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Contacts and Interactions

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IN MEMORIAM—VITTORINA (VIKKI) CECCHETTO

Born in Casacorba, Italy, Vikki immigrated to Canada with her Mother at the age of 2. Her zest for knowledge was evident at a very young age. She achieved her BA (1973), MA (1974) and PhD (1982) in Italian Studies at the University of Toronto, specializing in Italian Linguistics. Vikki chose to spend her teaching career at McMaster University. Throughout her 35-year tenure, Vikki taught, inspired and guided a multitude of students. She built strong and long-lasting, genuine friendships with both her colleagues and her students along the way. She started in the Department of Romance Languages and then, in 1987, when language departments amalgamated, moved to Modern Languages. She was the Director of the McMaster Language Institute, long-term counsellor for linguistics and the first graduate chair of the new PhD and Master's program in the Cognitive Science of Language. Vikki was the author of the popular Italian language textbook *Primi Passi* and co-editor with Magda Stroińska of two books: on *Exile, language and identity* (2003), and *The International Classroom: Challenging the notion* (2006) and, most recently, with Magda Stroińska and Kate Szymanski, of a volume *The Unspeakable: Narratives of Trauma* (2014).

Before her retirement, Vikki went above and beyond to collect interviews from the families of Italian Canadians who were interned during WWII. The interviews were part of the 2011 project *Italian Canadians as Enemy Aliens: Memories of World War II.* Vikki's research involved 2nd language loss in aging bilinguals, the effects of trauma, and most recently, hate speech against refugees and minorities – this was the topic of her last presentation at LACUS in 2019. Vikki sought to explore topics that were socially engaging and important, always with the goal of helping others. She retired from McMaster in 2011 as Associate Professor but continued

to do sociolinguistic research whilst devoting her spare time as a volunteer on the board of the Hamilton Public Library.

Over the past 6 months, Vikki courageously faced her battle with cancer with a relentless, fighting attitude. It was inspiring to watch her remain positive and hopeful while always putting others first. She passed away on September 3, 2020, two weeks before her 70th birthday.
Vikki was a wonderful daughter, sister, aunt, friend and colleague. Her gentle presence, warmth, passion, generosity and caring ways were admirable and will be deeply missed.

PREFACE

THE FORTY-SIXTH ANNUAL MEETING OF THE LINGUISTIC ASSOCIATION OF CANADA AND THE UNITED STATES was hosted by the University of Waterloo and St. Jerome's University from July 23 to July 26, 2019, in Waterloo, Ontario. The local organizing committee (Svetlana Kaminskaïa, French Studies; Kerry Lappin-Fortin, Italian and French Studies, St. Jerome's University; Grit Liebscher, Germanic and Slavic Studies; and Dominique Louër, graduate student, French Studies) thanks St. Jerome's University, the Faculty of Arts, the Department of French Studies, the Department of Germanic & Slavic Studies, and the Canada Research Chair in Minority Studies for their generosity and help, which allowed us to welcome participants from different parts of the world.

The forum's theme "Contacts and Interactions" focused on a research area in linguistics that is important in today's world and for the field. For a long time, the effects of contact between languages were judged in terms of linguistic impurity, errors, erosion, or degeneration. Lately, the focus on the social value of languages has allowed researchers to advance in the understanding of various linguistic phenomena and innovations by proposing new methodologies and concepts: convergence, interlanguage, language mixing, translanguaging, etc. The forty papers and five plenary talks that were delivered during the conference dealt in one way or another with language contact and linguistic interactions, including minority languages, language teaching and learning, multilingualism, linguistic identities, language policies, etc. They contributed to furthering our understanding of how languages that co-exist within the same territory, in the same community, or in the same individual multilingual speaker, interact and connect with each other.

The forum opened with the keynote address by Randy Harris (University of Waterloo) who intrigued the audience with an intricate analysis of rhetorical figures within the framework of Construction Grammar. Day 1 continued with sixteen regular presentations and ended with a reception where Dean of Arts, Sheila Ager and Dean of St. Jerome's University, Cristina Vanin cordially welcomed the participants. Day 2 offered sixteen more presentations and two more plenary talks. Nicole Rosen, Canada Research Chair in Language Interactions from the University of Manitoba, discussed sound variation in Michif, Metis French, and St. Boniface French, showing how a minority language adapted to its surroundings over a long period of contact. Annette Boudreau, a renowned professor emeritus from l'Université de Moncton, examined in her plenary presentation the issue of language discrimination, as well as strategies of empowerment based on the example of chiac. Laura Colantoni, a Professor of Hispanic linguistics at the University of Toronto, delivered a plenary talk during Day 3 and discussed the role of language typology and contact in intonational patterns of bilingual speakers across different tasks. Following the LACUS tradition, on Day 3 of the conference, there was a short program to allow participants to explore the Waterloo region and then bond over a dinner, which was accompanied by a thought-provoking presidential address by Robert Orr, dealing with language origins. The final Day 4 of the conference included a morning session and the closing plenary presentation by Emma Betz from the University of Waterloo. Her discussion on the use

of the word “okay” in spontaneous speech showed how this discourse marker participates in conducting human interaction across a series of typologically different languages. We would like to extend a warm and heartfelt thank you to all of the plenary speakers for contributing to the success of the conference.

This 2019 Presidents' Prize winners were Dimitrios Meletis, University of Graz, for “Comparing the Incomparable: Introducing Natural Graphematics and Categories for the Comparison of Diverse Writing Systems” and Chelsea Whitwell, McMaster University, for “Gradience in Syntax: What do gradient methods measure?” There was also one Presidential Commendation awarded this year, to Christine Kampen Robinson, Canadian Mennonite University in Winnipeg, for “Mothering Tongues: Dietsche migrant mothers’ narratives of language learning and language maintenance.”

This volume gathers contributions that were selected for publication from among the submitted papers after a review by at least two anonymous referees from the Publications Committee. We thank all the reviewers for their time and attention given to all the papers, to Mikayla McCrory for proofreading the texts, and especially to the contributions that appear here.

— Svetlana Kaminskaïa, Grit Liebscher, and Dominique Louër, June 2020

LACUS Forum **46:1.1-18 (2022)**

"I CAN ONLY EXPRESS REGRET THAT CREATURES SUCH AS THAK AND THE AKAANAS DO NOT EXIST IN THE REAL WORLD" (ORR, LACUS 2008) BUT MAYBE THEY ACTUALLY DO

ROBERT ORR
Ottawa

Abstract: Superficially, the boundary between "human" and "animal" is fairly easy to demarcate, and one of the apparent manifestations of this boundary, the emergence of human language, is one of the most-discussed, multifaceted issues in linguistics. The recent interpretation of the DNA recovered from the descendants of Zana, a so-called 'wild woman' actually captured in the Caucasus in late C XIX, and apparently a remnant of an earlier wave of human migration out of Africa, opens all sorts of new vistas. This paper will offer a preliminary approach to the question: what can be gleaned about the question as to whether Zana had language, or possibly even an earlier stage thereof? So far Zana (and any surviving creatures like her) may be as close as we can get to an earlier stage of human language.

Keywords: Zana, human, language, boundary, hominid
Languages: Abkhaz, Adyghe, Afrikaans, Aghul-Rutul, Arabic (varieties including Maltese), Armenian, Avar, Balkar-Karachay, Bulgarian, Chechen-Ingush, Czech, Dutch, Faroese, Finnish, Flemish, Georgian, Greek (Classical), Greek (New Testament), Gullah, Icelandic, Indonesian, Karelian, Khoisan, Kumyk, Kurdish, Lezgian, Macedonian, Mingrelian, Moldovan, Nguni, Nogay, Ossetic, Polish, Romanian, Russian, Sakha (Yakut), Scots, Serbo-Croatian, Slovak, Slovenian, Tamil

> Colleague: So you believe in Bigfoot, but not climate change. Great.
> Self: But there's actually more evidence for Bigfoot than for **man-made** climate change.[1]

[1] The exchange is reproduced from memory, just before the verbal presentation of this present paper, it is accurate in that the colleague in question just said "climate change", to which I was very careful to reply with "man-made climate change".

INTRODUCTION – THE "BORDER" "BETWEEN" "HUMAN" AND "ANIMAL". A LACUS Presidential address should approach a big issue in language. Looking back over my earlier articles, it appears that many of them could have been summed up in a single sentence, and therefore their later emergence as ten/fifteen-pagers involved some degree of padding. Similarly, it should be possible to summarise big issues in one sentence, and then parlay that single sentence into a one-hour address: the issue of the origins and development of "human" "language", though, is one of the "biggest, most complex, issues (most recently, e.g., Reich 2019)", and all a paper this length can do is add another small piece to the overall puzzle.

Superficially, so far one would think that the related issue of the boundary between "human" and "animal (non-human)" assumes a great deal of importance, and is, at first glance, fairly easy to demarcate. Oddly enough, however, that boundary is rarely grammaticalised as such in language. Most superficially, similar demarcations involve animate/inanimate distinctions, or distinctions within the overall category "human", e.g., the widespread "masculine/feminine" gender distinction (here the very title of Lakoff (1987) is interesting), Tamil's "rational/irrational (with children belonging to the latter category)", or the special "masculine personal" gender found in Polish, none of which demarcate human/animal in the strict sense. This phenomenon appears to be part of the respective broader culture, involving complex issues, e.g., Stamos (2008:159-160) for discussion.[2]

1. LOADED TERMINOLOGY – INTERMEDIATES – APEMEN – HUMAN/NON-HUMAN – BOUNDARIES - THE CONCEPT OF "FOLK TAXONOMY". Apart from "and" and "of", every word in the phrase "origins and development of human language" is loaded. It is in this spirit that quotation marks have been added to the initial heading immediately above. Other similarly loaded words will be noted as they occur. Dawkins' (1988:262-263) succinct statement: "the intermediates between humans and chimps are all dead... all the embarrassing intermediates [between "human" and "animal" - RAO] are conveniently extinct...", unexceptionable at first glance, raises a lot of issues when examined in more detail.

Firstly, in the context of intermediates, bonobos (unmentioned by Dawkins in this context) are actually genetically intermediate between chimps and humans, but closer to the former. Chimps in turn are closer to humans than to gorillas and so on, all the way back at least to the Euarchontoglires and beyond (e.g., McCarthy 2011:102). Too narrow a focus, restricted to the issue of intermediates between humans and chimps, begs in turn the question as to the intermediates between humans and bonobos, and others. To gain some perspective, one might also ask about the intermediates between, e.g., humans and mice (see also below),[3] and one answer could be: "chimps".

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[2] Surprisingly at first sight, one example of the grammaticalisation of the human/non-human distinction may be found in English: the distinction between subject (not object, possessive, or preposition-governed) relative pronouns *who* (human) and *which* (non-human). Sakha (Yakut), while not actually grammaticalising gender, also distinguishes human and non-human in third person anaphoric pronouns: *kini* (he/she) and *ol* (it).

[3] One problem in "loaded" terminology with reference to "intermediate" might be the use of the definite article: "the intermediate" might be replaced by "an intermediate" in that context.

Awareness of the nature of any demarcation between "human" and "non-human" took time to develop.[4] In this context, Livingston Smith (2011:85) makes the very important point that part of the problem includes the very definition of "human", pointing out that there are disputes about whether it applies to all members of the genus *Homo*, e.g., does it include Neanderthals, or other members of the genus, e.g., *Homo erectus*, *Homo heidelbergensis*?[5] Livingston Smith goes on to define "human" as "… belong[ing] to a completely different taxonomy - a pre-Darwinian folk-taxonomy that owes more to the great chain of being than it does to modern biological systematics. The two frameworks are incommensurable". As Dawkins (1988:261) puts it: "… the 'great chain of being' … should have been destroyed by evolution, but … was, mysteriously, absorbed into the way many people thought about evolution." The concept of folk taxonomy also extends to providing a foundation for fictional depictions and their reflection of cultural beliefs, which frequently deal with hypothesised "intermediates". In a way reminiscent of the semantics of Indonesian *orang* ('primate', cf. *orang utan* 'man of the woods', *orang belanda* 'proboscis monkey/Dutchman', *orang pendek* 'short man'), the lines between humans and other primates were blurred in the early stages of anthropological and linguistic scholarship, cf. Darwin (2003:520–21, 523–24).

Thus, Quammen (2000:153–55) points out that in 1699, Edward Tyson classified the then newly- discovered chimpanzee as *Homo*, along with humans, christening it *Homo sylvestris* 'man of the woods' (cf. *orang utan*) as opposed, of course, to *Homo sapiens*. Later, scholars set up the family *Pongidae* to accommodate the two species of chimpanzee, the gorilla, and the orang utan, excluding humans. More recently, however, there appears to be a return to Tyson's original classification of chimpanzees and humans in the same genus, cf., the oft-cited 98–99% match between human and chimpanzee DNA. It was in this overall context (Orr 2007:452) that I followed a broader definition of "human", similar to that defined by Livingston Smith, extending to various extinct hominids, e.g., Neanderthals, creatures[6] that might be perceived as closer to the animal/human "borderline" than any such acknowledged so far (e.g., would such creatures count as fully human if they did not have human language?).

Undoubtedly, the well-known search for the so-called "missing link" between humans and anthropoid apes should also be included under the heading of folk taxonomy. There had already been hints before Darwin's time, e.g., Gould (1977:22-28); Ernst Haeckel dealt much more extensively than Darwin with the concept, also Gould (1977:170-173); Swisher, Curtis & Lewin (2000:52-54), Pyne & Pyne (2013:125-126). In Haeckel's framework there were twenty-two stages of biological evolution, beginning with the simplest, largely reconstructed on the basis of

[4] A further example of folk taxonomy is provided by Walter (2013:100 fn.), who notes that Hanno the Navigator, a Phoenician who sailed far down the West African coast in ancient times, encountered creatures his interpreters called "hairy savages (gorillas)", and he was not sure whether they were actually human or not.

[5] Reich (2019:63-64) suggests that *Homo heidelbergensis* may well have been possibly ancestral to five groups of "modern humans": *Homo sapiens*, Neanderthals, Siberian Denisovans, and Australo-Denisovans, as well as the so-called "hobbits" on Flores in Indonesia."

[6] In certain contexts, the use of "creature" might also be seen as loaded, even verging on offensive, as appearing to refer to non-humans. In many contexts, however, "creature" may also have positive human reference, e.g., one version of the well-known folksong "Oh no John, No John, No John, No". The use of "creature" in this paper, including direct quotations, may be seen as covering humans plus entities on any "human/non-human" boundary.

embryology. Apes would have been at stage twenty, and modern humans at stage twenty-two, with language being the key to making the leap to stage twenty-two (also Gould 1977:170-173, Koerner 1983:78). For stage twenty-one, Haeckel hypothesised a "missing link", dubbing it Pithecanthropus alalus ("apeman without speech" (Gould 1977:173).

Dawkins (1988:263) concludes with a discussion of the ethical issues which humanity might have been faced with, leaving us with the image of the "sheer luck that these embarrassing intermediates happen not to have survived." But what if some such "embarrassing intermediates", or something very similar, actually have survived?

The issue of boundaries crops up in other areas in palaeontology and zoology; Clarke (2015) also raises the issue of the status of the archaeopteryx as a bird. Quite possibly, antedating some aspects of the discussion on any human/non-human boundary on the divine to some extent (with the latter especially hampered by extensive theological discussions revolving around the existence of a special status for humans!), demarcating the bird/non-bird boundary has been throwing up difficulties similar to those involved in demarcating the human/non-human one since Huxley's first exposition on the archaeopteryx in 1868. In fact, Dawkins (1988:261-262) first uses the wording "embarrassing intermediates" in the context of the archaeopteryx as an example of the difficulties involved in setting boundaries, in this case bird/non-bird, before getting to humans and chimps; also Bakker (1994:302-306,312-316).

And more recently, Dawkins himself (2015:86) has written:

> "If all the intermediates down both forks of the V from the shared ancestor had happened to survive, moralists would have to abandon their essentialist "speciesist" habit of placing *Homo sapiens* on a sacred plinth infinitely separate from all other species."

Finally, of central interest to linguists is another area where "boundaries" are difficult to define: the vexed question of distinguishing between "languages" and "dialects": where does one shade into another? This is simultaneously one of the most long-standing[7] and loaded, if not the most loaded issue in linguistics, especially in that it draws in such further issues represented by at least sociology and politics. In this context, I would like to merely modify the famous quote (normally attributed to Max Weinreich), that a language is a "dialect with an army and a navy", to "a military and an attitude". All that is needed in this context is merely to cite even such a restricted set of examples as Serbo-Croatian (plus, e.g., Torlak; the issues raised by Slovenian), Macedonian/Bulgarian, Czech/Slovak, Dutch/Flemish/Afrikaans, Faroese/Icelandic, Karelian/Finnish, Romanian/Moldovan, the large number of varieties of Arabic, including Maltese, a similar number of varieties of Chinese, etc., etc.

Too great a focus on the intermediates issue, therefore, can obscure the bigger picture.

[7] Attempts to define the distinction between "language" and "dialect" go back at least as far as Schleicher, see Koerner (1983:45-47), who cites Darwin's discussions of species and subspecies, and draws parallels.

Thus, the continuum given below, towards the end of the paper, should be viewed as a crude simplification, similar to family trees, see Orr (2005:281-283,284-286), and the literature cited therein.

2. THE LANGUAGE ISSUE - THE ORIGINS OF HUMAN LANGUAGE. As mentioned above, the emergence of human language as understood today has recently become one of the most-discussed, multifaceted issues in linguistics (as above, including its own share of loaded words), although much still remains to be elucidated. Hitherto it has involved one of the clearest human/non-human boundaries - the possession of language as opposed to the perceived lack thereof, with the emergence and nature of such a boundary being an object of ongoing research (see above, and Orr 2007 and the literature cited therein, plus, more recently, Mithen 2006, Bickerton 2009, Dennett 2017:252). Surprisingly, recognition of the uniqueness of language as an essential attribute of modern humans was fairly late in coming; Tattersall (1999:58) cites anecdotes involving earlier scholars believing that apes could speak and understand human language.

Charles Darwin's massive contributions to scholarship included some discussion of language, which he described as 'one of the chief distinctions between man and the lower animals… [which] obviously depends on the development of the mental faculties', contrasted human language with the cries uttered by monkeys, dogs and birds, far more limited in scope (Darwin 2003:516–17). Darwin also suggested that one of the impetuses in the early emergence of human language might have been "… imitat[e/ing] the growl of a beast of prey" (quoted in Stringer (2012:160)).

One example of the issues involved in the emergence of language is provided by the ongoing discussions around the human expression of the FOXP2 gene, apparently important for the development of language, which long predates the emergence of modern humans. Neanderthals, however, also had the FOXP2 gene, e.g., Cochran & Harpending (2009:63). Recent DNA research has shown that there was some degree of Neanderthal/human interbreeding, e.g., Cochran & Harpending (2009:35-47), Papagianni & Morse (2013:170-171), Pääbo (2014:182-183), and most recently Reich (2019:34-50). Returning to the concept of intermediates for the moment, Mithen (2006:249-250,258,262), notes that out of seven hundred FOXP2 amino acids, only three differ between humans and mice, and only two between humans and apes/monkeys. Bickerton (2009:110) points out that FOXP2 is not a language gene as such, rather it is an important component among a combination of many genes which contribute to language, e.g., Sutcliffe (2009:248) and the literature cited therein, Pääbo (2014:252-253), and Stringer (2012:193-194), who suggests that FOXP2 regulates multiple other genes involved in language, and notes that subsequent research has uncovered further complexities in overall human genetic evolution.

Stringer goes on to state that *Homo sapiens* and *neanderthalensis* split about 400,000 years ago, while suggesting that "[…] modern human language probably evolved out of growing social complexity over the past 250,000 years (2012:163)", thereby implying that the development of language may have involved convergent evolution between humans and Neanderthals. Pääbo (2014:208) suggests that cultural advances may be reconstructed for Neanderthals just in the run-

up to their extinction, which may have been stimulated by contact with humans. This contact may have included language development.

Most recently, Reich (2019:8-9), while not denying a role for FOXP2 in the evolution of language, appears to repeat a similar caveat. Research into the emerging results thereof continues and generates vigorous debates.

In a series of publications, Bickerton has suggested that modern human language emerged from an earlier stage which he dubs "proto-language" (Bickerton 1990, 2000, 2009, Calvin & Bickerton 2000, see also Boyd & Silk 2006:444–45). Protolanguage may well have been developed by earlier members of the genus *Homo*, pre-human and pre-Neanderthal, albeit close to both, with the juxtaposition of concepts together in phrases, but nothing more elaborate, e.g. 'skid crash hospital' (Bickerton 2000:273, further developed by Orr 2007:455-458, also Stringer (2012:217-218)), without any extra arguments or ways of indicating the exact relationship between them. In a series of works (notably 2002) Wray suggests that many utterances emerged fully formed at what might be described as a sort of "pre-proto-language" stage and would have been later segmented and systematised by "speakers", e.g., any human imitation of Darwin's "growl of a beast of prey" would have been probably first systematised into phones and subsequently morphologised.

