Applied Linguistics 2020: 41/1: 129–147
doi:10.1093/applin/amz023 Advance Access published on 10 May 2019

Supralingualism and the Translatability Industry

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This article argues that a new form of globalizing multilingualism, which I call 'supralingualism', has been afoot since 1990, when the rise of algorithmic translation and cross-linguistic information retrieval (CLIR) practices set in in earnest in the supply-side logistics industries. A political landscape characterized by international consensus and compliance in the 1990s (as opposed to tariff wars and logistical nationalism) further buttressed this new ideology, leading to a newly multilingual centripetality in the global management of meaning. Based on historical examples and evidence from computational engineering, this article tracks the extraordinary growth of this sector and its implications for other arenas of language practice, implications that include: monolingualization, securitization, dehistoricization, lexicaliztation, and the reduction of 'culture' to its most overt linguistic forms.

INTRODUCTION

This article suggests a neologism, supralingualism, to mark out a growing technical realm of research innovation that pursues, from a supply-side perspective, interlingual coordination among as many individuated global languages as possible. Its research results since the early 1990s, though uncentralized and international, have appeared most prominently on the various research-output platforms of the Institute of Electrical and Electronics Engineers (IEEE). By introducing this neologism 'supralingualism' (*supra* in the sense of strategically transcending, without obviating individual languages), I intend not to complicate already porous distinctions in Applied Linguistics among trans-/pluri-/multilingualism, terms that already well illuminate the situated practices of humans' linguistic lives as well as the research we conduct about these practices. Rather, 'supralingualism' suggests a label for the new industrial and commercial forces that have mobilized these already existing categories of language plurality for purposes that our disciplines could not have foreseen even as recently as the 1980s, purposes for which civic terms like monolingualism and multilingualism are now ill-suited.

Supralingualism, as I hope to show, is an applied research enterprise that embraces an insatiable and totalizating belief in the value (in all senses) of coordinating translatability among global languages for practical purposes. It presumes the underlying good of doing so—for individuals, firms and

investors; for social justice movements; for economic development and political stability; for education, literacy, and knowledge-sharing; and for scientific progress alike. As such, what I am calling supralingualism tends to hedge away from the negative/positive valuations that have long connotated the mono/multi(lingual) divide in humanities and social science research. The work of supralingualism treats both monolingualism and multilingualism, quite reverently, as puzzles to be solved with confident, technological persistence. Generally better funded than any visionary enterprise I know in the interpretive social sciences, and certainly so in the humanities, supralingualism benefits nevertheless from an underdog spirit that fuels its research write-ups with a palpable sense of being 'always on the verge of an epic win' (McGonigal 2014): i.e. of overcoming the 'balkaniz[ation of] the information space' and of 'transcending the Tower of Babel' (Oard 2006: 299)

The term and project of supralingualism, I believe, merits an '-ism' even more aptly perhaps than had monolingual*ism* or multilingual*ism* before it, in the sense that supralingualism represents both a structural ideology and an aggressive industrial effort, pursued often quite independently of the subjective desires, engagements, and everyday practices of diverse individual language users. 'Monolingualism,' it turns out, does not fit such an industrial, ideological, or structural characterization as this, because countless vernacular monolingualisms around the world express a decolonial potency that fuels critical struggles against global political and economic hegemonies (see, for instance, Bhattacharya 2018). Though the monolingualisms of France, the USA, the UK, China, Russia, and Germany manifest prohibitive structural ideologies coordinated over long histories of centralization, theirs are not the only meaningful kinds of monolingualism. The generalized '-ism' in monolingualism tends thus to overstate the ideological commonalities among all its various forms. For its part, 'multilingual*ism*' augurs similarly little in the way of any common structural ideology, unless we narrow—unduly, I think—our understanding of multilingualism to those particular, recent civic programs and aspirations emerging from the European Union and other Global North technocracies, in the course of their coming-to-terms with the apparent evanescence of their own centralized state monolingualisms (see Heugh and Stroud 2018).

In contrast to the bundle of forms that count under the aegides of 'mono-' or 'multilingualism', supralingualism is indeed a functionally unified (if not internally coordinated) agenda on its face. It is a scientistic agenda indifferent to conspicuous nationalism and partisanship, both which it treats as irritations to its telos: the global coordination of meaning conveyance across surface-languages. Supralingualism is however also a 'client agenda,' in the sense that it is designed to lend, sell, or rent its ongoing innovations to any civil, military, or commercial enterprise that requests its services. Because supralingualism is such a profoundly supply-side agenda, it has little room in its discursive imagination for what scholars like Canagarajah (2001), Li Wei (2011), Phipps (2011), Williams (1994), García (2009), Zhu Hua and Li Wei (2018),

Creese and Blackledge (2010), Phipps and Gonzalez (2004) and others foreground under the term 'translanguaging'. This apparent incommensurability, even aporia, between agentive translanguaging and supply-side supralingualism is ultimately a core concern motivating this article.

