enduring connection to country (see Section 5.3.3). Similar multimodal maps, using artwork and embodied storytelling were used to retell the history of the Canning Stock Route, in effect retelling history from an alternative perspective, and allowing access by the majority of Australians to historical records kept in a very different manner. These ‘cultural’ maps formed part of a national exhibit combining colonial and Aboriginal recollections of colonisation in Western Australia (see Milroy & Revell, 2013). Importantly, the exhibition conveyed the distinct conceptualization of time and place in the Martu collective conscience in a way meaningful to others and true to themselves. Sapir advocated an early form of ethnopoetics in *Language: An introduction to the study of speech* (1921), which of necessity covered literature and art as a supplement to the indiscriminate and chaotic nature of more precise language. This was also something Malinowski addressed in his *Theory of magic* (Malinowski, 1935, part VI), with the language of magic having coefficients of “weirdness” and “intelligibility”. This makes their accounts still vital and perhaps even more relevant now in an era of increasingly integrated multimodalities and eclectic intercultural spaces.

As a discourse of disparate cultural communities, anthropology has always been concerned with translating the minds of individuals and the behaviours of collectives within one culture across to those from another context. Anthropology is thus uniquely positioned as a meditation on humanity: bringing to mind the importance of ecological descriptive practice, the place of social interaction and the power of historical contemplations for a vigorous and expansive approach to the mind–language–culture tripartite.

**Notes**

1. Positions developed by Johann Georg Hamann (1730–1788), Johann Gottfried Herder (1744–1803) and later more comprehensively formulated by William von Humboldt (1767–1835).
2. The eventual position Immanuel Kant (1724–1804) held in his series of *Critiques*.
4. Yana is a now extinct language of California.
5. According to W. E. H Stanner, the term “Dream Time” was first adopted by Spencer & Gillen for the Arrerrnte Dreaming concept, *Alchuringa* (Stanner, 1979, p. 23), as early as 1896.
6. Even the term “Dreaming” is criticized as insufficient for depicting entire epistemologies, some of which are quite varied in their function and content across language groups (Fletcher, 2003).
7. Philosopher Arthur Schopenhauer and physicist Erwin Schrödinger have both put forward that space and time may be perceived according to linguistic and cultural representations rather than the definitive nature of phenomena.
8. Compare, for example, Dirac’s multiperspective measurement of wave function systems over time with Schrödinger’s observer-only perspective, with the former leading to a unified theory of quantum mechanics and general relativity.
9. With a mostly arbitrary relationship being maintained at the lower phonemic and morphemic levels of language.
10. This study is unique in its attempt to incorporate both corpus-based contrastive description and translation as calibration.
11. Sue Davenport is an anthropologist associated with the Martu-run organization *Kamyinninpa Jukkurpa* (KJ).

**Further reading**


An essential compilation of the writings and musings of Benjamin Lee Whorf to appreciate the richness of the Linguistic Relativity Principle.
An illuminating, comprehensive and entertaining read covering the historical background feeding into contemporary interpretations of the Linguistic Relativity Principle.

A classic that is even more incisive and relevant to studies on cognition, language and society today.

**References**


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