This suggestion appears to echo the thought of Adam Makkai, who in a series of works, most recently 2009, has suggested that humans actually learn their first language in two steps. The first involves the simple absorption of massive chunks of material as idioms (which would include almost perfect mimicry of phonetic detail). The second, beginning after the age of around two, consists in an attempt to systematise it all.

Meanwhile Bickerton further suggests that hominid language would have remained at the proto-language stage for about two million years, and that grammar, or "syntax" according to Bickerton, see Orr (2007:454), making all sorts of new locutions possible, would have developed about 200,000 BP, thus marking the emergence of human language roughly as we understand it today.

Over the past several years, the field of animal communication has been the subject of extensive research, e.g., the relevant papers in LACUS XXXIV, with contributions dealing with dolphins (Herman 2009, Waller 2009), parrots (Pepperberg 2009), and apes (Katz 2009), plus an article (Sutcliffe 2009) discussing the issue of a boundary between human and animal communication on a more general, theoretical level. It appears that the phenomenon may best be illustrated by a continuum, between animal communication and full human communication, see below. Meanwhile, for an example of convergent evolution in intelligence, this time involving cephalopods, see Godfrey-Smith (2017).

The issue of brain size should also be noted. In the past there was a great deal of discussion devoted to relative brain sizes. Recently, however, research into birds' brains has shown that mere size may not matter very much in the end; cf. the analogy of the modern computer chip containing more memory than an older, massive computer. Ackerman (2016) goes into some detail here, discussing brain size and perceived biases against avine intelligence (2-5), packed densities (9-13), number of neurons (55-59); in addition (122-124,157-159,216-233), Marzluff & Angell (2012:41-64), Nicolson (2018:8-9,20-21,38,192-194), and Godfrey-Smith (2017:50).

3. THE FIRE FACTOR. Recently, however, another factor has been cited, which may push the origin of language much further back into prehistory: control of fire. In contrast to the large amounts of discussion accorded to the role of tools and art in language origins, starting with Darwin, many scholars dealing with the issue of human language origins skirt the issue of control of fire (Deutscher 2005:12–13, Bickerton 2009:213), although fire itself has come in for substantial amounts of study, e.g., Perlès (1977), Goudsblom (1992:12–41, 2002:23,28–33). Estimates of when fire was first brought under control by humans differ widely, ranging between 150,000 and 1.5 million years BP, far back into the Pleistocene, see Orr (2007:455-456) and the literature cited therein, and more recently Wayman (2012), who cites further evidence to strongly suggest a date close to one million years BP, while leaving the door open to an even earlier date, based on recent findings from South Africa.

Bickerton (1990:140–41) offers a brief discussion of the relationship between language and fire, suggesting that proto-language may have offered a level of communication sophisticated enough for humans to control fire. Control of fire is one item apparently separating humans from non-humans (cf. Bickerton 1990:140–41 and Goudsblom 1992:1,21–23); expressed well by the rhetorical question 'would you leave a chimpanzee in charge of a fire?' (also Dennett 2017:252-253).[8] Nevertheless, even in the early stages of the process whereby humans gained control of fire, if they were to do anything more with it than simply run away, e.g., put it out, light it, use it for cooking, burn a given patch (and any discussion thereof, especially in the case of large-scale fires), they would have needed more sophisticated communication than simply screaming 'fire!' (cf. 'leopard!', 'eagle!'), followed by evasive action. Even apparently simple combinations such as 'wood fire run', would appear to require some degree of grammar, including verbal tense and imperatives, however expressed. Nevertheless, even in the early stages of the process whereby humans gained control of fire, if they were to do anything more with it than simply run away, i.e., put it out, light it, use it for cooking, burn a given patch (especially in the case of large-scale fires), some sort of grammar would have very probably been needed for communicative purposes, e.g., imperatives (burn/don't burn this – don't put the fire out, we might not get it started again), a tense system (e.g., we burned this area last year, this fire has gone out/will go out), etc. Even a grammar mainly made up of element order, with minimal or no inflection, constitutes a system very probably substantially more sophisticated than protolanguage as hypothesized by Bickerton (1990).[9] Grounded speculation would appear to lead to the conclusion, therefore, that there is a degree to which grammar and control of fire are linked, and

[8] More recently than Orr (2007), it has been noted, e.g., Wrangham (2009:190), De Waal (2013:236), that Kanzi, a bonobo, has learned to collect wood, break it up, stack it, and use paper and Bic lighters to start fires, simply by watching humans and applying the knowledge thus acquired, such as putting marshmallows on sticks and roasting them over a fire he had started himself, without any training. Further questions might be posed as to whether Kanzi would have been able to pass on his acquired knowledge to other bonobos, especially if he were to be returned to the wild without access to paper or Bic lighters.

[9] In this context Dennett (2012:38-45), who does devote some space to discussing fire and language together, appears to be in error regarding the order in which various processes took place; according to the lines of grounded speculation outlined here grammar would have emerged in the early stages of human control of fire, rather than later, as he implies.

in that case, if Bickerton's framework is accepted in outline, the emergence of grammar would have to be pushed back a few hundred thousand years to take the fire factor into account, therefore providing a *terminus circa quem*[10] for the emergence of human language. De Vries & Goudsblom (2002:29–31), also Goudsblom (1992:21–23) discuss the process thus, albeit omitting any discussion of language:

> "Humans are the only species that have learned how to manipulate fire. Control over fire has become a 'species monopoly', with an enormous impact on other species, both animals and plants. It provides us with an excellent example of how new forms of behaviour may change the balance of power… the humans… gained greater self-confidence… animals… learned to respect and fear [humans'] agility with fire… The domestication of fire made humans less directly dependent on forces that continued to be beyond their control, such as the alternation of day and night and the cycle of the seasons… Since control of fire became a species monopoly, exclusively human and shared equally by all human societies, it made humans everywhere more alike among themselves and more different from all other creatures … hominids may have beaten off other competitors, e.g. australopithecines, as they gradually mastered the use of fire, thus cementing the already growing gap between themselves and other primates."

According to some authorities, *Homo erectus*[11] (Goudsblom 1992:17, Swisher, Curtis & Lewin 2000:132) and *Homo neanderthalensis* mastered the use of fire (although maybe not fireplaces) before the emergence of Homo sapiens (Potts 1996:179, Mithen 2006:224,242). Dawkins cites approvingly a suggestion by South African anthropologist Philip Tobias that language might pre-date even *Homo erectus* (2005:71); also Schoeneman (2005:81–82) for some more discussion of whether non-human hominids may have had language; *Homo erectus* is known to have used fire (possibly before the emergence of *Homo sapiens* and tools (Dawkins 2005:70). Levin (2016:259-261) suggests another factor: recent research suggests that the need to recognise and warn of the presence of snakes stretching back to pre-human times may also have provided an impetus for the development of human language (see, e.g., Hauser 1997:90-91,99,306-309,419,427-433,506 (review of terminology and the literature cited therein), 509-513,527-532,559,589 fn.,627-628,630-631,645-646, for extensive discussion of vervet monkeys, for which this phenomenon was first observed, and has been known for half a century (Hauser 1997:649 fn.)). A comprehensive study of such possible factors might suggest that they all, to a certain extent, made a contribution. Stringer (2012:113) suggests that the need to verbalise other complex concepts may have also made a contribution.[12]

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[10] The wording *terminus circa quem* as a title for Orr (2007) was selected as opposed to *terminus post quem* and *terminus ad quem* in full realisation of the difficulty of setting boundaries here, see also below.

[11] Dawkins (2005:71) uses the term *Homo ergaster* for African *Homo erectus*.

[12] Oddly enough, Wrangham (2009), in a book devoted to one of the developments following from control of fire, only offers some vague discussion of any relationship between language and cooking (2009:171,185).

In this context, Dawkins (2005:59–62), quoting earlier work, suggests that there may have been three separate migrations of hominids from Africa, the earliest (*Homo erectus*) at 1,700,000 BP, then 840,000–420,000 BP, and then 100,000 BP. With increasing degrees of probability, the hominids participating in these migrations could all have had language if the earliest dates for control of fire cited above are accepted, probably at least the second, and certainly the third migration. In human history there have been at least two recorded apparent instances of not controlling fire to the extent common in most human societies, no matter how primitive: the Andaman Islanders (Goudsblom 1992:204–5) and the Tasmanians (Flannery 1994:264), see also Orr (2007:456). Bickerton's (1990:140) brief mention of these cases appears to suggest that they may not have mastered it properly. Actually, however, both cases involve cultural retrogression due to prolonged isolation of small communities, where many skills, including firemaking skills, were gradually lost over a prolonged period, rather than never having acquired fire in the first place.

It would appear reasonable, therefore, to devote at least as much discussion to the relationship between control of fire and language as has been devoted to the relationships between art and tools to language.

Surveying the entire trajectory of the human use of fire from its earliest beginnings, we can distinguish three stages. During the first stage, there were no groups possessing fire; there were only groups without fire. There must then have been a second stage involving the coexistence of groups with fire and groups without … a transitional stage leading up to the stage [where] all human groups are groups with fire.

Again, any degree of control of fire on the requisite scale would have necessitated the manipulators communicating by means of a language with grammar. It may also be paralleled by the history of the development of writing, see Orr (2007:457-458).

4. HOMINIDS IN RUSSIA. Sightings of ape-men are reported nearly all over the world on a regular basis, and may also be classed under folk taxonomy, becoming part of popular culture, e.g., Bigfoot, Sasquatch, Yeti, Abominable Snowman, *orang pendek*. Many of the alleged recorded sightings come from the former Soviet Union (where they are usually called *almas*/*almasty*), mostly the Caucasus and Central Asia, and Russian scholars have made major contributions thereto, see Sykes (2015:65-67;242-255), who points out that actual sightings of "ape-men" are very rare (243-244). The names *Almas* and *Almasty* may be distinguished geographically as follows: various levels of sighting of the former hail from areas close to Mongolia, often classified with *Homo erectus* or *Homo neanderthalensis*. *Almasty* sightings hail from the Caucasus, and they are classified with *Homo erectus* in Coleman & Huyghe (2006). The *Almas* and *Almasty*, with their very similar names, inhabit quite widely separated geographical areas, as mutually distant as Kansas and California, with also quite different local languages.

The Caucasus itself, the location of many sightings, is divided among speakers of all three branches of Caucasian languages, such as, e.g., Georgian, Mingrelian (South Caucasian),

Abkhaz, Adyghe (North-West Caucasian), Chechen-Ingush,[13] Avar (North-East Caucasian); Turkic languages such as Balkar-Karachay, Nogay, Kumyk; Iranian languages such as Ossetic and Kurdish; and Armenian, an independent branch of Indo-European. A variety of names occur over the Caucasus: Kumyk – *Albasly qatyn*, Nogay – *Albasly*, Balkar-Karachay – *Almasty*, Aghul-Rutul – *Albasti*, Lezgian – *Albab*, Adyghe – *Almasty*, etc. The *Almas*/*Almasty* also combine traits associated with goddesses of hunting and fertility, and evil demonic forces, sometimes even including hooves. They also have features in common with characters in the mythologies of many other peoples, such as, e.g., Russia's *Baba-Yaga* and Germany's *Alpfrau*.

It is believed that their area of distribution extends beyond the Northern Caucasus, extending to Turkic, Mongolian, Iranian, and Semitic peoples. Some authors see the *Almasty* as being Turkic in origin, and others as Iranian.[14]

5. THE CASE OF ZANA. Recently a comprehensive study of worldwide apparent sightings of Bigfoot/Sasquatch, Yeti, *orang pendek*, *almas*/*almasty*, and the relevant supporting material, has been offered by Sykes 2015, with the subtitle: "The First Scientific Evidence on the Survival of Apemen into Modern Times".[15]

Most of Sykes' examples are disappointing, turning out to involve already known animals mistaken for apemen, accompanied by sloppy DNA collection and/or selection.

Sykes includes sections on sightings from Russia, which especially involve samples of hair, many of which also turn out to be from, e.g., bears, horses, cows (2015:65-67,244-276).

However, Sykes concludes with a section on Zana, a *almas*/*almasty*, a so-called 'wild woman', captured in the first half of C XIX in a remote part of Abkhazia, in the Caucasus, (2015:294-307), and ending up being purchased by Abkhaz nobleman Edgi Genaba, and spending nearly 40 years (1850-1890, the year of her death) in captivity. Sykes (2015:295-296) describes her as: "[p]art-human, part-ape with dark skin … covered with long reddish-brown hair which formed a mane down her back. She was large, about 6'6" tall, and extremely muscular with exaggerated, hairless buttocks and large breasts. Her face was wide with high cheekbones and a broad nose. Brilliant white teeth flashed from her wide mouth, teeth which crush nuts and even bones. Her strength was such that she could lift a fifty-kilogram sack of flour with one hand and hold it steady for several minutes", partly recalling the most frequent image cited by Takazov 2008.[16] During Zana's time in captivity she was seen by hundreds of eye-witnesses. In addition, the recent discovery of her DNA and the interpretation of the results, have already moved her out of the realm of "cryptozoology", in the same way as, e.g., the okapi, which,

[13] Chechen-Ingush *Almasy* is a synthesis of two pan-Caucasian beings: the *Almasty* forest woman and another, the forest man with an axe in his chest. Takazov (2008) lists a few examples of the latter, which include a duality between benevolent and malevolent forest beings among some Caucasian peoples.

[14] Some languages have different forms, e.g., Lak – *Sukhasulu*, Avar – *Rokhdulay*, Tat – *Dedey-ol*, etc.

[15] As mentioned above, Sykes's use of "apemen" in the book title is perhaps unfortunate in the light of the loaded terminology.

[16] It might be noted that during his discussion of Zana, Sykes switches (2015:295) from using the anaphoric pronoun "it" to "she" to refer to her.

despite being depicted in art as far back as the Achaemenids, was not officially admitted by science until C XX.

Until recently it was believed that Zana and others like her that may still survive in wooded and mountainous areas of Central Asia and the Caucasus were surviving Neanderthals, cf. Matthews (2010:173-175, and the literature cited therein). However, based on DNA evidence taken from Zana's children, Sykes (2015:297-306) worked out that her own DNA was 100% African, pointing to her being a remnant of an earlier wave of human migration out of Africa, well over a hundred thousand years ago, a hitherto unknown human 'tribe', whose ancestors were forced into remote regions like the Caucasus by later waves. Again, his further discussion is worth quoting in full (2015:305):

> "The [DNA] details place Zana in the clan of Lingaire, also called L2C, one of the oldest of the thirteen matrilineal African clans. All African clans are very ancient, much older than any outside Africa, for the simple reason that humans have been in Africa far longer than anywhere else. The clan of Lingaire is around 150,000 years old, ancient even for Africa.[17]
>
> Our *Homo sapiens* ancestors left Africa to settle in the rest of the world around 100,000 years ago. It was neither a large nor representative exodus, and the members of only one of the thirteen African clans took part. This was the clan of Lara, also known as L3A. Although Zana's mitochondrial DNA clearly established her ultimate origin as African, it does not tell us when her ancestors left, though it was not typical of the main Laran exodus.
>
> The clan of Lingaire is significantly older than the date of that diaspora, so Zana's ancestors could have left Africa *before* [emphasis in the original – RAO] the Laran exodus of 100,000 years ago. Zana would then be a survivor from an African diaspora that fizzled out in the face of competition – the later spread of *Homo sapiens* that left her ancestors hanging on in the remote valleys of the Caucasus".

Thus, many of Reich's suggested hybridisations cited above may have taken place in Africa, predating the exodus from which Zana is descended.

In the context of the issue posed in the title, however, there are several issues not covered by Sykes, specifically whether Zana could control fire, or whether she was ever left in charge of one. It is very likely, though, that early humans had already domesticated fire before they left Africa, see Orr (2007:455-456), if we accept the dating cited most recently by Wayman (2012), and the literature cited in both articles. Therefore, even Zana's fairly remote ancestors may well

[17] See Sykes (2002:276-278) for more details on the mitochondrial-DNA-based African clans; it should also be recalled that Mithen (2006:258) suggests that the modern expression of FOXP2 appeared 200,000 years ago, which raises the questions: did Zana have FOXP2, if so, did it differ from those of *Homo sapiens* in any significant way, and if so, how?

have been able to control fire. However, such *Almasty* communities as may still survive in the Caucasus or elsewhere are undoubtedly very small, and, similarly to the Andaman Islanders and the Tasmanians, may have lost firemaking skills. As a further item of possible research, it might be asked whether any traces of fires, or, better yet, fireplaces, attributable to Zana-type *Homines* have been found, at least in the Caucasus.

Nor does Sykes really cite anything useful on how much could be gleaned about any "language" Zana might have spoken. What he does say (2015:296), however, includes hints at various misconceptions about language[18]:

> "One aspect of the eyewitness descriptions that I find most remarkable is that Zana never tried to speak. Though she had a repertoire of inarticulate grunts, whistles, and cries, she never managed to learn a single word in Abkhaz or attempt to speak in her own language, whatever that might have been."

The above passage is preceded, however, by "She […] began to do menial tasks for Genaba, including grinding corn in his watermill" (ibid.), which would have necessitated some degree of following simple instructions, which probably included a mixture of **some** words of command plus demonstrations. This again recalls Takazov (2008): "*Карачаевцы, балкарцы, ногайцы, кумыки и др., считали, что усмиренная Алмасты/Албаслы помогает по дому* [Karachay, Balkarians, Nogay, Kumyk, etc., considered that tamed *Almasty*/*Albasly* helped around the house]", suggesting that there may have been other "Zanas", and extrapolating from her career as described by Sykes (ibid.), their descendants may walk among us.

Of course, the stereotype of non-intelligible languages being perceived as "inarticulate grunts, whistles, and cries" is common. These images are widespread among all speakers of all languages, and have been since language was first written down, many of them being compared to the cries of birds.

For his Scots version of the New Testament, based on his profound knowledge of Classical Greek, Lorimer (1983:xx,xxi,299) offered a few suggestions for I Corinthians 14:11 (*ἔσομαι τῷ λαλοῦντι βάρβαρος*[19] *καὶ ὅ λαλῶν ἐν ἐμοὶ βάρβαρος*; KJV: "Therefore if I know not the meaning of the voice, I shall be unto him that speaketh a barbarian, and he that speaketh shall be a barbarian unto me)" as can be gleaned from his notes:

> *"But gin I am no acquent wi the langage o a man I speak wi, my speech will be like the cheepin o a spug (currooin o a (cushie) dou) tae him, an his will be like the chitterin o a swallow (claikin o a (kae/craw) tae me".*

[18] Such misconceptions, alas, often turn up in non-linguistic scholarly literature, e.g., Reich (2019:233,270) describes Gullah as having an "African-derived grammar (233)" and as a "language with an African grammar (270)".

[19] βάρβαρος would have been much closer to the core vocabulary in both Classical and New Testament Greek than "barbarian" in English, and therefore from the point of view of capturing the image of the source text Lorimer's Scots version is to be preferred to the KJV, or even William Tyndale's version of the same passage: "If I know not what the voice meaneth, I shall be unto him that speaketh an alien: and he that speaketh shall be an alien unto me".

In his editing of the final text Lorimer's son opted for: *"But gin I am no acquent wi the langage o a man I speak wi, my speech will be like the cheepin o a spug tae him, an his will be like the chitterin o a swallow tae me"*, supporting the above rendering by citing in footnotes a similar passage from Herodotus (II:57): "Πελειάδες δέ μοι δοκέουσι κληθῆναι πρὸς Δωδωναίῶν ἐπὶ τοῦδε αἱ γυναῖκες, διότι βάρβαροι ἦσαν, ἐδόκεον δέ σφι ὁμοίως ὄρνισι φθέγγεσθαι ["Moreover, I think that the women were called doves by the people of Dodona because they were barbarians, and because it seemed to them that they sounded like birds"]",[20] and, for comparison purposes, one from Japan's The Tale of Genji: "the fishermen of Akashi, their speech as incomprehensible as the chirping of birds".

In this context certain sounds are often perceived as exotic and/or primitive, and speculations are made on this basis, often relating the given language to animal communication. Describing attitudes to clicks in the Khoisan and Nguni languages of Southern Africa during the early European colonisation of the Cape, Irvine & Gal (2000:39-40) put it thus:

> "... Many early European observers compared [clicks] with animal noises: hens' clucking, ducks' quacking, owls' hooting, magpies' chattering, or "the noise of irritated turkey-cocks" (Kolben 1731:32).[21] Others thought clicks were more like the sounds of inanimate objects, such as stones hitting one another. To these observers and the European readers of their reports, such iconic comparisons suggested (before our more enlightened days, at least) that the speakers of languages with clicks were in some way subhuman or degraded, to a degree corresponding to the proportion of clicks in their consonant repertoires." ....

Ernst Haeckel actually made an explicit comparison between Khoisan and Nguni clicks and hypothesised anthropoid ape languages, see Koerner (1983:52-53).

From another part of the world, Heuvelmans (1972:66) cites an example of one non-European people equating the language of another with the cries of animals: the conflict between the Veddahs and the Nittaewo on the island of Ceylon, which culminated in the total extermination of the latter, around 1800. The Nittaewo were said to be:

> "... perfect human beings, but even smaller than the pygmies [Veddahs – RAO] ..... The little men ... had **no articulate language** and spoke with a sort of burbling **understood only by a few Veddahs** [emphases mine - RAO]."