Foremost, this article seeks to put forth a composite sketch of supralingualism as an historical emergence—including its enabling preconditions in the 1980s, its discourses and platforms in the decades since 2000, and its self-disclosed goals and purposes as a research endeavor. We can think of supralingualism as a global transposability grid, which various interlocking commercial industries engineer and maintain in order to ensure low-delta meaning-transfer across 60–170 world languages—often beginning with FIGS (French, Italian, German, Spanish) and continuing to CJKV (Chinese, Japanese, Korean, Vietnamese). ('Low-delta' here means non-prohibitive or diminishing procedural expense and/or delivery time-lag.) Such a delta-minimizing grid has been under active development since the 1990s, aiming to overcome or mitigate the global problem of language learning and language diversity in commercial contexts altogether. Further work may be able to track the actual effects of supralingual discourse upon language use in digital communication, face-to-face talk, translation, literary aesthetics, international relations, and other meaning-making settings. Though I am tempted to begin speculating on the question of such effects, I abstain here in favor of a more circumspect, initial characterization.

A NEW LINGUISTIC AGE?

A range of scholars have identified a set of globalizing conditions since around 1990 that have tended to accelerate changes in the use, learning, reform, and valuation of so-called individual languages. Whether under the aegis of a 'new linguistic dispensation' (Aronin and Singleton 2008), a 'postmonolingual condition' (Yildiz 2012), a 'multilingual turn' (May 2013; Kubota 2016), or as 'controlled languages' (Cronin 2013) in an era of 'late capitalism' (Duchêne and Heller 2012) or 'post-humanism' (Pennycook 2017), these combined interdisciplinary insights urge us toward the idea that individual languages, as a related and supposedly finite planetary set of repertoires, have been subjected to new conditions of institutionalization and everyday use, conditions that may indeed be testing the limits of our fields' conceptual imaginations. These conditions have further brought to light how so-called 'individual languages' are not quite the rugged integers that European structuralism believed them to be, and/or that they may indeed have empirically been, to varying extents, only decades prior. From this view, it is not just that scholarly disciplines like Applied Linguistics and philosophy have critically rethought the usefulness—and the analytic and political costs—of counting and naming individual languages, nor is it just that our everyday creative and combinatory use of these language(s) in contemporary social and digital life have left behind old paradigms. Rather, it is possible that the categorical subject itself, i.e.

'individual language', may have undergone at least functional and heuristic, if not ontological, changes in this period since 1990. A new political economy of vested interests need this category to do and perform different things than it had in the 1960s. I will argue that some of these functional-heuristic changes to the notion of 'individual language', as it is used by experts, researchers, and technicians, have been arising since 1990 from within the technical agenda of supralingualism, which has a deep interest in ascertaining and delimiting what counts as 'a language' in current socio-digital contexts. Of course, the vernacular use and everyday value of the concept of 'individual language' endures among individual speakers and learners in various ways, somewhat independently of how expert technicians have been repurposing it. Language remains as ever a contested, malleable concept—used utterly differently in various historical contexts and cultural domains—and the purpose of the current article is to track newly emerging differences as they hinge on profound technological paradigm shifts, where computational engineers, too, have brought their own, often folk-linguistic notions about meaning into the management and manipulation of large-scale translation capacities.

During this new age, since around 1990, the heuristic power of the category of the 'individual language' has undergone sustained scrutiny in Applied Linguistics, in no small part because of its historical collusion with the nationalized and colonial monolingualisms of the Global North (see Makoni and Pennycook 2006). Since the 17th century, nationalized monolingualisms in the Global North went to great lengths to ensure that other languaging repertoires in colonized lands and polities be established as 'individual languages'—or else be ignored or driven to language death. How are we to come to terms with this enduring colonial riddle that, among the most 'binding and arbitrary' problems that persist today in language-oriented research may be the sign 'a language' itself (see Sabino 2018)? What socio-commercial interests in our current era account for the undaunted *persistence* of the integral category 'a language', despite all the critical scrutiny and counterevidence suggesting porosity? Is it still only nationalist ideology, modernist nostalgia, methodological conservatism, and linguistic racism that keep the notion of well-bordered languages in clover? Or could there be an altogether other sort of enterprise afoot, which does not conspicuously redound upon these four horsemen of language purism? Which industries and interests are actively working to retain, fortify, and perfect the integral category 'individual language' in perpetuity, despite all of the translanguaging so plainly in sight (Li Wei 2016)? Under the mandate of which such industrial interests does the individuated integer 'a language' itself become an indispensable, load-bearing infrastructural component of commerce, further entrenching modernist monisms about language (Holquist 2014)? How is it possible that the heuristic category 'a language' is, right before our eyes, becoming more hegemonic than ever perhaps, even as scholars and practitioners continue to identify its historical and social instabilities?

Analogues to the predicament around the sign 'a language'/'individual language' in other areas of contemporary social thought show such questions to be more than theoreticist handwringing, and indeed to be timely, necessary, and perhaps even helpful in addressing real-world problems of profound urgency. In his 2010 book, *Eaarth: Making a Life on a Tough New Planet*, the veteran global warming activist Bill McKibben (2013) suggested for instance that the planet we live on has changed so substantially in the last century that it requires a modified name, Eaarth, a name which might begin to emblematize humans' ongoing, and eventually involuntary, divestment from certain narratives of Enlightenment progress that no longer hold in the late anthropocene, or never did. Or, as Michael Pollan sensibly asked in his *In Defense of Food* (2008), when does a so-called edible product stray far enough from what one's grandmother would recognize as 'food' so as to require a different name altogether?