Numerous other examples could be cited.

In the light of the above, it is probable that Zana's "repertoire of inarticulate grunts, whistles, and cries" actually constituted "language", whether proto-language or actual grammar, or

[20] Cf. also the verb χελιδονίζω, derived from χελιδών 'swallow', with a meaning close to βαρβαρίζω 'speak like a βάρβαρος'.

[21] Also quoted in McEwan-Fujita (2002) who cites similar attitudes expressed towards Scottish Gaelic.

possibly even an intermediate stage, and one can only regret that C XX - XXI tools were unavailable to the people who closely associated with her.[22] It would also have been interesting to try and glean Zana's attitude to Abkhaz and Russian speech: how did she herself perceive them?

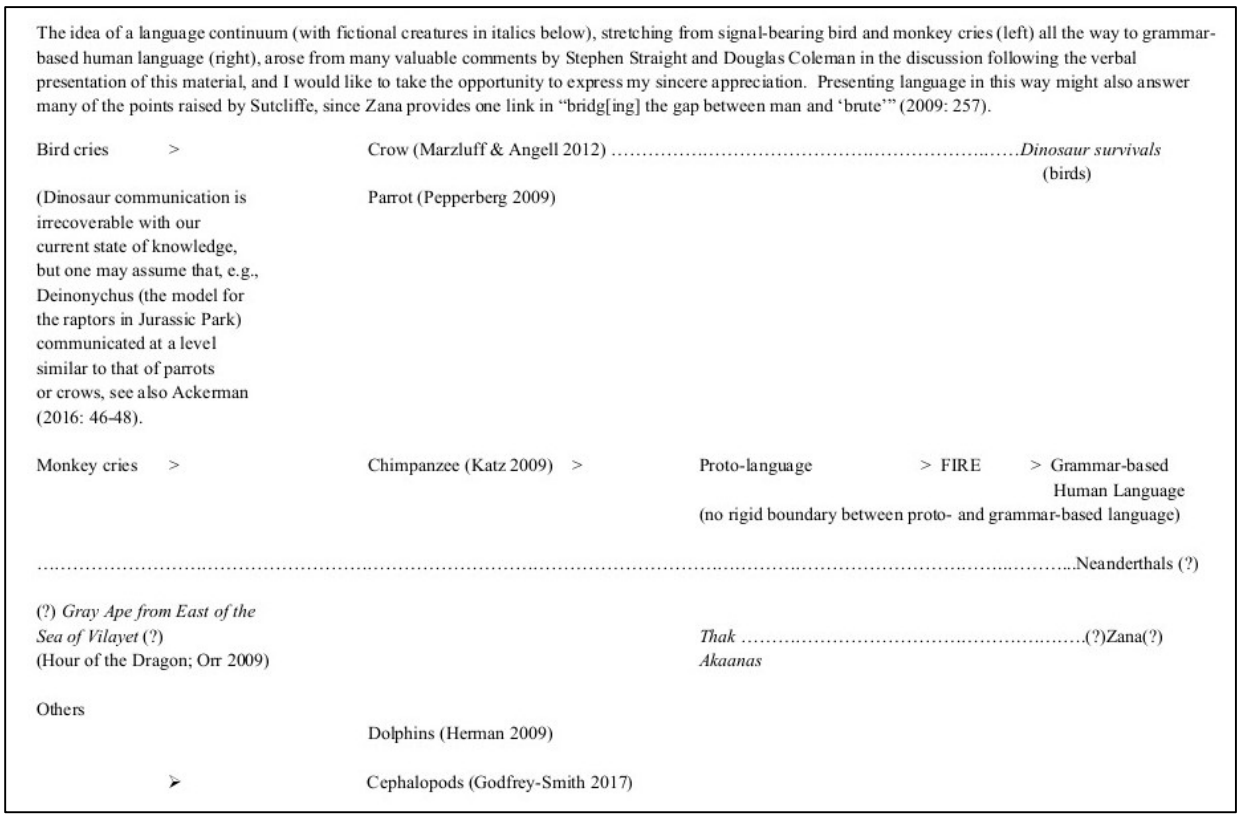

Figure 1. A Language Continuum.

6. CONCLUSION – A LANGUAGE CONTINUUM. The title of the present paper is taken from the conclusion to Orr (2009:227-228) "As one who has speculated on the relationship between knowledge of fire and language evolution (Orr 2007), I can only express regret that creatures such as Thak and the akaanas[23] do not exist in the real world", echoing Dawkins (1988:263).

[22] Even though linguistics as a field was as advanced in Russia (cf. the Kazan School, boasting such giants of the field as, e.g., Jan Baudouin de Courtenay, Kruszewski, etc.) as anywhere else at the time of Zana's death, it was far-less developed than it is today. One can only regret that members of the Kazan School do not seem to have attempted to investigate Zana; in this context, however, the date of her death might be recalled, suggesting that this was another missed opportunity, in the sense discussed by Orr (2017: 86-89), on the wrong side of "nick-of–time chance", indeed.

[23] Fantasy writer Robert E. Howard's stories often feature Zana-type creatures ranging along the continuum between human and non-human, from true apes to creatures closer to humans, e.g., Thak and the akaanas, see Orr (2009) for further discussion.

Perhaps, after all, based on Sykes' interpretation of the DNA material gleaned from Zana's descendants, such creatures still do exist, and earlier types of human language may be more accessible than previously thought.

These issues may be summed by viewing human and quasi-human language as occurring at one end of a human/non-human continuum (Figure 1, above). Very much to the point, Sutcliffe (2009:257) asks "Can there be animal language? Can it be the same in kind and differ only in degree from human language?", and replies "I think that we do not yet know, but we hurt the cause of science when we assume a barrier between humans and animals." In this context, it would probably help to think of a gap to be bridged, rather than a barrier, cf. the very title of Orr (2007), cited above, also puts 'human' and 'language' in quotation marks, as a way of demonstrating the lack of rigid boundaries in the respective concepts. Obviously, though, there is still some sort of a gap to be researched, and the present paper is an attempt to cover a small part of that gap. So far, meanwhile, Zana and humans like her possibly surviving in the Caucasus.

We must always bear in mind, however, Sykes (2015:312) final caveat, carefully considering such ethical implications as arise therefrom: "If such creatures do exist, one thing is certain. They want nothing to do with us."

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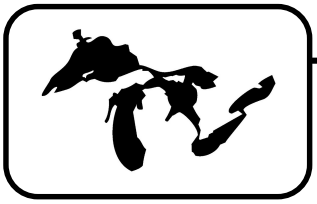

LACUS Forum **46:1.19-34 (2022)**

CONTACT AND TYPOLOGICAL DISTANCE IN THE STUDY OF INTONATION

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Abstract: This contribution explores the role of language contact and typological distance on prosodic change, by analyzing three examples of prolonged language contact. The first example examines the outcome of Spanish in contact with Italian (i.e., languages of the same family). The second example focuses on the realization of declaratives in Spanish-English bilinguals (i.e., two Indo-European languages). Finally, we analyze the perception-production of English sentence types in Inuktitut-English bilinguals (i.e., unrelated languages). The first study exemplifies a case of convergence, triggered by demographic factors and driven by typological similarity. The second example added an interesting piece of evidence to the language-interaction hypothesis: cross-linguistic effects are modulated by the type of task. The third study showed that cross-linguistic influence also varied depending on the modality (perception or production). Thus, the three examples document instances of cross-linguistic influence, independent of the typological distance between the languages analyzed.

Keywords: intonation, language contact, typological distance, task, perception, production.
Languages: Spanish, Italian, English, Inuktitut.

THE GOAL OF THIS CONTRIBUTION IS TO EXPLORE how **language contact** and **typological distance** can account for the intonational patterns observed in bilinguals, by analyzing **three** specific examples of **prolonged language contact.** The first example is represented by the Spanish-Italian contact in Buenos Aires, Argentina. The second example also includes Spanish but in contact with English in the US. Our final example involves Inuktitut in contact with English in North Eastern Canada. These examples were chosen because they represent instances of contact between languages that may belong to the same family (Spanish and Italian), to different families within the Indo-European group (English and Spanish) or to typologically unrelated families, such as Inuktitut, an Eskimo-Aleut language, and English. In addition to genetic typology, we incorporated intonational typology and adopted Jun's (2015) proposal (Table 1).

Language	Prominence type	Word prosody	Macro-rhythm	Domain of head
English	Head	Stress	Medium	Larger than the word
Inuktitut	Edge	None(?)	Strong	Equivalent to word
Spanish	Head	Stress	Strong	Equivalent to word

Table 1. Prosodic differences of the languages under study.

Jun's proposal allows us to make cross-linguistic comparisons in a systematic way. For example, we see that English and Spanish share some prosodic properties: in both languages, the head of the prosodic unit is marked, and words have lexical stress. These languages differ, though, in the domain of the head (which is larger in English than in Spanish) and in the type of rhythmic patterns. Inuktitut and Spanish, instead, are more similar from a rhythmical point of view, but differ in the absence/presence of word stress.

Is typological distance or congruence a pre-requisite for contact-induced changes in prosody? This is the specific question that we will explore through the three examples mentioned above. This question, of course, needs to be framed within the larger issue of whether typological similarity is (Silva Corvalán 2001) or is not (Thomason & Kaufman 1988; Thomason 2001, 2010, 2014) a pre-requisite for contact-induced change[1]. The position taken here and elsewhere (Colantoni & Gurlekian 2004) is that typology is not a pre-requisite to contact-induced prosodic changes, even though defining similarity is rarely an easy task and it is relatively more difficult in prosody (Mennen 2015).

What do we know about typological similarity and contact-induced changes in prosody? There is evidence of cross-linguistic influence both in cases of typologically similar and typologically different languages. For example, cases of unidirectional or bidirectional influence have been documented for languages that have word-stress and head-prominence, (Jun 2015) and fall under the more general umbrella of intonational languages (Jun 2005), such as Spanish and Catalan (Simonet 2008), Spanish and Italian (Colantoni & Gurlekian 2004, Gabriel & Kireva 2014, Gabriel et al. 2013), Dutch and Greek (Mennen 2004), Spanish and English (Alvord 2006, Zárate-Sández 2015), German and Spanish (Lleó et al. 2004) and French and English (Kaminskaïa 2018, Kaminskaïa et al. 2016[2]). Contact-induced changes have also been attested with typologically different languages, such as German and Turkish (Queen 2001, 2012), Bantu languages and English (Gut 2005), Quechua and Spanish (O'Rourke 2004, 2012; van Rijswijk & Muntendam 2014), and Spanish and Palenquero (Hualde & Schwegler 2008).

[1] Even those who argue that similarity is not a pre-requisite (Thomason 2001), admit that similarity is not equally relevant to predict changes in all levels of the grammar. Indeed, it may be more important to predict morphological than phonological or syntactic changes.

[2] Although French and English can be classified as intonational languages, they differ along several parameters, including the word prosody (fixed stress vs. stress) and the domain of the head (Accentual Phrase vs. intonational phrase).

These studies have shown that in language-contact situations, bilinguals and monolinguals can use the same intonational contours but with different pragmatic uses (Queen 2001, 2012). In cases of prolonged language contact, such as the ones studied in Nigeria (Gut 2005), mixed systems could develop, in which tones are introduced to mark stress. This has also been documented for creole languages (Hualde & Schwegler 2008). Finally, one or both of the languages can be affected. Queen (2001) argues that Turkish-German bilinguals living in Germany have fused the intonational system of both languages. Mennen (2004) shows that near-native Dutch learners of Greek differ in the alignment patterns from Greek monolinguals but also from Dutch monolinguals. These studies represent a variety of sociolinguistic and socio-historic conditions. There are examples where colonial languages (English and Spanish) have been in contact for centuries with aboriginal languages (Quechua or Bantu family), as well as instances of stable societal bilingualism, such as Catalan-Spanish, French-English, and Basque-Spanish. Finally, Turkish-German and Italian-Spanish bilinguals exemplify situations of language contact as a result of immigration.

In the next three sections, I will analyze the role of typological similarity and sociolinguistic conditions. When discussing intonation, though, we have to remember that cross-linguistic comparisons may be challenging. First, prosody interacts with other components of the grammar, such as syntax (e.g., word-order) or morphology (e.g., marking of focus through particles). Second, the parameters we analyze when studying intonation - such as f0, duration, or intensity - are manipulated to convey linguistic (e.g., statements vs. questions) and paralinguistic meanings (e.g., enthusiasm, anger). Finally, intonation greatly varies depending on the type of task (Grabe et al. 2003, Ortega Llebaria & Colantoni 2014).

1. EXAMPLE 1: CONTACT WITH ITALIAN IN BUENOS AIRES SPANISH. Anyone who has come into contact with a variety of Argentine Spanish speakers will agree that Buenos Aires Spanish intonation differs from other Argentine Spanish varieties. Very well-known literary figures, such as Jorge Luis Borges, and linguists (Fontanella de Weinberg 1980, Vidal de Battini 1964) have attributed these "peculiarities" to contact with Italian, which appear to have emerged during the first half of the 19th century (Vidal de Battini 1964). More recently, these patterns have been experimentally analyzed (Kaisse 2001, Colantoni & Gurlekian 2004, Gabriel et al. 2011a, 2013). Among the changes that researchers have identified, we will focus on the two instances exemplified in Figures 1 and 2. Figure 1 schematizes a change in the realization of prenuclear pitch accents in broad focus declaratives. In most Spanish varieties, the f0 peak is found in the post-tonic syllable, whereas in Buenos Aires Spanish, it occurs within the stressed syllable. This pattern, which is found in several Italian varieties (D'Imperio 2002, Grice et al. 2005), is not foreign to Spanish: it is used to mark contrastive focus (Face 2001, 2002).

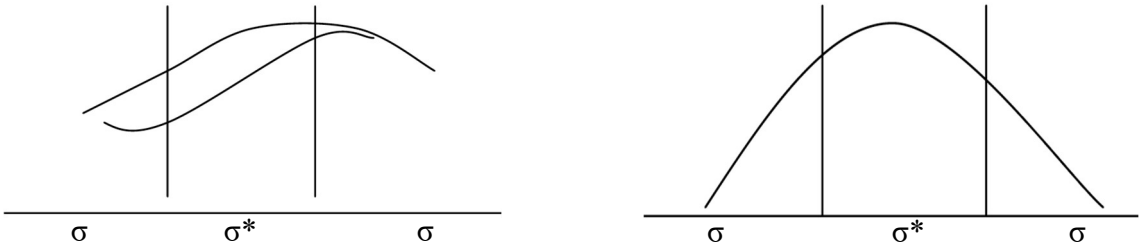


Figure 1. Schematization of the changes in prenuclear accents in broad focus declaratives. Left: peak aligned with the post-tonic; right: peak aligned within the tonic syllable.

The second change (Figure 2) affects the final part of the contour, i.e., the last stressed syllable and, if available, the syllable(s) that follow it. This nuclear fall has been described for the Italian varieties spoken in Naples, Bari, Palermo, and Florence (Canepari 1980, D'Imperio 2002, Grice 1995, Ladd 1996).

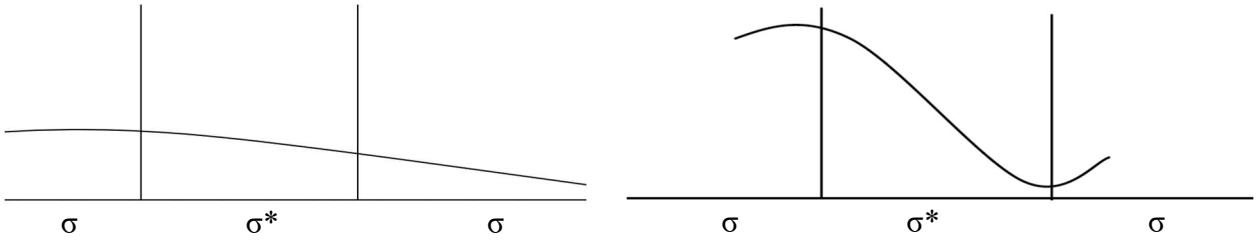


Figure 2. Schematization of the changes in nuclear position in broad focus declaratives. Left: realization in most Spanish varieties; right: nuclear contours in Buenos Aires Spanish.

Typological similarity is not the only reason to postulate a contact-induced change. Between 1855 and 1946, 3 million Italians arrived to Argentina. They were from different parts of Italy, such as Piedmont, Calabria, Sicily, Lombardy, and Campania (Baily 1999). Approximately one third of them (37%) stayed in Buenos Aires and settled almost exclusively in the Southern part of the city (Baily 1999:123). This immigration had an impact on the lexicon and on the development of a short-lived contact variety, Cocoliche (Di Tulio 2013, Meo Zilio 1964). Thus, we can hypothesize that other levels of grammar were affected. If Italian varieties indeed had an impact on the intonation of Buenos Aires Spanish, we should see a higher proportion of peaks aligned within the stressed syllable in pre-nuclear pitch accents as well as a higher proportion of sharp falls in nuclear accents when compared to other varieties spoken in Argentina. Moreover, if the changes are the result of contact with Italian and not a simplification resulting from contact, we predict a three-way difference: Buenos Aires Spanish should differ from other Argentine non-contact varieties and also from other Argentine contact-varieties. To test these predictions, we analyzed narratives collected for the Linguistic Atlas of Argentina from speakers of different parts of the country. Table 2 summarizes the origin of our participants (all females), and indicates the languages that are in contact with Spanish in each region. All broad focus declaratives were extracted from narratives. The results reported here represent the patterns

observed in pre-nuclear and nuclear positions with paroxytone words (i.e., the most frequent stress pattern in Spanish).

Regions	Number of participants	Languages in contact
Buenos Aires (BAS)	3	Italian
Córdoba (CAS)	2	-
San Juan (WAS)	2	-
Correintes (NEAS)	4	Guaraní

Table 2. Participants' information (Example 1).

Results (Figure 3) revealed a clear difference across varieties in terms of where the rising movement ends (left) or begins (right), i.e., in the alignment of the high and low tones in prenuclear accents.

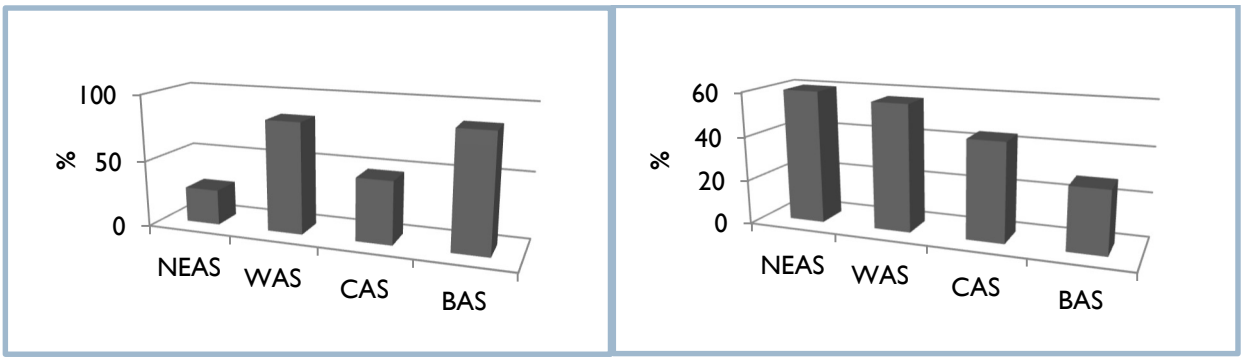


Figure 3. Proportion of peaks (left) and of valleys (right) aligned within the stressed syllables in prenuclear accents organized by variety.

As in previous studies, which were based on read speech (Colantoni & Gurlekian 2004), Buenos Aires speakers showed a clear preference to align the peak within the stressed syllable and the valley with the pre-tonic syllable. They thus differed from speakers of non-contact varieties (WAS, CAS), who had a lower proportion of peaks aligned within the stressed syllable. Finally, the speakers from the North Eastern variety, which is in contact with Guaraní, exhibited the lowest proportion of peaks aligned within the stressed syllable but half of their valleys were aligned within the stressed syllable.

The analysis of nuclear contours (Figure 4) showed that, in Buenos Aires Spanish, there is still a large proportion of peaks aligned within the stressed syllable and low tones tend to be aligned within the post-tonic syllables. Still, we observe clear differences between this variety and other non-contact and contact varieties as for the alignment of both tones. Speakers in the two non-contact varieties (WAS and CAS) have a similar proportion, albeit higher in CAS than in WAS, of peaks aligned within the stressed syllable. WAS, however, is characterized by its large proportion of valleys aligned within the stressed syllable. This is the result of lengthening (see Colantoni 2011 for an analysis of duration), which allows speakers to align both tones

within the stressed syllable. Finally, NEAS speakers are the ones with the lowest proportion of valleys aligned within the stressed syllable, which means that the nuclear stress is a falling accent with the fall beginning in the posttonic.

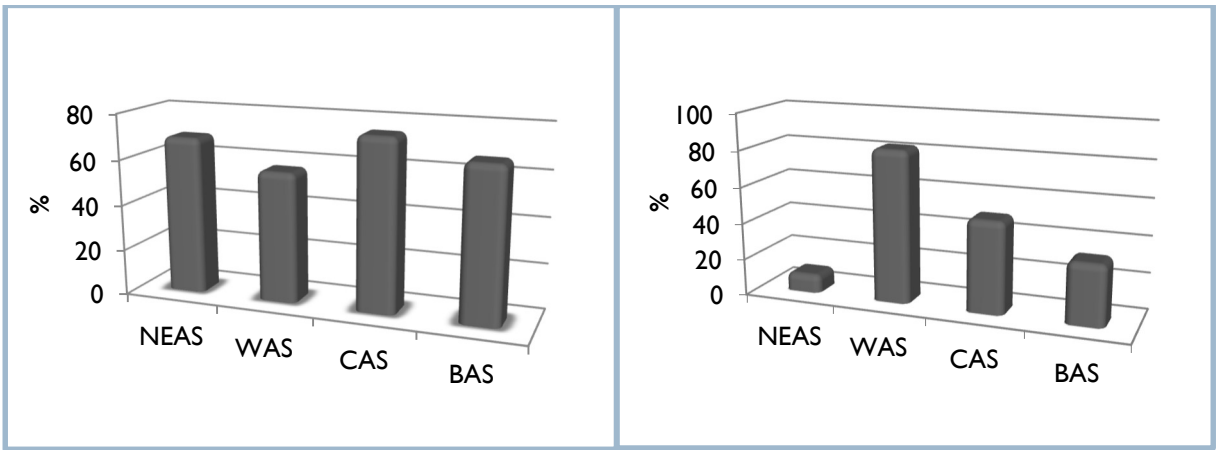


Figure 4. Proportion of peaks aligned within the stressed syllable (left) and of valleys aligned within the posttonic syllable (right) in nuclear accents organized by variety.

Thus, if we compare Buenos Aires Spanish with other varieties that are not in contact with Italian (WAS, CAS), we observe differences in the realization of prenuclear (higher proportion of peaks in BAS; higher proportion of valleys in WAS) and nuclear (smaller proportion of valleys in BAS than in CAS) accents. Additionally, there are rhythmic differences not reported here. When we compare both contact varieties, we see that in NEAS peaks tend to be aligned in the post-tonic rather than within the tonic syllable in prenuclear position; in nuclear position, the fall occurs earlier in BAS than in NEAS. Finally, if we compare BAS with the Italian varieties described above, we see similarities in the alignment of the peak in pre-nuclear position and in the realization of the nuclear fall. We can identify some differences; namely, in BAS the low tone in prenuclear accents appears to be aligned earlier than in Italian.

This brief comparison refers only to broad focus declaratives but additional similarities between Buenos Aires Spanish and Italian varieties have been observed in the realization of interrogatives (Gabriel et al. 2013), phrasing (Gabriel & Kireva 2014, Kireva & Gabriel 2015), and rhythmic patterns (Gabriel et al. 2011b).

Therefore, if, following Thomason (2010) we evaluate the linguistic and the social conditions that support the hypothesis of a contact-induced change, we conclude that, in regard to the linguistic conditions, (i) there is evidence of contact beyond intonation; (ii) some of the new intonational patterns observed in Buenos Aires Spanish are present in Italian varieties; and (iii) there are testimonies from a variety of sources pintpointing the origin of these changes. As concerns social conditions, (i) contact was intense; and (ii) there was imperfect language learning evidenced in the emergence of Cocoliche as a contact variety. Attitudes towards Italian do not appear to support the contact-induced change hypothesis but, as argued in Colantoni & Gurlekian

(2004), Italian varieties were crucial in the development of Lunfardo (Teruggi 1974), which later became a variety with covert prestige.

2. EXAMPLE 2: ENGLISH AND SPANISH IN THE US[3]. In the previous example, we analyzed a change in the majority language triggered by a migratory language, which belonged to the same language family. In this section, we examine changes in the minority language (Spanish) of speakers who grew up in an English-speaking environment. Since Spanish is the home language and English is the language in which participants are and were schooled, we incorporate a new variable to our analysis: the type of task. We explore whether the influence of English into Spanish is more pervasive in tasks that bilinguals normally perform in English, such as reading, than in tasks that they may have done more often in Spanish, such as the retelling of the children's story "Little Red Riding Hood". To explore this question, we compared a group of heritage speakers with another group of bilinguals, namely, long-term immigrants who grew up speaking Spanish but moved to the US as adults (Table 3).

Variables	**Heritage Speakers (N=8)**	**Long-term immigrants (N=8)**
Place of birth	Born and raised in the US	Born in Mexico; immigrated to the US after puberty
Mean age	20.5 (range: 19-26)	35 (range: 22-54)
Education	University students: 88%	University students: 75%
Language use	Home: 36% both; 25% only Spanish; school and social situations: 62% English	Home: Spanish 100%; school and social situations: 63% both
Proficiency	Spanish (DELE test): 35.5/50 English (self-assessment): almost native (3.8/4)	Spanish (DELE test): 45.4/50 English (self-assessment): adequate (2.7/4)

Table 3. Participants' profiles (Experiment 2).

Our general prediction was that heritage speakers would show more English-like contours in the reading task than in the narrative, when compared to long term immigrants. In particular, we expected heritage speakers to produce a higher proportion of pre-nuclear rising accents with peaks aligned within the stressed syllable in the reading task than in the narrative. Additionally, we predicted differences in the realization of intermediate boundary tones, with a preference for rising boundary tones in the reading task when compared to the narrative (e.g. Bartels 1997 for English; Sosa 1999 for Spanish). Finally, we expected differences in fluency, with smaller intonational phrases in the reading than in the narrative task.

As previously mentioned, participants had to perform two tasks in Spanish. They read the "North Wind and the Sun" and they re-told (based on a series of pictures) the story of "Little Red

[3] These are the results of a collaborative project conducted with A. Cuza and N. Mazzaro; see Colantoni et al. (2016).

Riding Hood". Broad-focus declaratives were extracted from the recordings and analyzed for: (1) the number of intonational phrases per utterance; (2) the type of prenuclear pitch accent and nuclear configuration. The latter were analyzed using the Spanish ToBI system (Beckman et al. 2002). After that, pitch accents and nuclear configurations were acoustically analyzed; we located the beginning and the end of the rise associated with each stressed syllable to determine the shape and the magnitude of the rise. Qualitative results are summarized in Table 4 (see Colantoni et al. 2016 for a detailed discussion of the results).

Variables	Reading Task	Narrative
Intonational phrases per utterance	*8.9 (HS) vs. 5.3 (LTI)*	*4.4 (HS) vs. 2.8 (LTI)*
Type and frequency of nuclear configurations	No difference between groups (predominantly rising)	No difference between groups (predominantly rising)
Pitch change (nuclear configurations)	No difference between groups	No difference between groups
Type and shape of prenuclear pitch accent	*Earlier alignment in HS than LTI*	No difference between groups
Pitch change (prenuclear accent)	*Steeper slope in LTI than in HS*	No difference between groups

Table 4. Summary of the results (reading task and narrative). HS= heritage speakers; LTI=Long term immigrants. Significant differences are in Italics.

In summary, results showed that group differences were larger in the reading task than in the narrative, which is expected considering that heritage speakers learned to read in English and not in Spanish. This is consistent with previous studies (Sánchez 2008, Tsimpli 2014), which showed that testing bilinguals using skills that have been learned with schooling increases the between-group differences.

Thus, if we evaluate these results under the contact-induced change hypothesis, we find evidence of cross-linguistic influence between languages that are genetically more distant but still belong to the group of intonational languages. The changes observed, however, were phonetic and not phonological. Moreover, there is evidence of transfer from English into Spanish but almost exclusively in the reading task. What social factors may explain this outcome? All participants are bilingual, but heritage speakers learned to read only in English. Finally, although Spanish is a minority language, there is a large number of Spanish speakers in the community (West Lafayette, Indiana) where testing took place.

3. EXAMPLE 3: ENGLISH AND INUKTITUT IN CANADA[4]. The third example involves typologically distant languages, which not only belong to different families, but differ prosodically (see Table 1). English is a Germanic language, that has been classified as an intonational language. Inuktitut

[4] This is the result of collaborative work with A. Johns, G. Klassen, M. Patience, M. Radu and O. Tararova.

is an Eskimo-Aleut language that has not been classified from a prosodic point of view, although other languages belonging to the same family, such as West Greenlandic, have been classified as edge-prominence languages (Arnhold 2015, Jun 2015). Overall, English and Inuktitut differ prosodically at the word and at the utterance level. At the word level, English has stress whereas Inuktitut does not (Shokeir 2009). English uses prosody to mark the head of a prosodic domain, whereas Inuktitut uses prosody to mark the edge of a domain. This has consequences for the realization of the intonational contour. In English, tonal variation throughout the utterance is used to encode linguistic meanings, such as sentence type or focused constituents. In Inuktitut, there is very little tonal variation, and tonal movements are restricted to the end of the utterance (Shokeir 2009). A final falling contour signals that the speaker has finished talking, whereas a rising contour conveys that the utterance is incomplete (Shokeir 2009). Linguistic meanings, such as the ones encoded by English intonation, are encoded in the morphology in Inuktitut, as in (1).

(1) a. taku-vutit (Dorais 2010:283-4)
See INTR – 2 SG DECLARATIVE[5]
You see (something)
b. taku-jutit
See INTR – 2 SG INDICATIVE
You see (something)
c. taku-viit
See INTR – 2 SG INTERROGATIVE
Do you see (something)?

Inuktitut represents a unique opportunity to explore what happens when a language with limited use of intonation comes into contact with an intonational language. Thus, as part of a larger collaborative project, we investigated how several English structures (sentence type, focus, attachment ambiguity) were realized by bilingual speakers whose L1s are Inuktitut, Spanish and Mandarin. We will concentrate here on the perception and production patterns of sentence types (statements -S-, yes-no questions -AQ-, and declarative questions -DQ-) obtained from Inuktitut-English bilinguals. In addition to the typological differences and the variety of structures, this project incorporated another variable, which turned out to be crucial in Example 2; namely, the type of task. We manipulated the degree of access to contextual information, and thus perception and production experiments varied in the degree of contextualization. The results reported here are based on data collected from 13 L1 Inuktitut speakers and 15 English controls, whose profiles are summarized in Table 5. All of the Inuktitut participants acquired Inuktitut at home and were exposed to English when entering the school system.

Participants performed three perception and two production tasks. The former varied in the amount of linguistic and contextual information. The first task, or intonation only task (IO), was

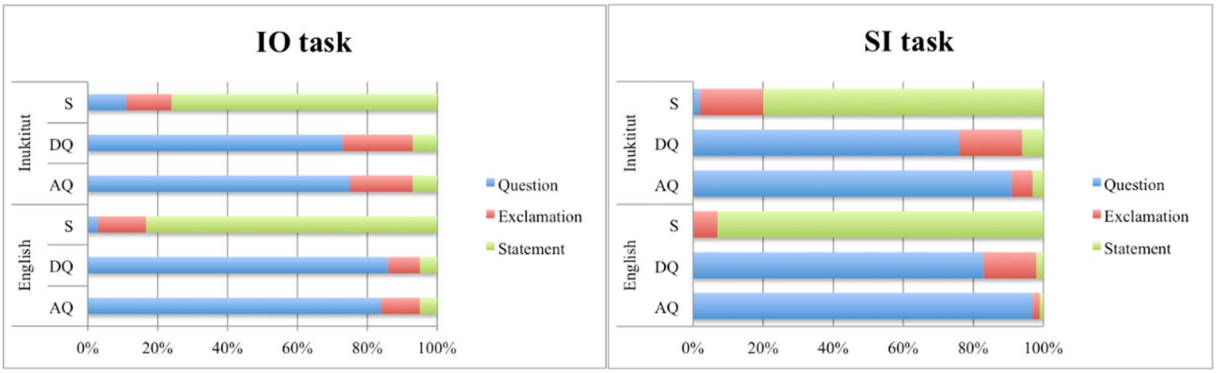
[5] The Declarative mood is used to indicate that an event is part of a narrative, whereas the Indicative mood points to an event that exists outside of the narrative (Dorais 2010:78).

an identification experiment in which participants listened to low-pass filtered stimuli and labeled each stimulus as either a question, statement or exclamation. The second task, or segmental and intonational information (SI) task, included 30 isolated statements, questions, and declarative questions (in addition to distractors). Participants listened to the stimuli and had to indicate whether they were statements, questions, or exclamations. The final task, or contextualized task (C), involved 18 scenarios representing each sentence type followed by three possible answers. Participants chose the option that they thought better matched the context. As for production, the first task was a sentence imitation task in which participants listened to 30 isolated sentences representing the three sentence types (plus distractors) and had to repeat them. The second task involved listening to 18 different scenarios designed to prompt each of the target sentence types, after which participants were asked to produce a sentence that would be appropriate to the context. Perception and production data were analyzed for accuracy. In addition, pitch changes over the first pitch accent and nuclear contours (final pitch accent and boundary tones) were analyzed for the production data.

Language	Average age at testing and range	Age of onset of acquisition (English)	Length of education in English
English (N=15)	25 (18-34)	NA	NA
Inuktitut (N=13)	35 (19-71)	5.8	11.3

Table 5. Participants' profiles (Example 3).

Figure 5 displays the perception results organized by task and shows that the largest between-group differences emerged in the C task in contexts that either prompted DQs or Ss. This means that Inuktitut-English bilinguals can perceive differences in intonation alone, but have more difficulty choosing the utterance appropriate to the context.



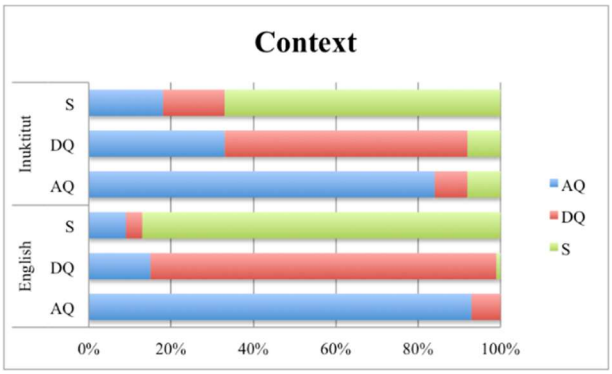


Figure 5. Proportion of errors and response type by task (IO= Intonation only; SI= segments and intonation; C= Contextualized) and sentence type. The results are displayed by group.

In production, between-group accuracy differences were only observed in the C task. In particular, in DQ prompted contexts, bilinguals were 60% accurate (vs. 85% observed in controls). As for pitch patterns, differences clearly emerged in the realization of pitch accents (Figure 6). Whereas controls showed a sentence type effect (larger pitch change in DQs, followed by AQs and Ss) and a task effect (larger pitch change in the SI than in the C task), bilinguals displayed a very similar pitch change (hovering above 0) across sentence types and between tasks. This is consistent with influence from the L1, in which there are no pitch changes at the beginning of the utterance.

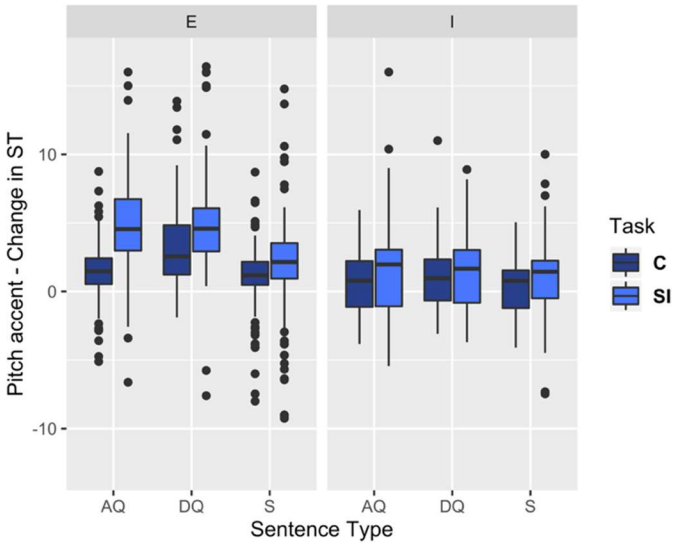


Figure 6. Pitch change in semitones over the first pitch accent organized by task and sentence type and displayed by language.

Groups were more similar in the realization of nuclear contours (Figure 7), both in the sentence types and in the task effects. We observed a larger pitch change in the SI than in the C

task, possibly due to imitation. This is consistent with the fact that tonal variations are present in the L1 at the end of the utterance.

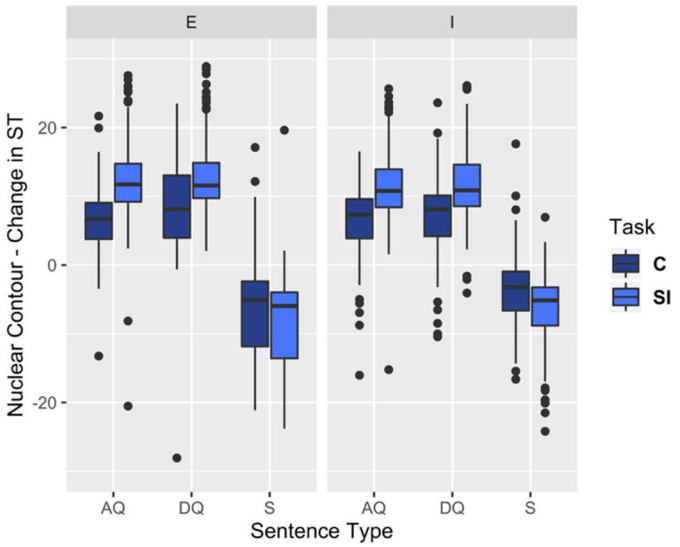


Figure 7. Pitch change in semitones in the nuclear contour organized by task and sentence type and displayed by language.

In summary, bilinguals were overall more accurate in perception than in production and resembled control more in their pitch patterns at the end than at the beginning of the utterance. When it comes to the contact hypothesis, we witness the influence from the substratum language into the majority language. Moreover, we see that absence of tonal movement can be transferred. However, we still need to determine whether the reduced pitch movements at the beginning of the utterance is a direct transfer from the L1, or a feature that the local variety of English incorporated a long time ago.

4. DISCUSSION. These three examples resulted in four observations. First, there could be transfer of prosodic features between typologically similar languages (Example 1). We reported changes in the type of pitch accents and in the realization of nuclear contours. Second, transfer can occur between typologically different languages (Example 3). In this case, rather than the introduction of a new pitch accent, we observed a reduction of the pitch range in the initial part of the utterance. Third, we learned that we have to go beyond typology as not all structures are transferred equally. Task-type matters, and production is affected more than perception. We reported two types of task effects. First, in the case of Spanish-English bilinguals, transfer was enhanced in tasks that tapped into skills that were not equally developed in both languages. In the case of Inuktitut-English bilinguals, the degree of contextual information affected the magnitude of the L1 influence. Finally, Example 3 allowed us to preliminarily conclude that production is affected more than perception.

As seen in previous studies, we found that intonation can change as a result of language contact. We have also found that change affects typologically similar and different languages, as was the case with previous research. The examples analyzed here, with the possible exception of the change in the type of pitch accent in Buenos Aires Spanish, also support the conclusion that phonetic changes are more frequent than phonological changes (Mennen 2004, Trofimovich & Baker 2006). The analysis of these three examples expanded our current knowledge of intonational change in contact situations, by extending the type of languages being compared, by incorporating a variety of tasks, and by including perception and production experiments.

Many questions remain open. First, we have not discussed the transmission of these changes. In Buenos Aires Spanish, where a large number of Italians arrived in a very short time, we can speculate that there was accommodation between monolingual Spanish speakers and the Italian-Spanish bilinguals. In the case of Inuktitut-English bilinguals, however, accommodation cannot explain the realization of prenuclear accents. There seems to be a pattern of divergence rather than of convergence. The second question that remains open concerns the hierarchy of difficulty or the hierarchy of transferability. What can easily be transferred in a contact situation? What is easy or difficult to learn? Can we propose a hierarchy of difficulty without making reference to other components of the grammar, such morphology or syntax? Finally, we have only looked at one of the languages in contact, which prevented us from drawing conclusions about the possible bidirectionality of the changes.

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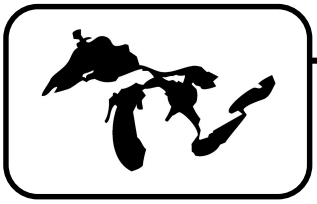

LACUS Forum **46:1.35- 61 (2022)**

GRAMMATICAL CONSTRUCTIONS AND RHETORICAL FIGURES: THE CASE OF CHIASMUS

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Abstract: Many rhetorical figures are constructions in the contemporary sense of Construction Grammar, form/function pairs, and many of them are hiding in plain sight, participating in common constructions, often in clusters. This paper argues that Construction Grammar is the perfect framework to continue the rhetorical turn begun in Cognitive Linguistics by the incorporation of metaphorical and metonymical features; in fact, we might call this a rhetorical *re*turn to pre-Enlightenment views of language in which rhetoric and grammar were mutually informing disciplines. The argument is anchored in an extended illustration of a construction with high figural density, the A OUT OF B BUT NOT B OUT OF A construction ("You can take a boy out of the country, but you can't take the country out of a boy").