Such are not just polemical left-field thought-experiments, but rather learned scientists' attempts to propose sane adjustments to the schemata by which we describe the everyday lives humans are now living—and the cognitive, practical decisions we are required to face. In Applied Linguistics, scholars have been posing a similarly careful, but undaunted, question about transformations rumbling beneath the big categorical labels we have been relying on to structure our inquiries: What phenomena over the last 30 years have strained the conventional meaningfulness of the categories 'individual language'—as well as of 'multilingualism' (Phipps 2013; Moore 2015; Katznelson and Bernstein 2017) and of 'translation' (Infante 2013; Zhu Hua *et al.* 2017, House, this issue)—and how are we researchers to take stock of such categorical unmoorings in our empirical and pedagogical work? How ought we—or must we—speak differently about the individuality of languages now, and why?

2.1 The translatability industry

Especially since the publication of Barbara Cassin's 2004 *Dictionnaire des intraduisibles*, the question of 'translatability and untranslatability' has become a high-profile discussion in the humanities, and discrete examples of so-called 'untranslatability' are often held up as indicators of the enduring unreliability of Google Translate and other MT resources (van Rensburg *et al*. 2012). But the humanist's assured insistence that no machine will ever translate as elegantly as can a worldly, thoughtful human misses the point that most globalized commercial enterprise does not exactly require intercultural subtlety in order to become sufficiently, if not extraordinarily, successful in meeting its *own* in-house bottom lines (Mazur 2007; Cronin 2013).

Foregrounding a particular strain of 'translation engineering' research between 2000 and 2017 (O'Hagan and Ashworth 2002: 29), the following section presents some of the ways in which innovators and technicians of supralingual platforms conceptualize language, communication and meaning—and how

their powerful grasp on language and multilingualism contrasts with those in Applied Linguistics, translation studies, and the multilingual humanities. I argue that the ever-accelerating innovation in cross-linguistic information retrieval (CLIR) technology has brought into being a newly monetized political economy of multilingualism—one that produces translatability and translingually 'controlled' meanings (Cronin 2013) as highly valued commodities which commercial, governmental, and private consumers vie to own, fortify, and operationalize.

By 'translatability industry' I intend to mean neither the traditional translation profession (a branch that routinely uses Translation Memory, or 'TM' technologies, and has done for decades without major epistemological impact on language), nor just the 'Globalization, Internationalization, Localization, and Translation (GILT) industry' (Mazur 2007; Lako 2015, 2016). Rather, what I am calling the 'translatability industry' has, since 1990, been founded and funded upon a broader feedback loop of political economy—of technology-roll-out, deregulation, accommodation, reregulation, and rehabituation—in order to manage language(s), or, to use the translation scholar Michael Cronin's concept, to induce 'controlled languages' (Cronin 2013).

The types of multilingual 'knowledge engineering' (McDaniel *et al*. 2018) currently underway in what I describe as the 'translatability industry' take as their operative telos not multilingualism, nor quite monolingualism, but supralingualism. While the social implications of algorithmic data-mining in multilingual online settings have become a focus of critical appraisal in recent years, what has been slower to emerge are broad questions about the impact of high-quality machine translation and machine translatability on languages themselves—and therefore also on online and offline communities, as these are mediated by online algorithmic corpus-driven translation platforms. Rapidly advancing technologies of cross-linguistic information retrieval (CLIR) and machine translation (MT) are steadily succeeding at producing supply-side-driven compliance pathways among scores of languages (Saif *et al*. 2017; Tholpadi *et al*. 2017; Iwata and Katsuhiko 2017; Dadashkarimi *et al*. 2017).

While the GILT industry is primarily organized around mobilizing personnel and logistics resources to obviate optimization problems and delays among end-users in scores of languages (usually 60–170, Mazur 2007: 341), CLIR seeks to develop better algorithms and modalities of automated reasoning that can handle multiple languages simultaneously, thereby minimizing the 'delta' between originals and allolingual shipments. CLIR and MLIR (Multilingual Information Retrieval), under development continuously since the 1990s, theorize the cybercognitive puzzle of multilingualism, while GILT applies and trouble-shoots end-user-oriented solutions to that puzzle.

The metalanguage of the GILT industry might reveal some of the underlying conceptual terrain. MLVs (or multiple-language vendors) offer world-wide services to companies with frequent though periodic roll-outs needing the same vector of translation work in many target languages. Software companies

strive for what they call *simship* (i.e. simultaneous shipment) in all of these languages, so that certain markets do not gain access to their products later than others. If there is a gap between the 'original' and the localized versions, the combined effects of delivery time-lag and the functional differences between versions are called a *delta*. In order to progressively minimize this delta in as many cases as possible, the GILT industry avails itself of the resources of machine translation (MT), translation memory (MT), and CLIR resources.