Keywords: rhetorical figures, chiasmus, embodied construction grammar, cognitive linguistics
Languages: English

IN A CLASSROOM DISCUSSION last year about the aims of cognitive sciences like linguistics, and of neurosciences like molecular neuroanatomy, I told my students, spontaneously, "I think we need to regard explorations of mind as top-down attempts to understand the brain, and explorations of the brain as bottom-up attempts to understand the mind."[1] They liked that formulation. I had

[1] This paper is a (highly modified) version of my keynote address to LACUS 2019, “You can take the linguist out of MIT, but you can’t take MIT out of the linguist”. I thank the organizers for the opportunity — Svetlana Kaminskaïa, Kerry Lappin-Fortin, Grit Liebscher, and Dominique Louër — along with the many attendees who discussed these ideas with me after the address and in several social occasions over the course of the conference. I also thank attendees of the 2019 Henry Sweet Society conference, in Edinburgh, who responded helpfully to an attenuated version of these arguments, especially Geoffrey K. Pullum, Pierre Swiggers, and Edward McDonald. Thanks, also, to Adele Goldberg, Ben Bergen, and Nancy Chang for their support; Nancy especially, for all her help with the formalism (she has only endorsed of my liberties; I hope the others don't give her too many headaches). Among the many colleagues and students who have helped me explore these topics over the years, I would like (unfortunately neglecting legion) to single out three: Ashley Rose Mehlenbacher, with whom I first began fitting

brought many of their puzzles into a new alignment with the impromptu stroke of a very useful and ubiquitous, but linguistically neglected construction, a pattern of reverse lexical repetition (... *mind ... brain ... brain ... mind*).

Over half a century before my use, you might recall, John F. Kennedy used one of these constructions too, this classic nugget, in his inaugural address:

(1) And so, my fellow Americans: ask not what your country can do for you—ask what you can do for your country (Kennedy [& Sorensen] 2001 [1961]).

Kennedy's (and speech-writer Ted Sorensen's) expression is almost proverbial in the American consciousness for the way in which it captures the spirit of a particular historical moment, the ethos of a particular administration, and the aspirations of a particular generation. Lots of more prosaic formulations, by Kennedy and others, surely expressed that confluence too, but they're lost, or, in any case, much less easy to recover. Why? Kennedy and Sorensen tightly matched form to function.

The form features an antimetabole, a chiastic figure (more on that later) known to rhetoricians for millennia. [2] It has an oppositional and duplex structure that plays to human neurocognitive dispositions. We respond to oppositions and repetitions in ways we don't respond to blander formulations. But the Kennedy-Sorensen formulation is not pure pattern. It is not music. It is a linguistic utterance, with semantic content, illocutionary force, and perlocutionary effect. It serves a function. It expresses a perceived turning point in US culture and politics—not just a call to service, but a repudiation of the entitlement to service, a flipping of expectations and values. The structure, coming etymologically from 'turning about (*metabole*) in the opposite direction (*anti*)' elegantly captures the conceptual reversal Kennedy and Sorensen were after in the literal reversal of its argument structure (*your country* is first a subject, then a prepositional object; *you* is first a prepositional object, then a subject). Their formulation, in sum, has become so memorable, so widely known, so easily shared, so frequently invoked, quoted, and recited because of two factors, the neurocognitive pattern biases humans have for its structural properties and the snug way in which those properties match the cultural functions the formulation serves.

I argue in this article for a richer conception of grammatical constructions that furthers the reintegration of rhetorical figures into linguistics, beginning with the renewed interest in tropes, such as metaphor and metonymy, that has dominated much of cognitive linguistics over the last several decades. My argument focuses on chiastic figures, which superficially appear to be rare

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Construction Grammar and rhetorical figures together, Ken Hirschkop, whose recurrent prompts finally led to this publication, and the continuing inspiration of Jeanne Fahnestock.

[2] The word is also spelled *antimetavole* and has a variety of other names in the rhetorical tradition, including *commutatio* ([Pseudo-]Cicero 1954 [c95 BCE]:324), as well as *the counterchange* (Puttenham 2007 [1593]:293). Calvin Trillin called it, specifically of Kennedy and Sorensen's famous use, "the reversible raincoat" (Waldman 2003:161), and his label has caught on among speech writers. These various terms are frequently interchanged with *chiasmus*. I argue for a new understanding of the relation between antimetabole and chiasmus which also implicates several other figures, including antanametabole which is key to my analysis of the A OUT OF B BUT NOT B OUT OF A construction.

and fanciful flourishes, something reserved for very special linguistic circumstances, like inaugural addresses, but which are surprisingly common; as, indeed, are a great many of the stylistic patterns known as rhetorical figures.

My argument proceeds as follows: Grammatical constructions, as investigated under the Construction Grammar (CxG) framework, are form-function pairings; rhetorical figures are form-function pairings; grammatical constructions collocate and colligate; rhetorical figures collocate and colligate; rhetorical figures and grammatical constructions, in hitherto largely unnoticed ways, collocate and colligate with each other. A particular set of constructions, which I dub *The A OUT OF B, BUT NOT B OUT OF A constructions* (largely abbreviated hereafter as *A OUT OF B*, for expository convenience), illustrate these interactions in particularly revealing ways. I take it you can see the chiastic properties in the name of this construction: the A and the B repeating in swapped positions. The quintessential A OUT OF B example even, like Kennedy and Sorensen's famous maxim, features an appearance by *country*, this time in the B-slot:

(2) There is an old saying that "you can take a boy out of the country, but you can't take the country out of a boy." (Morgan 1919:12)

1. CONSTRUCTIONS.

> Construction Grammar sees function and form as inseparable from each other.
> —Mirjam Fried & Jan-Ola Östman (2004a:12)

It has become increasingly clear, with the advent of computational corpus linguistics, the increased attention to function, and the greater understanding of neuro-cognitive architectonics shaping language studies at the beginning of the twenty-first century, that the notion of construction, in which form and function are bound, must be at the forefront of any theory of language use.[3] People do not speak or write by plugging words into the slots of a few all-purpose syntactic templates. They speak and write in a wealth of diverse lexical aggregates, each with a specific range of functional deployments. Some of these constructions come and go. Some are here to stay. Some seem intrinsic to a particular register, or dialect, or language, or family of languages; some to thought itself.

In the come-and-go category, we have the briefly and wildly popular "…NOT!" construction from the early 1990s. It emanated from the "Wayne's World" segment of the American television show, *Saturday Night Live*, which featured a distinctive caricature of the suburban American teen-age register. The construction sported a simple statement, usually positive or kindly, followed by a brief pause only to culminate in an emphatic "not!" that negated the preceding

[3] While the word *construction* has a long history in grammatical classification, dating at least to Cicero and Priscian (Cicero may have been the first to use it of phrasal arrangements; Priscian may have been the first to use it as a technical term), I enlist it here in direct alignment with the comparatively recent Construction Grammar framework growing out of the work of Charles Fillmore and his colleagues (Fillmore 1985, 1988, 1989; Fillmore & Kay 1987; Goldberg 1995, 1997; Fried & Östman 2004a, 2004b; Östman & Fried 2005; Hoffman & Trousdale 2013).

statement, as a kind of crude sarcasm marker. In the movie extrapolated from the segment, for instance, when Wayne abandons his partner Garth, Garth looks at the camera and says

(3) I'm having a good time ... not! (Michaels & Spheeris 1992).

The construction was rampant in the media and around water coolers for a couple of years, and then it was gone, a disappearance no doubt hastened by overkill and the insipid movie, which garnered reviews that capitalized on the catchphrase, as in

(4) "*Wayne's World*: Awesome ... Not!" (Turran 1992).

Transient constructions might even be local to a cluster of middle-school adolescents in one neighbourhood, or to family, or to a couple — groups who have word juxtapositions and phrases known only to them, or with particular resonances or functions only for them. In the other direction, constructions can be very general, such as the abstract form classes known as *active* and *passive*. Constructions, too, easily collocate, and any given utterance might realize a number of constructions, such as (1), which realizes, among other constructions, the stock political phrase, "my fellow Americans, " the archaic/Biblical "ask not" (rather than "do not ask"), and the imperative form class.

The paradigm case for CxG, everyone agrees, is Adele Goldberg's analysis of what are traditionally known as *ditransitives*. In the classic view (let's anchor it in Chomsky's 1965 *Aspects of the Theory of Syntax*), certain verbs are intransitive, others are transitive, and a few are ditransitive. Ditransitive verbs all have to do with transferring control or ownership over objects, as in (5):

(5) Galen gave Brenna a ring.

In its full trajectory, the ownership of the ring transfers in sentence (5) from Galen to Brenna. The classic view says this transferring is a function of the verb, *give*. Construction Grammar says it is a function of the construction itself: "the ditransitive syntactic pattern is more felicitously associated directly with the construction as a whole than with the lexicosemantic structure of the verbs" (Goldberg 1992:69). Her argument is remarkably sophisticated, but it comes down to (or, at least, for our purposes, we can pretend it comes down to) the verbs in (6) – (11).

(6) Tavares shot Marner.
(7) Tavares whipped Marner.
(8) Tavares passed Marner.
(9) Tavares shot Marner the puck.
(10) Tavares whipped Marner the puck.
(11) Tavares passed Marner the puck.

The verbs in (6) – (8) look like the verbs in (9) – (11). But they are doing something very different. For *Aspects*, sometimes *shoot* is transitive, sometimes it is ditransitive, and the

meaning is different in both cases; *whip* is sometimes transitive, sometimes ditransitive; and so on. But Goldberg points out that the ditransitive construction—or, let's use her name, the *TRANSFER-CAUSED-MOTION Construction*—makes the verb, or whatever sort of word it used to be, do *its* bidding, not the other way around. If you doubt her, take a look at (12) – (14).

(12) Tavares elbowed Marner the puck.
(13) Tavares saucered Marner the puck.
(14) Tavares goldberged Marner the puck.

None of the key words here are even verbs, strictly speaking, and the precise meaning of each may be a little hazy without more context, but the construction insists that they have to be verbs-for-the-moment if they are going to join in, evoking the action in some way, and a significant aspect of the meaning is the transfer of control: whatever elbowing, saucering, and goldberging might be, Tavares had the puck before he engaged in that activity and Marner had it when he was finished. It doesn't matter if goldberging is completely opaque or if *goldberg* is serving metonymically for a particular well-known maneuver (because, say, Goldberg is famous for her especially impressive through the legs, behind-the-back, drop-pass): Tavares had the puck; Tavares did something to the puck; then Marner had the puck. The *construction* tells you that. The form and meaning, coming as a package in CxG, arrives looking like Figure 1 for Goldberg. Mapping our examples against Figure 1, *Tavares* is AGENT and SUBJECT, *Marner* is RECIPIENT and OBLIQUE OBJECT, and *the puck* is THEME and DIRECT OBJECT, while *shot*, *whip*, *elbow*, and so on, fit into the slot labelled *PREDICATE*.

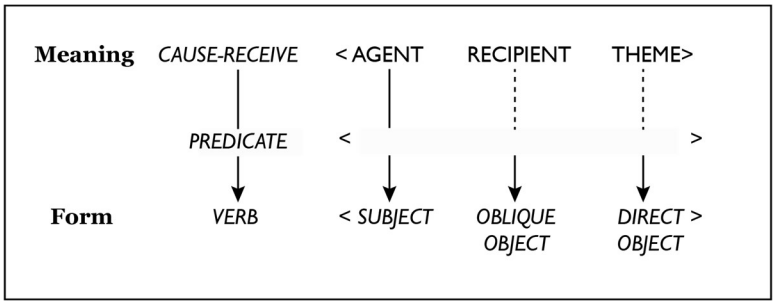

Figure 1. Form and meaning of the TRANSFER-CAUSED-MOTION Construction (adapted from Goldberg (1995:90, Figure 3.7)).

Construction Grammar is a family of approaches, which share lots of resemblances, not a monolithic theory with a singular, sanctioned set of tools. It is a framework, which can be realized in various formalisms, with allegiances to various other bodies of knowledge, domains or frameworks—for instance, sociolinguistics, neurocognition, or abstract descriptivism. The most expressive formalism for my purposes (embedded in the most conceptually satisfying theory) is the one developed in Embodied Construction Grammar (Bergen & Chang 2005, 2013).

We'll need its formalism later on to capture the features of our A OUT OF B example, so now is as good a time as any to introduce its instruments.

If we think of Figure 1 as a proof-of-concept for CxG, Figure 2 is closer to a production model.

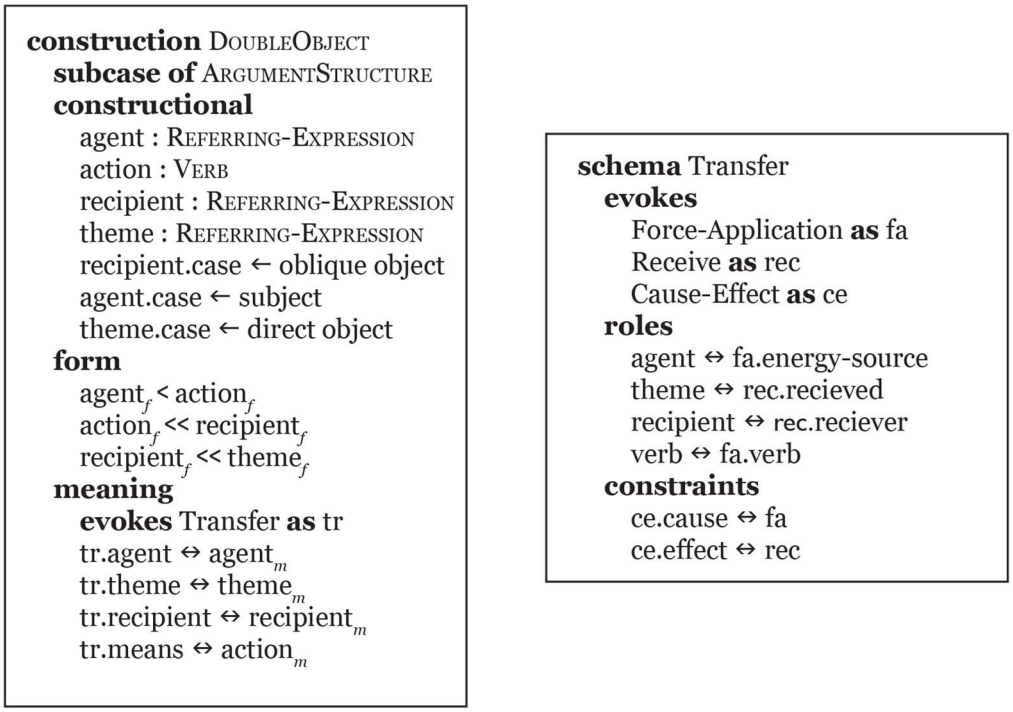

Figure 1. The DOUBLEOBJECT construction and the Transfer schema it evokes in the Embodied Construction Grammar formalism (adapted from Bergen & Chang (2005: 166, Figure 14; 170, Figure 18)). [4]

A production model needs to flesh out the form and meaning poles of constructions, which ECG does with a **form** block and a **meaning** block, along with a **constructional** block that sets out the inventory of constituents and units (units, an innovation beyond the basic ECG formalism are necessary for rhetorical figures, which can involve elements that do not fit the traditional notion of constituent; more on this later). Let's start with the **meaning** block, which **evokes** the Transfer schema; or, rather, lets start with the Transfer schema, which is the foundation of the construction's meaning. Walking through the Transfer schema representation, we see that it brings together the Force-Application schema, the Receive schema, and the Cause-Effect schema; it **evokes** them, *evoke* being the ECG term for recruiting schemata. This grouping of other schemata either pushes us off into more and more representations or into a bit of hand-

[4] I have played somewhat fast and loose with the ECG formalism and simplified its representations a bit. Most flagrantly, I have set aside the **self** role and indicated its before relation with the operator '<,' its meet relation with '<<.' I have also included the roles oblique object and direct object, to bring the representation in line with Figure 1.

waving. I'll wave at this point. We don't have time and space to comprehensively explicate all implicated schemata (but see Bergen & Chang 2005:167, Figure 15, for the details). Fortunately, all three schemata are fairly self evident: the first concerns the application of force; the second, some event of receiving; the third, an activity that causes some effect. Mapping these schema against (9) - (14), it's easy enough to see that all of them implicate the application of force which causes an effect that mediates a receiving event (force is applied to a puck, which causes it to participate in an event such that someone receives it).

One of the elegancies of the ECG formalism is the use of assigned variables (or "aliases") to chart relations among the implicated schemata: The Force-Application schema is deployed throughout the representation as *fa*, the Receive schema as *rec*, and Cause-Effect as *ce*. The participant roles for Transfer require an agent, a theme, a recipient, and a means. In turn, all of these roles are associated with the evoked schemata. That's the job of the double arrow (↔). So, the agent is identified through Force-Application as the source of the energy, the theme through Receive schema as the thing that gets received, and the recipient through the same schema as the receiver. To say that (9) - (14) are realizations of the Transfer schema, then, is to say the following:

- Tavares is the agent and the energy-source, in all cases (agent ↔ fa.energy-source).
- Tavares is also the cause of the event in all cases, the one who applies the energy to the theme (ce.cause ↔ fa).
- The effect of that directed application of force is that the puck is received (ce.effect ↔ rec).
- Marner gets it (recipient ↔ rec.receiver).
- Shooting, whipping, ... goldberging identify the various means by which the puck has force applied to it, causing it to end up with the receiver (verb ← fa.verb).

With the foundation in place, we can turn to the Construction that puts the Transfer schema to work. The DOUBLEOBJECT construction is a subcase of (a type of) the ARGUMENTSTRUCTURE construction—a high-level construction that expresses micro-narratives ("scenes") of entities realizing some event, all of which you can see playing out in the **constructional** block. The REFERRING-EXPRESSIONS (pretty much traditional Noun Phrases) are assembled into the skeleton of an event here by way of the VERB: an agent, a theme, and a recipient, all with relevant syntactic coding (signalled by the one-headed arrows), connect up with each other through an action. The **form** block tells us that the agent precedes the action in this construction (agent_f < action), the subscript signalling that we are concerned with the phonological or orthographical representation of the agent, its signans, —in (9) - (14), *Tavares*. The signantia for the action (*shot*, *... goldberged*), in turn, immediately precedes that of the recipient, *Marner* (action_f << recipient_f), itself immediately preceding the theme, *the puck* (recipient_f << theme_f). That is, we get exactly the order we see in (9) - (14). The **meaning** block now spells out the way our characters and actions realize the Transfer schema; that is, it specifies what we see in the bulleted list above, with the subscript *m* signalling that we are in the company here of concepts. The agent_m of (9) - (14) is our *idea* of the Toronto Maple Leafs' captain, John Tavares.

2. RHETORICAL FIGURES.

> Do *I* know what "rhetorical" means?
> —Homer Simpson (Appel 1995, 17:45)

The devices and maneuvers that have accreted under the term *rhetorical figures* are many and diverse, but a four-way taxonomy puts them into reasonable order: schemes, tropes, chroma, and moves[5]. I explicate all four, but only schemes and tropes are relevant for my subsequent argument; and they are perhaps the only figures that interact in a significant way with grammatical constructions.

The scheme and trope categories are among the oldest in figuration, and, construed according to a simple *signans / signatum* division, the most basic and the easiest to see. Figures are easiest to describe in terms of *deviation* from literal or bland language, and I will adopt that fiction for the purposes of discussion, complicating it once we have our taxonomy in place; but it *is* a fiction. Schemes can be seen as *formal deviations*, shifting away from conventional expectations in the usage of *signantia* ('forms'). Tropes are conceptual deviations, shifting away from conventional expectations in the usage of *signata* ('meanings').
Here are some prototypical schemes:

(15) Georgie Porgie, pudding and pie,
Kissed the girls and made them cry.

The schemes in (15) include rhyme (repetition of one or more word-final syllables—*Georgie* / *Porgie*, *pie* / *cry*) and alliteration (repetition of word-initial consonants—*Porgie* / *pudding* / *pie*). Ordinary language has words and phrases that exhibit rhyme (*hot pot*; *nit-wit*; *red sky in morning, sailors take warning*) and alliteration (*dodo*, *mish-mash*, *look before you leap*), but they stand out against a backdrop of words and expressions in which final syllables and initial consonants don't closely match each other. When rhyme or alliteration show up in flurries, or in strategically isolated expressions, we know that we are in the presence of special sorts of language events, like poetry, oratory, or county music. But that does not mean either that rhyme and alliteration depend on linguistic resources not present in ordinary language or that rhyme and alliteration are themselves absent from ordinary language.

Here is a prototypical trope, personification:

(16) Imagine you are a human brain. What would you care whether the lumbering life-support system that carries you around can easily decode the ingenious product you had made for it? That life-support system had made life hard for you by inventing thousands of words you were expected to store for it and by insisting on stringing those words together and

[5] This taxonomy is mine, partially articulated in Chien & Harris (2010) and Harris (2013). It is heavily influenced by the taxonomic efforts of rhetoricians over the ages, from the anonymous *Rhetorica ad Herrenium* ([Pseudo-]Cicero 1954 [c95 BE]) to Group μ's *General Rhetoric* (Dubois et al. 1986), but it is equally influenced by twentieth century ordinary language philosophy.

> pushing them out of its mouth. You had loyally stored the words so that they were instantly accessible and created algorithms that automatically gave shape to the word / thought salads that were all the clumsy brute could manage on its own. Now it says it can't process the stuff? Enough already. (Bickerton 2014:13)

Ordinary language exhibits personification (*Mr. Clean*, *I'm a mac / I'm a PC*, *the weather is mocking me*). Indeed, most languages have very basic tools for personification (a writ*er* is a person who writes, a sail*or* is a person who sails. The agentive morpheme takes the word for an activity and converts it to the word for a person who habitually or professionally performs that activity), and, as with all tropes, the salience of a given personification often recedes through time and familiarity until goes largely unnoticed, so that our daily expressions are littered with inconspicuous-unto-invisible personifications (*the camera loves her*, *opportunity knocks*, *time waits for no one*). When personification occurs in novel and striking ways, it is noticed and usually taken as evidence of design, of deviation away from a basic things-are-things-not-people level of signification. Tropes are the sole figurative concern of Cognitive Linguistics, and only a few of those: metaphor, metonymy, synecdoche.

The other two categories, chroma and moves, are less established, and the figures they cover generally commingle with tropes in other taxonomies, or show up in a separate classification altogether, such as 'figures of thought.' But they provide useful tags for understanding the range of rhetorical devices and maneuvers that have traditionally been called figures but do not sort neatly onto either side of the *signans*/*signatum* boundary. Chroma are deviations of intention. Moves are specific discourse strategies—deviations, if at all, of presumed default discourse patterns.

Here is a prototypical chroma, erotema, known colloquially as a 'rhetorical question':

(17) Shylock: If you prick us, do we not bleed?
(Shakespeare, *The Merchant of Venice,* 3.1)

The default function of questions is to elicit information. But erotema deploy with a different intention. Shylock is not looking for an answer. He is making an assertion: we are just like you. You bleed. We bleed. His intention is not to *solicit* information, but to *assert* it. Rhetorical questions show up regularly in daily language (*What am I, stupid?!*), and their usage makes clear that chroma rely more broadly on the context of utterance in a way that schemes and tropes do not. In Group μ's terms, chroma are "in principle circumstantial" (Dubois et al. 1981:131). They are understood, that is, as deviations not with reference to the sign, but to the context in which the sign is deployed. We need to know the circumstances of Shylock's utterance are such that he is not looking for information about Jewish anatomy, and that the circumstances of the ordinary language example are such that the expression is rarely used to request an intelligence assessment.

Rhetorical moves are strategic maneuvers of a wider structural sort, outside the familiar linguistic domains of form, meaning, and intention. They are quite different from schemes, tropes and chroma; not figures at all, properly construed. But they have historically been lumped

in with figures. Here is a prototypical move, paralipsis (assertion in the guise of avoiding assertion):

(18) And lately, when, by procuring the death of your former wife, you had made room in your house for another, did you not add to the enormity of that crime, by a new and unparalleled measure of guilt? But I pass over this, and choose to let it remain in silence, that the memory of so monstrous a piece of wickedness, or at least of its having been committed with impunity, may not descend to posterity. I pass over, too, the entire ruin … (Cicero 1833 [63 BCE]:1.159)

Cicero feigns a wish to preserve delicate posterity from corruption by a record of monstrous wickedness, while making sure the magistrates get a catalogue of that wickedness[6]. Moves, again, are not really figures, but they have this in common with figures: they also draw on resources common to ordinary language. Paralipsis, for instance, is effectively the same tactic we call *innuendo* when it occurs in gossip.

Before leaving this incredibly brief account of figuration, I want to be clear that this taxonomy does not imply that only schemes have form, only tropes have conceptual content, only chroma embody intention, only moves evince strategy. *Every semiotic event* evinces form and meaning (*signans* and *signatum*), *every symbolic event* evinces intention, and *every communicativ*e *event* evinces strategic maneuvering. The taxonomy merely notes that sometimes the form or the concept or the intention or the strategy has additional salience, understood as a divergence from default expectations (perhaps an idealized bland set of expectations holding of the sort of speakers Chomsky once described as constituting a "perfectly homogeneous speech-community"—1965:3). Those salient departures are rhetorical figures, and some strategies of argumentation have historically been classed with these stylistic maneuvers. I will say nothing further about chroma or moves.

Rhetorical figures are not special linguistic tricks executed only by poets and orators, however, just as running and jumping are not special bodily tricks of professional athletes. Everyone runs and jumps. The relative few who can't run or jump have fallen out of sync with the evolutionary template of the species, because of injury, genetic misfires, or the like. The relative few who can run or jump extraordinarily well, gifted athletes, have genetic advantages (and usually social advantages to go with them, the time and resources to pursue one thing devoutly)—like poets and orators. Which brings us back to the notion of deviation.

It is not the *figure*, the linguistic pattern itself, that stands out, that seems to deviate from the daily language of the street. It is a few specific instantiations of that pattern, very often in collocations with other patterns (Tu 2019). Take our example from Kennedy and Sorensen. It is universally regarded as an example of antimetabole, defined succinctly and representatively by the modern authority on figures, Richard Lanham's *Handlist of Rhetorical Terms*, as "inverting

[6] The passage also includes erotema (rhetorical question), of course, since Cicero is not looking for his 'addressee,' Cataline, to answer his question about unparalleled guilt, as well as another chroma, apostrophe, in which the apparent addressee is only a false front. The address to Cataline is fully intended to be 'overheard' by the real addressees, the magistrates.

the order of repeated words" (1991:184). But one can say the 'same thing' in other inversions of repeated words that do not have quite the punch of (1); for instance, sentence (19):

(19) You shouldn't be concerned with whether your country has stuff it can do for you; rather, consider what duties and responsibilities you have with respect to your country.

This satisfies the pattern Lanham identifies, it holds the meaning of (1) fairly stable, and it even retains (1)'s chiastic elements (*your country*, *you*), but you've probably forgotten it already, and if I hadn't been grooming you to notice reverse repetitions, there's a good chance you wouldn't even have spotted them here. That's largely because it's *only* an antimetabole, with very little other figurative action in play. On the other hand, you surely noticed that there was something particularly sticky and eloquent about (1) the very first time you heard or read it, long before seeing it in this essay. That's because it exemplifies not only antimetabole, but a clutch of other rhetorical figures that work in concert to make that specific utterance salient, memorable, aesthetically pleasurable, and effective. I'll give you some names for these patterns later on, but we've already mentioned the slight derangement of verb and negator of "Ask not," and if you glance quickly back, you'll easily notice other repetitions in (1) (*ask*, *what*, *can do for*), the semantic opposition (*ask not*/*ask*), a much greater syntactic parallelism than (19), and a better sense of rhythm. It is examples like (1) that drew rhetoricians' attention to linguistic patterns in the first place, and it is the curation of examples like (1) over the millennia to exemplify individual figures, rather than the conspiracy of figures they really are, that has given us the legacy of figures themselves as special linguistic patterns that deviate from ordinary language rather than just, well, the way people talk. (For a more detailed account of figurative combinatorics, see my article "Ploke" (Harris 2020:5-8).)

3. CHIASMUS.

> Suit the action to the word, the word to the action.
> —William Shakespeare (*Hamlet,* 3. 2)

Chiasmus is frequently—and somewhat understandably, given the exquisite form/function coupling it is capable of—regarded as a “rhetorical circus trick” (Poole 2006), a highly complicated and specialized device only for the rhetorically gifted, attained only after years of specialty training and practice. You need to be a Kennedy to try it without a net. Let’s put the lie to that before going any further.

(20) When the going gets tough, the tough get going. (traditional; often attributed to Knute Rockney or Joseph Kennedy)
(21) A place for everything and everything in its place. (traditional)
(22) Football is a gentleman’s game played by hooligans. Rugby is a hooligan’s game played by gentlemen. (traditional, especially at prep schools and elite universities)
(23) Those who can't do, teach, and those who can't teach, do. (traditional)

(24) Instead of the taxonomic linguist having a just complaint against the mentalist for appealing to occult entities the mentalist has a just complaint against the taxonomic linguist for excluding from linguistics, *a priori* and arbitrarily, just what it is most important for this science to do. (Katz 1964:137)

(25) Some transformationalists argue that all conjoined structures are the result of derived conjunction. They affirm that sentences such as "Mary and Bob are similar" derive from sentence pairs such as the following:

Mary is similar to Bob.
Bob is similar to Mary.

The above sentences are examples of symmetric predicates (predicates in which if NP_1 — X — NP_2 is true, then NP_2 — X — NP_1 is true, where X represents the verb phrase). (Bornstein 1977:203)

(26) I maintain that *X resembles Y* and *Y resembles X* are semantically distinct (even granting their truth value equivalence): The former characterizes X with reference to Y, and the latter describes Y with reference to X. We can similarly employ either *X is above Y* or *Y is below X* to describe precisely the same conceived situation, but they differ in how they construe this situation; in the former, Y functions as a point of reference—a kind of landmark—for locating X, whereas the latter reverses these roles. (Langacker 1986:10)

(27) Two roles, r_1 and r_2, are semantically compatible if either r_1 can be construed as an instance of r_2, or r_2 can be construed as an instance of r_1. (Goldberg 1995:50)

(28) I-language is acquired through exposure to E-Language, while E-language is the output of speaker's I-Language. (Taylor 2012:9)

... I could go on. I have a database with hundreds of such instances. I even have some from that most resolutely antirhetorical of linguists, Noam Chomsky ("[T]he best rhetoric," he has said, "is the least rhetoric" 2003 [1991]:376):

(29) [Y]ou can communicate with your pet dog, and your pet dog can communicate with you. (Chomsky 2013)

Linguists have paid chiasmus scant attention, and rhetoricians have not done much better[7]. The major exception in the latter category is Jeanne Fahnestock. Especially in her *Rhetorical Figures in Science*, she not only provides a brilliant treatment of antimetabole specifically, but also resurrects the long-dormant approach to figures that sees them as encapsulating argumentative functions, and maps out systematic form/function relationships among a larger array of neglected rhetorical figures.

Her then-colleague at the University of Maryland, the cognitive scientist, Mark Turner, observed of the figuration program she resurrected that the "justifications for construction

[7] The only linguist I am aware of to discuss chiasmus is Nunberg (1998), who smugly gets many things wrong, saying, for instance, that its "roots [are] in Shakespeare and Milton" though they run historically to our earliest records. He calls scholars like Fahnestock and me part of "a thin line of English department pedants" vainly defending rhetorical figures against the Philistines. This paper is such a defence; Nunberg, such a Philistine.

grammar are essentially identical to those for the original classical rhetorical program of analyzing figures" (1998:56); namely, to identify "a conventional pairing of a form and a meaning" (1998:44). He also turned his attention to antimetabole:

> Some schemata, like *antimetabole*, have as their conceptual half a highly abstract set of connections between elements, with negligible suggestion of the categories to which these elements might belong. Their abstract conceptual pattern fits many different kinds of specific scenes and even many different abstract meanings. Consider, for example, "electricity induces magnetism and magnetism induces electricity." To be sure, its *words* concern electromagnetism and causation, but its *antimetabole figure* does not: the formal pattern of the figure is a doubled expression that includes A and B in its first half and their transposition in its second, while the paired conceptual pattern of the figure is [a] symmetric relation between A and B. Obviously, this conceptual pattern provides no suggestion of the categories to which A and B belong. We can apply it, at least in principle, to any kind of A and B. (Turner 1998:45)[8]

Turner, unfortunately, contributes here to the terminological confusion that has dogged the study of rhetorical figures for almost its entirety by extending the term *antimetabole* further than it should go. But he is absolutely right that the formal pattern realized in antimetabole, often specified in the formula, ABBA, applies to a wide range of constituents (and ad hoc units). For clarity, I reserve the term *antimetabole* for its most common usage, "inverting the order of repeated *words*" (Lanham 1991:184; my emphasis). Other constituents that invert and repeat include phonemes, (30) – (31); referents, (32) – (33); and syntactic phrases (34) – (35):

(30) She sells seashells by the seashore. (traditional)
(31) I'd rather have a bottle in front of me than a frontal lobotomy. (unknown; sometimes attributed to Tom Waits)
(32) Old King Cole was a merry old soul
And a merry old soul was he. (traditional)
(33) Don't call me; I'll call you. (traditional)
(34) It is boring to eat; to sleep is fulfilling. (Burton 2007)
(35) Exalts his enemies, his friends destroys. (Dryden 1760 [1681]:184)

There is one specific chiastic inversion that is important for the remainder of my analysis of the A OUT OF B construction to go through. We've seen a few examples of it already, including one often attributed to John F. Kennedy's father, Joseph. I repeat it here for convenience:

(20) When the going gets tough, the tough get going.

[8] See also his student's fascinating exploration of chiastic data, Patricia Ann Lissner's (2007) PhD dissertation, "Chi-Thinking: Chiasmus and Cognition."

At first glance, this may look just like an antimetabole, but look again: the two instances of *tough* are not the same word. In the first occurrence, it is an adverbial, paraphrasable as something like *difficult*; in the second, it is a nominal, paraphrasable as *resolute*. The two instances of *going* reveal a similar pattern: different lexical classes, different meanings. I call this figure *antanametabole* (a blend of *antanaclasis* and *antimetabole* for reasons that will soon be clear). Antanametaboles are inverse repetitions of the same signans, when at least one of them has a different sense (evokes a different signatum). The difference between an antimetabole and an antanametabole probably seems pedantic at this stage, but it is crucial to understanding A OUT OF B.

4. THE A OUT OF B, BUT NOT B OUT OF A CONSTRUCTION.

> Aristotle's classic dictum that language is sound with meaning should be reversed. Language is meaning with sound.
> —Berwick & Chomsky (2016:101)

The Canadian satirical program, *This Hour Has 22 Minutes*, did a 'report' on the lies and dirty tricks of the Conservative Party of Canada in the 2019 federal election, zeroing in especially on its leader, Andrew Scheer, who Canadians were surprised to learn shortly after the campaign began was an American citizen. The announcer inevitably compared him to the reigning champion of political lies, at least in the West, US President Donald J. Trump. "Seems you can take the boy out of America," the announcer said, "but you can't take the America out of the boy" (*22 Minutes*), exemplifying a construction that leverages multiple rhetorical figures. It's the A OUT OF B construction exemplified earlier in what might be its *ur*-realization, the boy/country, /country/boy example of (2). Here are a few more data:

(36) You can take the girl out of the trailer park, but you can't take the trailer park out of the girl. (Hilderbrand 2011:np)
(37) You can take the man out of the woods, but you can't take the woods out of the man. (Paulsen 2012:50)
(38) You can take the girl off the farm, but you can't take the farm out of the girl! (Bowen 2016:33)
(39) I could take Tarzan out of the jungle. *Could I take the jungle out of Tarzan?* (Maxwell 2012:254)
(40) It was found easier to take the evacuee out of the slum than to take the slum out of the evacuee. (Waller 1940:30)
(41) After twenty-five years in the field. I've traded the front seat of a 4 x 4 for a swivel chair and a desk. The change did not come easily for me. As the old saying goes — it's a lot easier to take the man out of the field than to take the field out of the man. (Oklahoma DWC 1995:61)
(42) [I]t was easier to take the girl out of the brothel than to take the brothel out of the girl. (Walker 2011:72)

(43) It was much easier to take Kuhn out of Harvard than Harvard out of Kuhn. (Fuller 2001:387)

There is some variation in these constructions, most notably with (40) – (43), which manifest a particular cognate construction (which we can call the *EASIER TO TAKE A OUT OF B, THAN TO TAKE B OUT OF A* construction) that relaxes the certainty we find in the A OUT OF B construction. But they all satisfy the conform to a pattern that fits the definition of *construction* in CxG: "an *abstract*, representational entity, a conventional pattern of linguistic structure that provides a general blueprint for *licensing* well-formed linguistic expressions" (Fried & Östman 2004a:18).

The features of these instances that match the sorts of phenomena that CxGrammarians study include: the appearance of the same or similar words (*LET ALONE* construction, *WHAT'S* X *DOING* Y construction) and a defined stability of syntax (TRANSFER-CAUSED-MOTION construction, XYZ construction); it is also an idiom (even a cliché or "snowclone"), a chief inspiration and enduring preoccupation of CxG. Most importantly, like the TRANSFER-CAUSED-MOTION construction, the functional meaning is not a product of lexical properties. It does not come compositionally out of plugging some appropriate words into some well-formed syntactic arrangement. It "comes from the ... construction itself" (Goldberg 2003:221). It is the juxtaposition of the A-out-of-B clause and the not-B-out-of-A clause in the construction that determines the analogical and correlational meanings; that, by giving us a literal account and then flipping it on its head, engineers the figurative construal. The construction 'makes' the person (analogically) into a container and the location (correlationally) into an attitudinal complex.

Cx Grammarians are strongly aligned with Cognitive Linguistics, and Cognitive Linguists have paid considerable attention to analogical and correlational meaning extensions, but there is more figuration going on here than these familiar tropic extensions. Our construction is highly figurative in a way that is quite common to constructions and almost wholly ignored by both Cognitive Linguists and Constructionists. Here is a summary of the figurative components realized in (36) – (43):

i. epanaphora (the repetition of a word or word group at the beginning of phrases or clauses): *take*, in the presence of a small set of other lexemes (*can take*, *could take*, *easier to take, than to take*)
ii. mesodiplosis (medial lexical repetition between two similar or identical lexical units): *out of* (excepting (38); see ix below)
iii. antanametabole (ABBA pattern of signantia with different signata—crudely, the same words with different senses): A = *the boy*, B = *the country*, for (2); A = *the girl*, B = *the trailer park*, for (36); etc.
iv. antithesis (opposing predications), *can*/*can't*, in (36) – (38)

v. container analogic frame (the term for an object, entity or concept not normally construed as a container used to analogically frame it as a container, as signalled by *take ... out of*): *the boy* in (2); *the girl* in (36); etc.[9]
vi. correlational frame (the term for an object, entity or concept when it is used to reference a correlated object, entity, or concept): *the country* in (2); *the trailer park* in (36); etc.[10]
vii. reification (an abstract or otherwise non-substantial concept is depicted as a physical object): *the country* in (2); *the trailer park* in (36); etc.
viii. parison (repetition of syntactic phrases, often referred to as "parallelism"): [V [Det N]$_{NP}$ [P [Det N] $_{NP}$]$_{PP}$]]$_{VP}$ (*take a boy out of the country*, *take the country out of the boy* of (2), etc.)

Also playing smaller parts in these instances:

ix. synonymia (the recurrence of a signatum with a different signans): *off*/*out of*, *in* (38)
x. prozeugma (one term governs two or more subsequent arguments; this phenomenon was explored transformationally, and in some other generative frameworks, under the notion of deletion): "easier to take Kuhn out of Harvard than *[to take]* Harvard out of Kuhn," in (43)

These figures unquestionably contribute to the *form* of A OUT OF B in a way that affects its memorability and therefore supports its propagation. Repetition, for instance, is perhaps the chief agent for fixing something in memory and it is rampant in this construction, but sequential position, contrast, reversal, analogy, and correlation, all activated by the various figurative elements of this construction, are equally important aspects of our neurocognitive repertoire for memory as well; and for perception, for categorization, for reasoning, and so on.

But these figures also contribute irreducibly to the *meaning* of A OUT OF B as well.

We can chart out the meaning of (2), and (36) – (43), in the following way. The first occurrence of the A designates a biological person in the world (a boy, a girl, a man, Tarzan, Kuhn) and the first occurrence of the B designates a geographical location (the country, the trailer park, the woods, the jungle, Harvard). The second occurrence of B, however, is a sensibility or attitude or complex of beliefs correlationally associated with the location, often negatively valenced in some way, but not always. Rusticity or bumpkinhood are implied for (2) and (38), something like trashiness for (36), maybe sexual crudity for (42), and so on, which do not seem approbatory, though in (41) *the field* could be positive. The example from Steve Fuller's biography of Thomas Kuhn could go either way, but his explication of 'Harvardness' as, in part, an "aristocratic mentality" (Fuller 2001:387) certainly leans negatively. But the second B-slot is clearly conveying an attitude in all cases, not a physical location. The best term for a

[9] Analogic framing usually appears in the literature as *conceptual metaphor*. Since the phenomena are not, strictly speaking, metaphors, and since, in any case, all metaphors are conceptual (so the adjective is redundant), I try to avoid that term. See Mehlenbacher & Harris (2017:99-101).

[10] Correlational framing usually appears in the literature as *conceptual metonymy*; for similar reasons to those in note 8 I try to avoid that term.

collective attitude comes out of rhetoric, *ethos* (Halloran 1982, 1984); we could gloss Fuller pretty efficiently with *artistocratic ethos*, for instance, which in turn is effectively his definition for *Harvard ethos*; our other examples map easily into *country ethos*, *trailer-park ethos*, *slum ethos*, and so on. We can identify the correlational frame, then, as LOCATION FOR ETHOS.