CLIR/MLIR research, in turn, has been funded at least in its initial iterations by state organizations like the US Defense Advanced Research Projects Agency (DARPA), the Center for Intelligent Information Retrieval, and the People's Republic of China's Third Research Institute of the Ministry of Public Security. It may help to reflect on the titles of some indicative recent work in this arena, as well as on the robust institutional affiliations of their authors:

- Aaron Baur (ESCP European Business School Berlin), 'Harnessing the social web to enhance insights into people's opinions in business, government, and public administration.' *Information Systems Frontiers* (2017).
- Javid Dadashkarimi et al. (School of Electrical and Computer Engineering, University of Tehran & Center for Intelligent Information Retrieval, University of Massachusetts), 'An expectations-maximization algorithm for query translation based on pseudo-relevant documents.' *Information Processing and Management* (2017).
- Parth Gupta et al. (Pattern Recognition and Human Language Technology Research Center, University of Valencia), 'Continuous Space Models for CLIR [Cross Linguistic Information Retrieval].' *Information Processing and Management* (2017).
- Goutham Tholpadi (Indian Institute of Science), 'Corpus-Based Translation Induction in Indian Languages Using Auxiliary Language Corpora from Wikipedia.' *Transactions on Asian and Low–Resource Language Information Processing* (2017).
- Huakang Li et al. (Key Lab of Big Data Security and Intelligent Processing, Nanjing University of Posts and Telecommunications & The Third Research Institute of the Ministry of Public Security, China), 'An optimized approach for massive web page classification using entity similarity based on semantic network.' *Future Generation Computer Systems* (2017).

These scholars and engineers are the active innovators of supralingualism, closing gaps, obivating optimization errors, and developing ever more effective platforms for the seamless processing of cross-linguistic information retrieval and machine translation. CLIR researchers are often humanitarians who openly express their desire to alleviate social inequality, and to increase non-English speakers' access to global symbolic resources and professional prestige. In response to my question 'What motivates you, as a human being, citizen, etc., to do the work in CLIR that you do?', one CLIR engineer Javid Dadashkarimi put it in a personal correspondence to me that he wished to 'Make all hidden data in different languages available for all users. [. . .] I

hope users in other countries can contribute on all challenging issues in other nations through online forums and social media.'

Despite these laudable agendas, CLIR researchers are not applied linguists, philosophers of language, or translation studies researchers and they report rarely having opportunities to collaborate with these fields, despite surprising overlap in the terms they use. Consider the following explanation from McDaniel *et al.* (2018: 33), who write that,

> In philosophy, the study of ontology deals with the nature of reality—exploring the similarities, differences and relationships between the types of entities that exist. Researchers in information systems and knowledge-based systems have expanded the definition so that the term ontology refers to not only the vocabulary itself, but also the concepts the vocabulary is intended to express. Domain Ontologies, in particular, are content theories about the types of objects, properties of objects and relationships between objects that are used in a particular domain of knowledge, and provide terms for expressing a body of knowledge about the domain.

By their own admission, McDaniel et al. 'expand' this concept of ontology to accomplish a number of things that philosophical ontologists never envisioned. Given that ontology is concerned with all that exists to consider in a given (even virtual) domain, to further extend the sense of 'ontology' to describe a set of words in different individuated languages that appear to reference a sufficiently similar, if not identical, entity in all languages considered is an acutely essentialist wager, one that applied linguistics has sought to debunk for decades. Despite this ambiguity of usage, 'ontology' remains the charismatic, primary concept upon which CLIR innovations, and thus supralingualism too, are designed. Consider the telos of the following procedure, described by Gupta *et al.* (2017):

> For the monolingual pre-initialisation, we use titles from Hindi news articles (-330k) as queries and get the positive sample for each of them by considering the most relevant title according to the TF-IDF score. [. . .] For the cross-linguistic extension, the composition model parameters were initialised randomly under a normal distribution. To keep the model energy low at the beginning, we multiply the parameters by 0.1. During training, we split the data into minibatches of 100 samples where each mini-batch can be processed using efficient multi-core CPU/GPU infrastructure. (Gupta *et al.* 2017: 365)

This is utterly admirable and innovative modeling work in its own right, and it will no doubt be effective at *somehow* achieving a version of the humanitarian, pragmatic, and real-world goals that Gupta et al. set out to address. But their results and analytic repertoires are so far afield from those of 'translanguaging' or other forms of experiential multilingualism that it is difficult to fathom how these engineers could be working with the same object of inquiry, language, as

applied linguists do. Rather, in supralingualism, controlled translingual meanings called 'synsets,' comprising what translation engineers call 'fuzzy ontologies' (like 'terrorism', 'clean energy', 'sustainability', 'security', 'excellence', 'war', 'zero-tollerance', 'insurgency', 'economy', etc.) are traded and galvanized across conventional language barriers, routinely at the expense of other meanings and variations of meanings. These supralingual ontologies are being engineered at a pace that is also quickly outstripping the reach of the classic global hegemon of English, thereby undermining both the easy binary of (narrow-minded) monolingualism versus (cosmopolitan) multilingualism (Gramling 2009, 2016) and troubling conventional understandings of how boundaries between languages effectively work (Holquist 2014; Makoni and Pennycook 2006).