Finally, the second B is (analogically) a container—that is, evokes the analogic frame, A PERSON IS A CONTAINER—from which the correlated ethos, now reified, cannot be (easily) removed. What absolutely drives the meaning of this construction is the collocation of antanametabole (the ABBA pattern), epanaphora (the fact that the AB and the BA are framed by the same verb, *take*), mesodiplosis (the fact that the A and B repeat in reverse order around the same constituent, *out of*), and parison (the fact that the A and B, by changing positions in the same syntactic frame also thereby change semantic and grammatical roles: A is first the object and theme, B the complement and source; then B is the object and theme, A the complement and source).

While CxG has not been used to represent rhetorical figures, it is, as Turner observed, highly suited to the purpose. Chiasmus, for instance, is a piece of cake to describe. It is just a matter of relative position, so it is a form schema, as expressed Figure 3. It is a subcase of the high-level form schemas, Rhetorical Figure (I will leave this notion unformalized, one of many). It **evokes** Repetition, giving us two pairs of units, four in total, designated as As (a1, a2) and Bs (b1, b2); the signans of one of the As, its form, precedes one of the forms of B ($a1_f < b2_f$), and then the form of the other B precedes the other form of the A ($b1_f < a1_f$). (Notice that it does not have to be *only* the signans that repeat in reverse order; rather, it is *at least* the signans).

Schema: Chiasmus
evokes Repetition as rep
subcase
Rhetorical Figure
constructional
rep.a1, rep.a2 : A
rep.b1, rep.b2 : B
constraints
$a1_f < b1_f < a2_f < b2_f$

Figure 3. The Chiasmus form schema.

Equally important to A OUT OF B is the figure, antanaclasis, in which a signans repeats, but with a different signatum, as in (44), in which the senses of the two instances of *institution* are quite different.

(44) Marriage is a wonderful institution, but who would want to live in an institution?
(traditional, often attributed to Groucho Marx or H.L. Mencken)

The Antanaclasis schema, which leverages polysemy or homonymy for rhetorical effect, is given in Figure 4. It **evokes** an extraordinarily common schema, Repetition, which just gives us multiple versions of the same linguistic unit. The only **constructional** requirement is that there must be two of the same constituent (a1, a2 : A); the **form** block requires that the repeating unit is a word; the **constraints** insist that the signantia are the same ($a1_f = a2_f$), but that the two signata must be different ($a1_m \neq a2_m$). Notice that there is nothing here about order, about the lexical category, the roles they play, and so on. Most rhetorical figures, I suspect, will have this kind of bare-bones specification. The function of antanaclasis is more perlocutionary than locutionary. It might be deployed for humour, as in (44), or for fallacious reasoning (i.e., equivocation), for poetic resonance, or for polysemous appeal (see Ceccarelli 1998). But in terms of the meaning that supports these effects, it clearly leverages the universal linguistic phenomenon of multiple signification, which I am treating in Figure 4 as a schema that specifies a strategic ambiguity generated by the co-presence of two instances (a1 and a2) of a polysemous word or of two homonymous words.

Schema Antanaclasis
  evokes Repetition as rep
  subcase
    Rhetorical Trope
  constructional
    rep.a1, rep.a2 : A
  form
    A : WORD
  constraints
    $a1_f = a2_f$
    $a1_m \neq a2_m$
  meaning
    evokes Multiple Signification **as** ms
    ms.a1 $\leftrightarrow$ $a1_m$
    ms.a2 $\leftrightarrow$ $a2_m$

Figure 4. The Antanaclasis form schema.

Antanaclasis and chiasmus colligate as the figure anatametabole, often deployed for comic effect. Occurring on the *Tonight Show* when Jay Leno was still the host, (45) is typical of antanametaboles.

(45) Women don't want dates on their condoms; they want condoms on their dates. (Jay Leno, qtd in Hauptman 2012 [1994]:45)

Women don't want expiry dates on condoms, Leno tells us, they want the guys who come to their door with boxes of chocolates (=*dates*) to wear condoms when the occasion arises; though, I'm willing to bet, they actually want both.

Returning more generally to chiastic structures, we know that—since almost any linguistic element can be realized in a chiastic reversal—chiasmus is not a construction, but a form type, which a range of constructions might evoke. A OUT OF B construction implicates a specific variety of chiasmus, perhaps the most common, certainly the most curated, in which words realize the relevant As and Bs. While most figures are polyfunctional, Fahnestock has shown that one of the chief functions of chiastic structure is to express reciprocality (1999:141-143). The reciprocality function of chiasmus is most apparent in an instance like (29), where humans and dogs are figured in a relationship of mutual, or reciprocal, communication. Communication flows from human to dog in (29), but also from dog to human. More specifically, it involves a reciprocal "flow of energy along an action chain" (Langacker 1999:293)—or rather, along two opposite action chains. The prototypical, if not archetypical, antimetabole in this regard is Isaac Newton's illustration of his third law of motion:

(46) If a horse draws a stone tied to a rope, the horse (if I may so say) will be equally drawn back towards the stone: for the distended rope, by the same endeavour to relax or unbend itself, will draw the horse as much towards the stone as it does the stone towards the horse. [Si equus lapidem funi allegatum trahit, retrahetur etiam & equus aequaliter in lapidem: nam funis utrinq; distentus eodem relaxandi se conatu urgebit Equum versus lapidem, ac lapidem versus equum]. (Newton 1803 [1687]: 1.15; 1687: 13) (Newton 1803 [1687]:1.15; 1687: 13)

The horse expends energy on the rope which conveys that energy to the stone which expends, in exact proportion, its energy on the rope which conveys it to the horse; the Latin gets the reciprocal flow with special precision: *Equum versus lapidem, ac lapidem versus equum.* All of our chiastic examples — (1), (2), (20) – (43), (46) — illustrate this reciprocal flow in various ways, though the 'energy' is not always as literal as it is for Newton. In (25), for instance, the notion of similarity defines Mary with respect to Bob and Bob with respect to Mary. Similarity 'flows' both ways, as does resemblance and positional-reference (26), and instance-construal in (27), and Taylor describes a feedback loop in (28). In (29), communication can flow between dogs and their people. The sequence of these clauses makes the flows seem temporal, first one way, then the other, but they are simultaneous. Examples like these evoke the image schema Mark Johnson (1987:85ff) calls *point balance* (Figure 5).

Figure 5. The Point-Balance Schema (adapted from Johnson 1987: 85-86).

Action chains also evoke the Source-Path-Goal schema (Langacker 1987:399, 2008:306); the energy originates somewhere (source) and goes along some route (path) to somewhere else (goal), though not all of these roles are always present. Newton is again our best touchstone. The

rope certainly seems like a conceptual route for the horse's energy to get to the stone, and the stone's energy to get to the horse, but Newton also configures the rope as a source and goal of energy in this passage; and, in fact provides no path at all, conceptually or syntactically. For reciprocality chiasmi, however, we need both source and goal, with the same entities serving both roles. Newton's horse is a source and a goal. Newton's stone is a source and a goal. The other examples work in the same basic way.

Also crucial in these energy flows are the terms that mediate the reciprocal A-B and B-A relations in many of these instances: *get* in (20), *played by* in (22), *having*/*has a just complaint against the* in (24), and so on—that is, by one of the rhetorical schemes that very frequently attends chiastic forms and is highly important for A OUT OF B, mesodiplosis (medial lexical repetition). While we have these examples on the table, perhaps this would be a good time to point out why the term *unit* is better for the elements and groupings relevant to rhetorical figures than *constituents*: because groupings like *has a just complaint against the* (24) and *you can/can't take* (36-38) are the relevant strings for the figures (respectively, mesodiplosis and epanaphora), but they are not constituents in the standard grammatical sense.

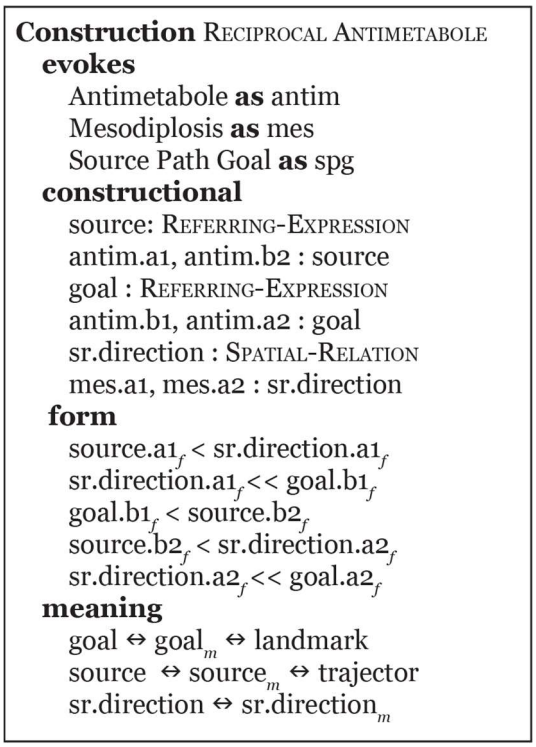

Figure 6. The RECIPROCAL ANTIMETABOLE Construction. For trajector-landmark (whose roles are inherited in ECG by way of SPATIAL RELATION), see Langacker (2008:70-73). For Source Path Goal, see Johnson (1987:113-14). For both in ECG, see Bergen & Chang (2005:151, Figure 3).

Figure 6 is a provisional representation of the RECIPROCAL ANTIMETABOLE construction. Its generality as a representation will need to be tested as more data comes in, but it effectively models our prototype for the phenomenon, but antimetabole in (46); namely, this sequence:

(47) ... the horse as much towards the stone as it does the stone towards the horse

Modelling all of (46) would be far more complicated, of course. We would need to include the Force-Application schema for instance, as *the horse* shows up initially as the agent that exerts the stone-drawing force, and then *the distended rope* is an agent, applying force to both the horse and the stone. But (46) incorporates many constructions, and we are only interested in one of them, the RECIPROCAL ANTIMETABOLE. What we see immediately is that it is a kind of compound of Antimetabole, its friend, Mesodiplosis, and the Source Path Goal schema; and that the chiastic structure ensures that the relevant semantic roles are realized by the same constituents, in reverse; that the A constituent is first an source (realized as a1), while B is the goal (b1), but then B becomes a source (b2), while A becomes the goal (a2); that these elements are in two spatial relations to each other; that both relations are the same, governed by the Mesodiplosis, but in different configurations, with each of them playing the part of trajector and landmark in turn; that, in concert, the meaning is a reciprocal, directional relationship—for instance, that a horse is drawn towards a stone exactly as that stone is drawn towards that horse.

The formalism is not universally familiar, I know, and even for ECG aficionados there are a number of innovations; and significantly implicated schemata (Antimetabole and Mesodiplosis) are only waved at here, left for another day. Nor will the representation accommodate all our instances without some calibrations here and there. But Figure 6 does substantial enough work to serve as a starting point. All the important action takes place in the **form** and **meaning** blocks. The form is inherited from the Antimetabole and Mesodiplosis schemata, mapped against the constituents in the **constructional** block, and the meaning emerges from the balancing of the source-to-landmark flows, A to B and B to A. Moreover, the missing schemata do not present much of a challenge. For Antimetabole, a subtype of Chiasmus (Figure 3), one need only stipulate constraints such that the A and B instantiations are words, and that their chiastic realizations are the *same* words (i.e., $a1_m = a2_m$ and $b1_m = b2_m$). Mesodiplosis, for its part, is just another positional lexical repetition.

The calibrations, too, are quite manageable. If we take (29), for instance, in which *you* and *your pet dog* are in a relationship of reciprocal communication, there is no trajector. Nor is there a lexicalized SPATIAL RELATION. Both REFERRING EXPRESSIONS are sources, and both are goals, inversely, but no direction is lexicalized and no thing that might be moving between source and goal. In this case, perhaps in many cases, the verb is doing all of that work, and we could identify a zero trajector in such constructions. *Communicate*, like *blame*, *hit*, *stroke*, perhaps like most transitive verbs, implicates an action chain of some kind, and the passage of something along that chain. With *communicate*, we can see this quite clearly in what Michael Reddy (1979) identified as the Conduit Frame (see also Lakoff & Johnson 1980: 10-11, et passim). Something similar may be going on with other sorts of relations. In (25), the notion of 'similarity' relates Bob to Mary, 'flowing' from Bob to Mary, but also relates Mary to Bob. Resemblance (26),

relative positionality (27), and instance-construal (28) have the precisely the same kind of reciprocal 'flow;' something is flowing. And John Taylor gives us a feedback loop in (28); that is, ongoing reciprocality.

A very common activity of RECIPROCAL-ANTIMETABOLES is actually to deny one of the flows, to present the AB and BA relation as alternatives, with the existence of one precluding the existence of the other. The example from Jerry Katz is a case in point (24). There is some flow of argumentation that moral or logical concerns block. There is some notion of a "just complaint" that can only flow one way. The taxonomic linguist does not have grounds to originate such complaints at level them at the mentalists. The mentalists, though, do have just grounds to launch complaints at the taxonomists.

In figurative-constructionist terms, what this means is that the most common additional figural layer with RECIPROCAL ANTIMETABOLES is the presence of the trope, antithesis, in which one flow is denied or forbidden in preference to another. The famous Kennedy-Sorensen aphorism, for instance, expresses a reciprocal obligation flowing from citizen to nation, nation to citizen, but by hortatively negating the A-to-B flow, it proscribes the A-to-B obligation, and prescribes the B-to-A obligation. The most basic A OUT OF B construction, exemplified in (2) and (36) – (38) follow this template—the flow out of B (the country, the trailer park, the woods, etc.) is fine; the flow out of A is precluded (the boy, the girl, the man, etc.)—and they do so by incorporating antithesis. But the data show variations. Instance (39), for example, expresses doubt about the B-out-of-A flow, but does not prohibit it altogether, and the EASIER-TO-TAKE sub-type exemplified in (40) – (43), relaxes the preclusion into some kind of hinderance by embedding the A OUT OF B construction into a COMPARATIVE construction.

We now have the machinery in place to represent our A OUT OF B construction to a satisfactory level of approximation (Figure 7). Once again, time and tide require me to leave several component figures and form schemata unspecified, and once again there is variation in the data, but whatever the specifics, we know that CxG has the expressive capabilities to handle these figures, on analogy from Figures 3 and 4. Further, we know that A OUT OF B *requires* all of these additional figures, as charted out in i – viii (and, in fact, that some instances utilize other figures as well, as illustrated by ix and x). Figure 7 tells us, thoroughly integrating the theory of rhetorical figures into CxG, that A OUT OF B is a construction in which two words repeat in reverse order but with different senses, to express the incorrigibility of beliefs associated with B for the entity associated with A.

Construction A Out Of B But Not B Out Of A
evokes Spatial Relation **as** sr
evokes Epanaphora **as** ep
evokes Antanametabole **as** antan
evokes Antithesis **as** antith
evokes Analogic Frame **as** ana
evokes Correlational Frame **as** cor
  constructional
    theme : Referring-Expression
    antan.a1, antan.b2 : theme
    source : Referring-Expression
    antan.b1, antan.a2 : source
    theme.case ← object
    source.case ← complement
    ep.unit ← *you can take*
    agent : Referring-Expression ← *you*
    agent.case ← subject
    modality : Verb ← *can*
    action : Verb ← *take*
    mes.unit ← *out of*
    sr.direction : Spatial Relation
    sr.direction ← *out of*
  form
    you can take A *out of* B but *you can't take* B *out of* A
  meaning
    constraints
      antan.a1$_m$ ↔ Human
      antan.b1$_m$ ↔ Physical location
      antan.b2$_m$ ↔ cor.target(ethos)
      antan.a2$_m$ ↔ ana.target(container)
    theme ↔ theme$_m$ ↔ spg.trajector
    source ↔ source$_m$ ↔ spg.landmark
    modality ↔ antith.positive.modality$_m$ ↔ possibility
    modality ↔ antith.negative.modality$_m$ ↔ impossibility
    means ↔ action$_m$

Figure 7. The A Out Of B But Not B Out Of A construction

5. Conclusion

> I meant what I said and I said what I meant
> —Dr. Seuss (1940:passim)

In this article, (*i*) I have argued that at least some rhetorical figures are constructions in the form/function "pairing" sense of CxG; (*ii*) I have advocated the importance of those rhetorical

figures for linguistics; (*iii*) I have charted out several figures in CxG terms, prominently featuring some chiastic figures; and (*iv*) I have illustrated these convergences with an analysis of the A OUT OF B, BUT NOT B OUT OF A construction, a construction that thoroughly amalgamates multiple rhetorical figures with established components of Cognitive Linguistics (trajector-landmark relations, image schemata, analogic frames, and correlational frames).

Continuing the rhetorical (re)turn of Cognitive Linguistics, these arguments (with Turner 1998 and Fahnestock 2005), advocate the revification of a pre-enlightenment view of language, which views grammar and rhetoric as mutually informing fields of study. The compatibility of the CxG and rhetorical schemes is particularly compelling. There are perhaps two defining points of separation between linguistics and rhetoric in the twentieth and twenty-first centuries: the methodological rigour of linguistics, in contrast to the opportunistic looseness of rhetoric; and the allegiance to a rich scholarly tradition by rhetoricians, in contrast to a perennial rejection of the past by linguists, especially of the immediate past. Bringing CxG and rhetoric together has the promise to replace looseness with rigour in the study of figures, and to replace wilful disregard of long-studied constructions with attention to a deep pool of linguistic data and relevant theory linking recurrent, cognitively resonant patterns of language use with specific functional alignments.

As encapsulated in the antanametabole "*[c]reando infunditur, infundendo creatur*" (Browne 1682:83), this approach says that creating grammatical constructions is a 'pouring in' of communicative functions into cognitive forms; pouring communicative functions into cognitive forms creates grammatical constructions. This crossroad is precisely the meeting point of rhetoric and linguistics. They each have much to pour into the other.

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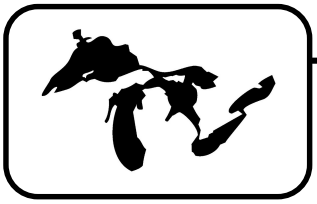

LACUS Forum **46:1.62-71 (2022)**

MOTHERING TONGUES: *DIETSCHE* MIGRANT MOTHERS' NARRATIVES OF LANGUAGE LEARNING AND LANGUAGE MAINTENANCE

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Abstract: This article examines the ways in which 1.5-generation[1] (Rumbaut 2002) immigrant mothers from a marginalized minority group, specifically Low German-speaking Mennonites who have migrated from Mexico to Canada, or *Dietsche*, construct their experiences of teaching and maintaining their home language (Low German) with their children. Using an interactional sociolinguistic approach, combining conversation analysis (Schegloff et al. 1977) and linguistic ethnography (Creese 2008), and starting from a perspective of identity being constructed in language (Bucholtz & Hall 2010), narratives emerging from focus group discussions and individual interviews were analyzed. A fine-grained analysis of co-constructed narratives (de Fina & Georgakopoulou 2012) demonstrates the tensions inherent in the gendered expectations about who will teach the children the language and culture (Okita 2002), the dominant discourses on English and minority languages, and the opportunities for agentive capacity (Miller 2012) in how participants construct their experiences of teaching Low German to their children.

Language: Low German, English
Keywords: multilingual families, mothers, language maintenance, narratives, agentive capacity, Low German, English

THIS ARTICLE EXAMINES THE WAYS in which a group of *Dietsche*[2] mothers who have migrated from Mexico to Canada linguistically construct and position themselves (Harré & van Langenhove 1991) as language and religious teachers, as well as cultural negotiators, navigating what is required to care for their children in the Canadian context, as well as their responsibility to raise their children in the language and ways of their people. By analyzing the narratives *Dietsche* mothers tell about teaching their children Low German, as well as the difficulties involved in maintaining a primarily oral language in an English-dominant context, this article sheds light on the connection between dominant language attitudes and perceptions and the

[1] 1.5-generation refers to individuals who migrated with their families when they were children or teenagers.
[2] Pronunciation: Dee-cha; Literal meaning: German.

contexts in which participants demonstrate agentive capacity (Miller 2012) in teaching and maintaining home languages.

1. RESEARCH CONTEXT. Low German-speaking Mennonites, or *Dietsche*, as they call themselves, are a minority cultural group in Canada. Originating in Europe, this group migrated from Russia to Canada in the 1870s due to religious persecution, establishing villages and colonies in Manitoba and Saskatchewan. Historically, they have been characterized by their separateness from "the world," due to their Anabaptist (specifically, Old Colony Mennonite) faith. In practice, this has meant using a language different from the majority (Low German, specifically), and educating their children in their own schools where they had control over language and curriculum.

After legislation in Manitoba and Saskatchewan affected their control over their parochial schools, a group of approximately 5000 *Dietsche* immigrated to Mexico in the early 1920s to establish colonies and villages (Krahn & Sawatsky 1990). By the 1950s, however, economic hardship in Mexico, combined with the Canadian citizenship that a majority of *Dietsche* held, brought them back to Canada. Originally, this was to work as seasonal workers, and then, many of them stayed in Canada to settle and raise families, integrating themselves (some to greater and some to lesser extents) into Canadian culture.