I have claimed above that supralingualism is a supply-side innovation, which operates on the premise that the global coordination and translatability among individuated languages in practical and commercial affairs are both desirable and technologically eventual. To the extent that this is the case, it may be helpful to explore a course of events in the mid-1980s that necessitated supralingualism's socio-political emergence. It was during this period that compliance between languages became an unprecedentedly intricate structural and logistical matter amid the roll-out of multilingual technologies, and the vignette that follows is just one of the cautionary tales that convinced the computational engineering sector to envision a better, more lasting solution in supralingualism. The vignette is not itself an instance of supralingual innovation, so much as the kind of predicament that paved the way for this new aspirational paradigm to emerge in the ensuing years.

THE POLITICAL ECONOMY OF SUPRALINGUALISM: AN EARLY INSTANCE OF INTERNATIONAL DISCIPLINING

> I beg earnestly of Your Excellencies to abstain in your writings from mentioning by name the period of time transpiring between the 1st of January and the 31st of December.
>
> —Cultural Circular 331 of the Ministry of External Affairs, Kingdom of Spain, 1991
> (Agencia Efe)

Before leaving government in July 1986, after a term of little more than a year, Spain's Catalán-born Socialist Workers' Party Minister of Industry and Energy, Joan Majó i Cruzate, laid down the law about the Spanish letter Ñ. With desire for home-computer-ownership growing throughout the Kingdom of Spain and greater trade deregulation on the international horizon, it seemed high time to point out to hardware manufacturers (at home and abroad) that the digital future was going to be more than just an Anglophone playground. Majó i Cruzate's gesture in the mid-1980s was a modest but firm one: all computer keyboards sold, or otherwise commercialized, in the Kingdom would be

required from now on to have an Ñ key—as befitted Spain's alphabet, culture, lexicon, and daily habits. It took five years for the European Community to convey the bad news to Spain that Majó i Cruzate's Ministerial order violated Article 30 of the 1957 Treaty Establishing the European Economic Community, which held that 'Customs duties on imports and exports and charges having equivalent effect shall be prohibited between Member States.'

Spain had just acceded to the European Community in 1986, and it occurred to no one at the time that EC accession was also tantamount to transforming Spanish's Ñ from a mere *letter* into what Article 30 of the Treaty called a 'Quantitative Restriction'. In the language and logic of European consolidation, the letter Ñ was no less than a 'charge having equivalent effect' to a duty on imports. Over the late 1980s, the steadily growing European Union-to-be had had the foresight to arrange for a handful of loopholes and exceptions to this strong prohibition on duty-equivalent effects, including those safeguarding public morality, public security, the protection of human, animal, and plant health, and that of national treasures possessing artistic, historic, or archaeological value. In 1991, at least, Ñ had no clear path to recognition under any of these categories.

Thus commenced the so-called *años sin ñ*, as transnational technology hardware roll-outs surged and Spain's handy Ñ-inclusive keyboards (to whatever extent they had been able to make it to market in that short five-year window) were re-replaced by EC-compliant ones, which threatened no such 'quantitative restrictions' on intra-European trade. For a while, as in any moment of paradigm change, it seemed that everyone reaching for an Ñ was able to find ways—lazy, ingenious, or indifferent—to make do and get on with things. Later in that same year 1991, though, after a number of 'most grave diplomatic incidents,' Spain's Ministry of External Affairs sent its so-called Secret Telegram 221, pleading with Ministerial personnel working on these EU-regressed keyboards to be vigilant, when communicating with international counterparts, about their use of the word 'año' which, if written without the Ñ as 'ano', would be translated into other languages as *anus* rather than *year*. The Minister's appeals for caution quickly proving insufficient to stem the indecorum, an expanded 'Cultural Circular #331 on the Matter of the Suppression of Alphabetic Letters' (Agencia Efe 1991) was disseminated throughout the Ministry. Ministerial employees were directed to abstain 'absolutely', upon pain of 'grave sanctions' (Agencia Efe 1991, cited in Gómez Font 2006: 226), from using a range of expressions in their professional communications, including 'Happy New Year,' ('Feliz año nuevo'), 'to be in good health' ('estar de buen año'), and 'getting on in age' ('entrado en años'). Of course, this proscription not only impacted literal usages of 'year', but also stigmatized utterly common idioms reflecting cultural knowledge related to harvests, life cycles, and the land, such as 'snowy winters bring wealth' ('año de nieves, año de bienes'), and 'No hay pocos años feos, ni muchos hermosos' ('The beauty of youth is fleeting.') (ibid.).

It would be difficult to assess, without undertaking a larger scale historical ethnography or corpus analysis, the extent to which Spain's External Affairs Ministry employees (and their interlocutors) altered their habits around the use of the word 'year' in those strange years of the early 1990s. If they neither consented to using fewer harvest metaphors, nor saw fit to develop clever alternate ways to wish people a happy 'period of time transpiring between the 1st of January and the 31st of December' (Agencia Efe 1991), they at least thought and joked about the ramifications of changing their linguistic-interactional practice in this way. Such adjustments of habit, banal enough on their surface, would ultimately be the complex result of a series of supralingual restructurations historically unprecedented in scale and permutation.

Surely, modern history has seen ample instances in which one language is constrained by another (or others) that holds more symbolic, military, scientific, mnemonic, technological, literary, or religious power at the moment. The Republic of Turkey's adoption of the Latin alphabet (and its dismissal of its Ottoman predecessor script from one day to the next on 1st January 1929) is an example of one national monolingualism's strategic acquiescence to the economic and logistical prowess of its European neighbors' languages. The linguistic anthropologist Williams Hanks (2010) has further shown how, as early as the early 16th century, liturgical Latin and imperial Spanish were able not so much to supplant or subsume Maya language amid Spain's colonization of Yucatán, but to reshape and 'commensurate' (Hanks 2014, 30) that language's lexicon and syntax from within, for the purposes of the Crown and the Church.

Such powerful precedents notwithstanding, the 1990s were the first decade in which the restructuration patterns and compliance ideals, applied to language(s) on a multilingual (rather than bilingual) scale, were entailed through a chain of novel catalytic pressures that, though not traditionally colonial or imperial in nature, have become astonishingly normal in the ensuing thirty years. Our canary-in-the-coalmine example, the relatively low-grade nuisance of having to avoid the word 'year' in work communications, arose only after:

(a) global technological hardware roll-outs, which led to;
(b) particularist claims, at the national-monolingual level, for pragmatic re-adjustments of the technology to suit local needs, which led then to;
(c) the imposition of reactive supranational sanctions citing a binding discourse of deregulation, which then led to;
(d) inopportune accommodation practices and policies at the domestic institutional level, which led finally to;
(e) changes (of varying degree and kind) in the practical linguistic habits and repertoires of speakers, over the short- and long-term.

Such is of course no classic vignette of linguistic contact as these are described in models available in the social sciences (Myers-Scotton 2002). Though colonialism has for five centuries impacted indigenous and settler language practices in minute and profound ways, never had there been such an

intensive, multilingual feedback loop among linguistic technology, compliance, deregulation, sanction, and reregulation as that which developed during these *años sin ñ*.

Were the then-Kafkaesque instance of the *años sin ñ* a unique or abnormal tale of folly, shortsightedness, and unintended consequences, we might have no good reason to think about it further in the announced context of 'translating culture.' Who among us really wants to think about tariff wars and the byzantine principle of 'quantitative restrictions' from an Applied Linguistics viewpoint? But the tale is an early-stage indicator for what would begin happening ever after since the 1990s, in the increasingly disciplined *relationality* among planetary languages, in ways that were barely thinkable only a few decades prior.

And yet, many of us remember the 1990s as a period in which theories of hybridity and difference became powerful idioms of liberation from ideologies of nationhood and nativism. We learned in 1994 from Homi K. Bhabha for instance that those 'caught in the discontinuous time of translation and negotiation' were 'now free to negotiate and translate their cultural identities in a discontinuous intertextual temporality of cultural difference.' (38) And yet, in envisioning hybridity in this way as liberatory practice, cultural studies was privileging one angle on the overall picture of the transformative moment of the early post-Cold-War period (Kubota 2016), amid ample emerging counter-evidence that the period was instead one of extraordinary consolidation and compliance.

One of the reasons why the early 1990s are such a crucial period for keenly observing global changes in the relation among languages, translation teleology, compliance structures, and the problem of difference—i.e. what I am calling supralingualism—is the phenomenon political scientists of the 1990s then called an international nébuleuse (Cox 1992). Amid the ascendancy of this ideo-logistical nébuleuse of the deregulated 'new world order', nations were eagerly ceding cultural power not to a Third Space of liberatory enunciation, but to a new set of infrastructural principles and motivations for global governance. At the close of the decade, Andrew Baker, a Sheffield-based political economist, described the 1990s retrospectively as a time of the inside-outing of the traditional foreign/domestic affairs of states:

> What were traditionally international functions relating to the exchange rate are now covered by officials with a domestic remit, while the domestic side has been restructured in ways that are favourable to the interests of internationally mobile capital [...] The diversity of opinion between officials within both institutions has lessened considerably on the big macroeconomic questions [and] internationally mobile capital's interests are therefore represented more effectively by officials on both domestic and international sides. (1999: 93)

This 1990s process of reversing how and for whose interests states functioned, i.e. the 'internationalization of the state,' was a matter of great concern among political theorists observing the rapid transformation of national governments into 'transmission belts' (Cox 1992) for international capital and its ideas. But their own analyses had little to say about language. If, as the Canadian political theorist Robert Cox wrote as early as 1992, the state has ceased functioning like a state and has begun functioning more like 'an agency for adjusting national economic policies and practices to the perceived exigencies of the global economy' (Cox 1992: 30), in what ways would the state's own monolingualism also need to take on precisely those transmission-belt-like features too? If Baker (1999) was able to speak of an 'internationalization of the state' and its ways of working, why would we not also expect to identify a contemporaneous, concerted 'internationalization of monolingualism' as well?

LOGICS AND PROCEDURES OF SUPRALINGUALISM

What I am calling the 'translatability industry' was the means by which the global relational consolidation of languages manifested the spirit and the letter of the so-called 'Washington consensus' of the 1990s, a political-economic ideology of globalization that favored sound money, open markets, and pegged monetary exchange over other domestic and social priorities (Baker 1999: 89). Supralingualism became a historically unique constellation of meaning-manufacture, emanating from various traditional and innovative industrial and service sectors since 1990, including:

(a) the Globalization, Internationalization, Localization, and Translation (GILT) industry,
(b) the early international personal computing revolution in the 1980s,
(c) broad trade deregulation and the rise of the 'Washington consensus',
(d) the domain of computational-engineering research called CLIR (Cross-Linguistic Information Retrieval)
(e) MLIR (Multilingual Information Retrieval) which excels at developing ever sharper means to automatically generate and convey equivalent meanings across language barriers.

A summary shorthand for supralingualism might be: a hyper-accelerated translatability web between languages, in which automated translingual commerce enjoys right of way and first refusal over other local forms of semiodiversity (Halliday 2002). In the following section, I will briefly sketch out five procedures underway already in the first three decades of supralingualism, an age when cross-linguistic information management and machine translation—in matters as diverse as petroleum extraction, securitarian architecture, global credit-debit relations, immigration-control technology, and other means of production—unhinge themselves from any individual hegemonic language (say, English) and begin to organize global systems through synsets and cross-linguistic ontologies. Translingually mediated concepts, styles, and

control repertoires in turn distribute procedures, protocols, and norms globally, with varying degrees of success. These varying degrees of success are the working idiom of the engineers of supralingualism, who ceaselessly innovate ways to close the gaps of optimization, translatability, and logistical supply-chain management.

4.1 Commensuration

Twenty-first-century procedures of cross-linguistic information retrieval (CLIR) tend to seek what Hanks calls *commensuration* over all other principles of linguistic diversity. In his work on sixteenth-century Yucatec Maya, Hanks labels this process of linguistic refunctionalization in the missionary context 'commensuration,' which he describes as follows: 'The heart of the process lies in redescribing in grammatically correct Maya the objects or concepts stood for by the corresponding Spanish. The result is a generalized medium of semantic exchange in which the conceptual backing of the Spanish is paired with existing or newly formed signifiers in the Maya' (Hanks 2014: 30). In contrast to images of linguistic imperialism as the bellicose imposition of the colonizer's language and an abrupt, simultaneous event of epistemicide in an Indigenous language, Hanks describes the long-durée micro-processes by which individual missionaries, lexicographers, Indigenous deputies, and townspeople collaborated in the production of newly tempered languages that ensured an efficient traffic in meaning between Spanish catechism and a commensurated Maya vernacular. Supralingualism is the 'post-humanist' instance of these early large-scale and local colonial efforts.

4.2 Monolingualization/individuation

In order to produce translatability in stable, reproducible forms, linguistic engineers need to reinforce the discrete contiguity of national languages. Just as scholarship in Applied Linguistics has been calling for the field to 'disinvent and reconstitute languages' (Makoni and Pennycook 2006) in a postmodern, decolonial, ecological, or integrationist sense, technicians of supralingualism are reinvesting in precisely those boundaries between national languages that had long been tended by lexicographers, education systems, and verbal hygienists (Cameron 1995). Monolingualization is, among other things, an ongoing process of the fortification of language borders, and the production of isomorphic, panfunctional repertoires within each monolanguage, such that each is equally capable of producing the same range of propositional meaning. Whereas the monolingualization process had begun amid the rationalist linguistics of seventeenth-century France and Britain, it has seen an intensification in supralingualism, as new technical parameters allow for accelerated and molecular scales of reproduction. Where linguistic imperialism traditionally requires a vast discursive apparatus of institutions and actors working in

concert, supralingualism merely requires ever more optimization of already existing technical affordances that are based on monolingual premises.

4.3 Literalization/explicitation

In the main, practices collecting and mobilizing tokens of everyday use in CLIR/MLIR arise from written sources. Thus, not only are oral data sets preemptorily excluded from the algorithmic refinements of supralingualism, but so are the prosodic, acoustic, phonological, paralinguistic, and also interactional aspects of linguistic performance. Supralingualism thus currently traffics in literal, written meanings and has a narrowing effect on what counts as *parole*. Modes of meaning-making that rely on silence, implicature, inuendo, and subtlety are also dispreferred as data sources in supralingualism, where explicit propositional content is the primary source of meaning-making potential. The outputs of cross-linguistic information retrieval that will tend to result are thus those that issue from this criterion of explicitation, while other textures of human linguistic interaction are further subdued.

4.4 Securitization/fortification

Supralingualism works in part through the securitizing of translated and translatable content and style, i.e. converting these into fiancialized commodities that can be sold or rented to corporate and government clients. The horizons of innovation and optimization that preoccupy most linguistic engineers today are geared toward stabilizing and regularizing value of translingual commodities so as to ensure a predictable supply-side chain from developer to client, reducing any 'delta' (or delay and error) that may arise in that chain.

4.5 Dehistoricization/decontextualization

Sensitive as linguistic engineers may be personally to the effects of historical conflict, war, strife, and discord, their work is nonetheless most often presentistic, harvesting usage data from those contemporary sources presumed to be the most pragmatically relevant to industrial and commercial clients. Though usages, and the cross-linguistic synsets that are developed upon them, are always richly and profoundly historical, their chronodiversity and heteroglossia are prospectively flattened in CLIR. This is not to say that the corpora used are incapable of registering and cross-referencing for a given token's year of use, but rather that they exclude the kind of historical discourse that would locate a given usage in its proper ecology of use and importance. Such criteria are modeled, if at all, by way of collocation and proximity and thus lack the depth of genre, aesthetics, pragmatics, and polysemy that inhere in the usage. Supralingualism thus tends to exert a dehistoricizing effect on the data and language it harnesses. Applied linguists have developed manifold tools for analyzing the relationship between utterance and context, between utterance and genre, and between utterance and discursive sequence. These principles of

analysis have been earned through a great deal of thinking in sociology, anthropology, and other social sciences fields. Computational engineers have not generally been party to these discussions and may tend to grasp discursive context primarily in terms of textual proximity and frequency, abstracted from the interactional and illocutionary setting in which utterances necessarily unfold. In the absence of tools for understanding the *social* nature of all speech—whether spoken or written, supralingualism tends to exert a decontextualizing effect on the data and language it harnesses.

CONCLUSIONS AND IMPLICATIONS

With good reason, socio-politically-minded research in Applied Linguistics in the last two decades has tended to focus on how teachers and researchers can better acknowledge the range of speaker practices and positionalities at work in diverse contemporary cultural landscapes, and on how states, curricula, institutions, and commercial enterprises tend to engage that range of speaker positions. Much of this research has been driven by a bottom-up sensibility that places marginalized, racialized, colonized, and abjected speaker-positions in the center of a reconceptualization of the analytic premises of linguistics (see for instance Makoni and Pennycook 2006; Makoni and Trudell 2006). From this subject-affirmative and decolonizing standpoint, Li Wei (2016) for instance defines the powerful heuristic of translanguaging as 'using one's idiolect or linguistic repertoire without regard for socially and politically defined language labels or boundaries—in order to make sense, solve problems, articulate one's thought, and gain knowledge,' while García and Li Wei (2014: 32ff.) call attention to how marginalized speakers often come to develop a 'translanguaging instinct.' Elsewhere in Applied Linguistics, work such as Claire Kramsch's 2009 book *The Multilingual Subject: What Foreign Language Learners Say about their Experience and Why it Matters* intensifies this focus on the complexity of the experiences of the individual speaking subject, emphasizing the implications of that focus for broader epistemological questions within Applied Linguistics. The contemporary orientation, toward the experiences and practices of situated speakers, has been an important subjective turn in Applied Linguistics, which seeks to overcome the structuralism and behaviorism of previous decades.

But twenty-first-century thinking about language(s) has not just been a tug-of-war between subjectivity and structure, between language users' experiences and the elite discourses implemented to accompany them into global employability. Indeed, during the period in which professional applied linguists and foreign language instructors have been negotiating the subjective turn, another 'turn' has quietly taken place. This further cultural turn in thinking about foreign languages is the industrial culture of translatability and cross-linguistic information retrieval (CLIR), which has since 1990 been engaged in alleviating supply-side manufacture-commercial challenges in the distribution and monetization of symbolic goods across language borders. This

is an algorithmic culture that innovates ever more effective ways to shuttle language-bound knowledge from one language to another—simultaneously, instantaneously, and globally. It is the linguistic analogue to the global credit-debit system, and it is increasingly also an active component of that system. Because we have been so eager to turn our attention to the kind of learner experiences that we know matter, an entire swath of language-oriented scholarship, innovation, and research in CLIR is going unacknowledged by Applied Linguistics, while this branch of research is nonetheless aggressively 'applying' its own version of linguistics in the technologies that we use everyday.

I have suggested in this essay some of the forms that are emerging in the first decades of effective international supralingualism, and considered what these forms may be beginning to do to languages on a broad scale. Of course, individual users of language will continue to translanguage in astonishingly meaningful ways, but the telos of supralingualism has time, funding, and the ideology of innovation on its side. Certainly, individual speakers are no less able for the time being to resist or assert autonomy from these procedures, but the critical features of this transformation may appear gradually and over generations, spurred on by ever more minute and well-funded advancements and innovations. These are likely to present, in due course, acute and practical implications for language policy, language planning, proficiency assessment, stylistics, and poetics. Certainly, the nature and scope of linguistic and cultural diversity is very much at stake. Understanding the work, lines of thought, and sources of funding that drive this form of 'applied' linguistic engineering is the first step in developing strategies for promoting alternatives to supralingualism, critiquing it, and reconsidering institutional priorities accordingly.

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