Mennonite Low German, or *Dietsch*, is the primarily oral language variety spoken by Mennonites throughout the Americas (Cox 2013). The language carries the migration history of the Mennonite people within it—a Germanic base with elements of Russian, English and Spanish. While it shares some similarities with the Low German spoken in parts of Europe today, it has developed into its own distinct variety. In Mexico, *Dietsche* people live close together geographically, in villages and colonies, with Low German being the primary language of communication, despite the surrounding Spanish and indigenous language context. Language functions as a central organizing principle in community life—it clearly delineates who is "in" and who is "out". In a traditionally patriarchal culture, *Dietsche* women in Mexico tend not to speak much Spanish, as the men tend to fulfill the role of brokers between the community and outsiders. In Canada, where English is predominant in areas where *Dietsche* settle, the community-oriented lifestyle necessarily shifts and changes, since *Dietsche* families often live in isolation from one another, and the gendered ways that their lives are organized also shift in important ways (Good Gingrich 2016). Similarly to other primarily oral languages in the Canadian context (cf. Duff & Becker-Zayas 2017), the *Dietsch* language is marginalized, even by other speakers of the language who do not share the migration history.

The *Dietsch* language is central not only to how the people communicate, but also to how they understand themselves. Every time they refer to themselves as "Dietsche" they are referring to the language they speak. As such, transmitting the language to children, so that they may fully participate in community life and especially church life, is seen as extremely important (ibid.). Like so often in migrant contexts (cf: Lanza 2007, Velásquez 2014), mothers bear much of the responsibility for the "invisible work" (Okita 2002) of teaching and maintaining home language and culture. A majority of the *Dietsche* women involved in this study (as in others, cf. Good Gingrich 2016, Sneath 2018) feel significant pressure to teach their children the languages they

need to participate fully in their community. Good Gingrich (2016) has written about the "reproductive work" of *Dietsche* mothers, noting that

> Many (im)migrant women demonstrated that their children and their role as mother were paramount for them. Preservation of religious tradition depends on women's work of reproduction—cultural, social, religious and ethnic. A Dietsche woman knows that her primary responsibility in life is to "raise her children right". Virtually every aspect of life (healthcare, housing, work, and language) relates to caring work, raising children in the ways of her people (p. 157).

The additional complication in the Canadian context, of course, is the shift in who manages the spaces and context where the *Dietsche* family and culture collides with mainstream Canadian culture. In Mexico, it is the responsibility of the men to navigate these spaces, as they are the ones who learn enough Spanish to manage banking and business relationships, while the women generally do not. In Canada, women are the ones navigating the in-between spaces, especially when they are also mothers. Many of their children attend public school, so there are (English-language) interactions with teachers, administrators and other parents, and in their caring work, they also engage in other public Canadian contexts, such as with health care professionals, workers from social support organizations, and even grocery store clerks. Many of the men work in contexts in which Low German is still the primary language—in agricultural work or woodworking, for example—which results in their English language proficiency tending to develop more slowly than that of their wives and children. The shift in roles upends the patriarchal power structures in a number of ways, since there is a significant shift in "social capital" (Bourdieu 1986) and the "agentive capacity" connected to it (Miller 2010).

2. THEORETICAL FRAMEWORK: IDENTITY, POSITIONING, AND AGENTIVE CAPACITY. For the purpose of this article, three significant and interconnected terms form the relevant theoretical underpinnings. First, *identity* is seen as constructed in and through language (Bucholtz & Hall 2010). As such, it emerges through linguistic choices and is constructed and reconstructed in interaction. Second, *positioning* is the process whereby individuals make different aspects of their identity relevant at different times through the linguistic choices they make (Harré & van Langenhove 1991). Every time we speak, we are positioning ourselves relative to other people, other ideas, and other contexts. We do this through a variety of conscious and unconscious language choices, for example, through the use of particular pronouns, references to place and time, laughter and silence, as well as code switching.

Third, according to Miller (2012), *agentive capacity* is defined as a "relational and mediated capacity to act" (p. 441). In the context of the considerations around positioning and social capital above, it is important to note the way in which aspects of social capital expand and constrain what kinds of positioning are possible in certain contexts. Giampapa (2004), in writing about the "centre and periphery" of not only the dominant culture, but of the migrant context, has demonstrated that migrants have a significant amount of "agentive capacity" in making different aspects of their identities relevant at different times and thus shifting their positioning from

periphery to centre, and vice versa. As particularly related to language and language transmission, Velásquez (2014) has drawn attention to the importance of the *perception of agency,* or what De Houwer (1999) calls "impact belief" to this context: "The parental belief that parents can exercise some sort of control over their children's linguistic functioning" (p. 83). A mother's perception of her own agency in teaching and maintaining her home language with her children, then, is seen as centrally connected to how she engages in language teaching.

3. METHODOLOGY. The data for this article are the result of eighteen months of ethnographic field work with a group of *Dietsche* mothers taking part in a Canadian Action Plan for Children (CAPC) program in the Waterloo Region in Ontario, Canada. These women were between the ages of 21-45, with children ranging in age from infant to seventeen years old. The majority immigrated to Canada from Mexico as children, and therefore they would be considered 1.5 generation (Rumbaut 2002). The participants ranged from continuing to be very involved in the Old Colony Mennonite Church to completely unaffiliated with it. The data for this particular article come from one of two semi-structured focus group discussions that I hosted with the women. The conversations were transcribed according to Jeffersonian transcription conventions (see Appendix for explanation of symbols) and they were analyzed for narrative examples related to language and language learning using an interactional sociolinguistic approach which combines conversation analysis (Schegloff et al. 1977) and linguistic ethnography (Creese 2008).

4. ANALYSIS. As previously indicated, *Dietsche* mothers take their role as linguistic and cultural teachers seriously. Teaching their children Low German allows the children to fully participate in their community, including church life, and connects the children to their extended family members still residing in Mexico. *Diestche* mothers feel an incredible amount of pressure to do this well. The attitudes towards the various languages that *Dietsche* come into contact with are multi-layered and complex, connecting to broader linguistic ideologies common to the migrant context—the inherent tension between wanting to foster both the home language and the dominant language with their children on the one hand, and on the other hand, the idea that monolingual language use is desirable, and multilingual language use (which is the reality for many migrant contexts) is not.

In the following excerpt, Katharina (Kath), Neta, Aggie and Justina, all active members of the Old Colony Church, discuss what their language maintenance practices look like in response to the question "What languages do you speak with your children?" In this excerpt, they name and discuss the mixed code "Germ(g)lish," which they use to describe the multilingual reality they experience in their homes when talking with each other and especially with their children.

4.1. EXCERPT 1: SUPPOSED TO SPEAK GERMAN.

```
001   Int:        ahm what uh languages do you speak with your children↑
002               (0.3)
003   Kath:       i do both english [and german
004   Aggie:                        [mix up
005   Int:        mixed up
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006   Greta:      germglish
007   Aggie:      ((smile voice)) germli[sh hh yeah
008   All:                              [hahahahahaha
009   Neta:                             [((smile voice))ja germlish
010               haha
011   All:        hahahahaha
012   Neta:       we supposed to speak german at home but it's more
013               eng(h)lish than german
014   Aggie:      it's rea:lly hard for the kids to speak german
015               °right°
016   Neta:       ya
017   Int:        okay you said (.) you said they're supposed to speak german
018               at home=why are they supposed to speak german at home↑
019   Neta:       because their ah grandparents speak german and they wanted
020               to talk to the kids
021   Int:        yeah
022   Justina:    and nowhere else would the kids learn low german except
023               home from the mother and father (.) if they were allowed
024               all the time english they wouldn't know low german and then
025               the grandparents could never speak to their grandchildren
026               (.)
```

In this excerpt, Kath (in line 003), Aggie (in line 004) and Neta (in line 012-013) all position themselves as flexible multilingual speakers, who "mix up" the languages that they use. "Mix up" in this excerpt does not seem to indicate confusion on the part of the women themselves, but (especially with the verb "do" in line 003) seems to indicate an active communicative and teaching process.

This excerpt also draws attention to the importance of place in language choice and language practice. Both Neta and Justina construct home as being multilingual, a place where Low German "should be" spoken, but where either mixed code or English dominates (line 012-013: we supposed to speak german at home but it's more english than german). Neta uses the pronoun "we" in her statement— "we supposed to," and it seems that this "we" is connected to the shared experience of home being this kind of multilingual space that is also indexed by the group laughter in lines 008 and 011.

The focus on Low German[3] in the home space here (line 022: and nowhere else would the kids learn low german except home) underlines a significant shift in the *Dietsch* linguascape that occurs in the migration context. In Mexico, Low German is the language of everyday life in the colonies, and children 'just learn it.' People speak it inside and outside of homes and build relationships in this language. Additionally, in Mexico, they interact predominantly with other *Dietsche* on a day-to-day basis because they live close together. In Canada, and in the rural area of Ontario where my study participants live, English is the dominant language and *Dietsche* do not always live in close proximity with other *Dietsche*. As a result, Low German is constructed here as limited to a household environment. The other location where children might encounter

[3] In a majority of my data, "Low German" is referred to as "German" by participants when they refer to the language in English. High German is a distinct language also used, but not generally spoken in the *Dietsch* context.

Low German is at church, but home is constructed in this excerpt as the primary place where Low German language learning can occur.

As previously discussed, regarding the role of mothers in teaching their children Low German, both Neta and Justina position themselves as responsible for the language instruction of their children, but do construct this responsibility as shared between mother and father (line 012: we supposed to speak german and line 023: from the mother and the father). Furthermore, they construct Low German as not only a useful language, but a heritage language that connects generations to one another (lines 019-020; 024-025). At the same time, in line 014, Aggie offers an explanation for why there is more English spoken at home than Low German—because "it's really hard for the kids to speak german." She adds a tag question, however, indicating a potential hesitation to admit the difficulty, given the responsibility the women feel they have as mothers to teach their children Low German.

In this excerpt, as well as seen throughout my data, Low German is positioned as central, to use Giampapa's (2004) concept, and that of course has problematic implications for the children having relatively limited exposure and opportunity to actively learn Low German (line 022: nowhere else). Specifically, if children do not learn Low German, they will remain at the periphery, separated from their family. The women in my study were acutely aware of this tension, frequently talking about how difficult it is to raise children who are fluent in Low German. This is a common challenge in immigrant contexts, but the challenge is compounded when a language is primarily oral, and there are few opportunities to engage with texts in the target language. However, an examination of one of the narratives that a group of participants told about how they talk to their children about language and how they engage with language, demonstrates both a significant agentive capacity and creative language use.

Dietsche children are exposed to multiple languages and, according to their mothers' stories, display a sophisticated understanding of how different behaviours and cultural norms associated with languages impact their use. In the following excerpt, Neta and Eva, who are sisters and both still active in the Old Colony Church, discuss different questions they have received from their children about languages and their use. Rita, the other speaker in the excerpt, is a group volunteer and former elementary school teacher with experience working with *Dietsche* school children in the public-school system. This discussion occurs during the first focus group discussion, as part of a lengthy discussion in response to the question about what languages the women speak with their children.

4.2. EXCERPT 2: LAUGH IN GERMAN.

```
001   Neta:       that's what my daughter annie when she was::: grade one
002               probably i i told her that ahm why don't you speak german
003               you forget all your german words you should speak it right
004               she said mo:m what should i do when i speak german do i
005               have to look up↑ hahaha
006   All:        hahaha
[…]
014   Rita:       they don't know what [they're talk
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015   Neta:                          [they don't know the difference in
016               english and german
017   Eva:        and then they ask do we have to laugh in german too ((smile
018               voice)) then he [he
019   All:                         [hehehe hahaha
020   Neta:       that's what peter asked once can you laugh in ((smile
021               voice)) spanish haha
022   All:        hehehe haha ha
```

Neta's "small story" (Georgakopoulou 2007) about her daughter Annie positions Neta herself as an active language teacher, advising her daughter to speak German so as not to "forget all your german words" (line 003). It is unclear exactly where this specific behavioural association Annie describes "do i have to look up" (lines 004-005) might be coming from, since Annie would be regularly seeing her parents and extended family speaking Low German together, as well as hearing it in church on Sundays, but what is clear is that Annie already as a young child (in line 001: grade one) is positioned as understanding that languages have different kinds of behaviour associated with them.

Because Annie comes to consult Neta about appropriate language behaviours, Neta positions herself as an expert, someone who knows what behaviours are associated with and appropriate for the different languages that the children come into contact with, and as such, she is someone with perceived agentive capacity to impact her children's language learning. The group laughter (in lines 006, 019, 022), which functions as a commentary on the children's questions, positions the other participants as also being able to evaluate language-associated practices, in addition to constructing the experience of having conversations about language as being shared.

The named behaviours—looking up (line 004-005) and laughing (lines 017-018; 020-021)—and the modal verbs that are used in conjunction with the named behaviours further serve to illustrate associations and position the languages in relation to one another. The construction Neta uses in lines 004-005 is "do I have to," which is repeated by Eva in lines 017-018. A "do I have to" construction indexes obligation, that the speaker is certain that the referenced behaviours are required for full participation in German or *Dietsch*. In lines 020-021, the modal changes to "can I," which changes the association to possibility, rather than requirement. Spanish is the language that Neta's children have the least contact with, having grown up in Canada, so it seems the children extrapolate from their idea that certain behaviours are required for language use, and ask whether a particular behaviour is possible in Spanish.

Although in lines 015-016, Neta positions the children as not knowing the difference between English and German, the small stories about the questions Annie and Peter ask about the languages positioning the children as critical language users, who ask about appropriate behaviours connected to the languages with which they come into contact. The group laughter, then, in addition to constructing the experience as shared, can also be understood as a comment on the tension inherent in teaching children a heritage language—feeling pressure to have children fluent in the home language and the difficulty in achieving that—particularly when the language is primarily oral, making the associated behaviours that much more important. Part of

raising children to be *Dietsch,* then, includes raising them to be flexible and creative language users, who understand how to ask questions about language and use it in different contexts.

5. CONCLUSIONS. The lived reality of *Dietsche* families is multilingual and multifaceted. Fluency in Low German is of central importance to how they understand themselves and how they participate in their community. As such, the mothers involved in this study saw it as a key responsibility that they actively teach their children Low German, so that these children can be connected to their families, their heritage, and their community. They position themselves as having agentive capacity (including perceived agentive capacity) to have a variety of conversations with their children about language, such as discussing appropriate behaviours associated with languages, to enforce practices that facilitate their children's language acquisition, such as language mixing and prohibiting the children from speaking only English at home. In their narratives, these mothers position not only themselves as flexible and creative multilingual speakers, but they also position their children this way.

At the same time, these women highlighted the tensions they experience when language ideologies that dominate in mainstream Canadian culture and their *Dietsche* community conflict with one another. Specifically, they wrestle with the challenge of dominant monolingual ideologies while recognizing their homes are multilingual spaces, and the pressure that exists for them to raise their children in the ways of their people. This includes, of course, equipping their children to participate fully in their extended families and broader communities, in Low German, something that is at odds with the English-dominant context in which they find themselves.

These mothers demonstrate agentive capacity in the ways in which they engage with languages. The effort of continuing to actively teach their children a predominantly oral (and marginalized) language in the face of English is in itself an agentive act. And the specific ways they do this—through multilingual conversations with their children and with each other, through laughter and shared narratives—expand what positions are possible for them, as language teachers and as mothers.

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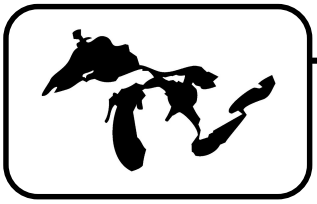
APPENDIX: TRANSCRIPTION CONVENTIONS

The descriptions of transcription conventions have been adapted from the University of Leicester's website: http://www2.le.ac.uk/departments/psychology/research/child-mental-health/cara-1/faqs/jefferson

(.)	A full stop inside brackets denotes a micro pause, a notable pause but of no significant length.
(0.2)	A number inside brackets denotes a timed pause. This is a pause long enough to time and subsequently show in transcription.
[	Square brackets denote a point where overlapping speech occurs.
> <	Arrows surrounding talk like these show that the pace of the speech has quickened
< >	Arrows in this direction show that the pace of the speech has slowed down
( )	Where there is space between brackets denotes that the words spoken here were too unclear to transcribe
(( ))	Where double brackets appear with a description inserted denotes some contextual information where no symbol of representation was available.
Under	When a word or part of a word is underlines it denotes a raise in volume or emphasis
↑	When an upward arrow appears it means there is a rise in intonation
↓	When a downward arrow appears it means there is a drop in intonation
→	An arrow like this denotes a particular sentence of interest to the analyst
CAPITALS	Where capital letters appear it denotes that something was said loudly or even shouted
Hum(h)our	When a bracketed 'h' appears it means that there was laughter within the talk
=	The equal sign represents latched speech, a continuation of talk
::	Colons appear to represent elongated speech, a stretched sound
°	The degree sign denotes the speech in between is spoken more softly than surrounding speech

Adaptation

[[trans.]] indicates English translation of Low German or High German words



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UNIVERSALITY AND DIVERSITY IN WRITING SYSTEMS

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Abstract: Grapholinguistics is an underdeveloped and underrepresented subbranch of linguistics. While numerous writing systems have been described and various aspects of writing have been studied, comparisons have seldom been undertaken. This results in a lack of a shared understanding of grapholinguistic concepts or terminology and the nonexistence of a 'theory of writing' in which fundamental theoretical questions are dealt with, e.g. *Why are writing systems the way they are?* One reason for this is the *particularist* claim that writing systems are too diverse to be compared. By contrast, the opposite, *universalist* position is rarely adhered to with respect to writing. The present contribution presents a multimodular model of writing systems (based on Neef 2015) and discusses both universal and diverse features of writing systems. In conclusion, it is argued that universality in writing systems is based on cognitive constraints, while diversity stems mostly from cultural influence. The central claim is that comparative research is valuable in building a theoretical basis for grapholinguistics that will help systematize future research in the field.

Keywords: Grapholinguistics, writing systems, graphematics, graphetics, universals of writing systems, typology of writing systems, comparative graphematics, grapheme, orthography
Languages: German, Chinese, Thai, Japanese, Cherokee

TO THIS DAY, THE STUDY OF WRITING SYSTEMS – which, following Neef (2015), I call *grapholinguistics* – remains a heavily understudied branch within and beyond linguistics. Not only does it lack the abundance of research conducted in other areas, but there is also little agreement over even the most fundamental matters. Central questions such as *What is a grapheme?,* although they are debated time and again, have not been settled conclusively. This, of course, is not a situation uncommon to other subdisciplines of linguistics. Yet, it seems that in grapholinguistics, even the very basis is not fleshed out. Whereas many – though certainly not all – linguists agree on certain definitions of 'phoneme', it is hard to find any two scholars of writing who adhere to the same concept of 'grapheme'. A fixed and shared grapholinguistic

[1]At the time of presentation, the author was affiliated with the University of Graz, Austria.

terminology remains a desideratum, and in this case, without the terminology, there seems to be little theoretical agreement.

I argue that one of the reasons grapholinguistics is so underdeveloped is the tension between two implicitly underlying views: While a (fleeting) number of scholars find comparisons between different writing systems feasible, and hold that there are commonalities and – possibly – universal traits, others claim the sheer diversity of writing systems makes comparisons – while not impossible – futile affairs. Common features, they claim, could only be identified at highly abstract levels, rendering them too general and thus redundant for a 'theory of writing (systems)'. How could, for instance, writing systems as dissimilar as Chinese, German, Thai, and Arabic be compared? And what value would such a comparison even have? I call the first of these views, following Haspelmath (2010), *universalism*, while the second view is labelled *particularism*. Before attempting to provide preliminary answers to the particularist questions listed above, I want to highlight two fundamental facts: firstly, the diversity of languages has in no way stopped linguists from comparing them to arrive at abstractions, categories, explanations, etc., i.e., to arrive at a variety of theory of language. Secondly, there is no such thing as a 'theory of writing' yet, precisely because of the relative paucity of comparisons and abstractions pertaining specifically to writing systems. Consequently, we could only possibly know what the value of comparisons is if we actually carried them out and judged them by their results.

I want to stress that no one is denying that remarkable work has been done that falls under the heading of grapholinguistics. There exist excellent descriptions of writing systems in which not only the linguistics of writing, but also numerous other aspects have been treated, including the psycholinguistics of reading and writing, the history of writing, and sociolinguistic aspects of writing. However, regarding the potential 'theory of writing' alluded to above, this research has a number of serious limitations. Primarily, it focusses predominantly on a very limited number of writing systems. Above all, these are writing systems using the Roman script, e.g., English, German, French. Regarding this practice, scholars often speak of ethnocentrism (cf. Yan 2002) or, more specifically, alphabetocentrism (cf. Share 2008). The last term could be specified even further by acknowledging that not all *alphabets* are studied thoroughly, but only the ones that, as stated above, utilize the Roman script.[2] At this point in time, however, this criticism of ignoring non-alphabetic writing systems has to be rejected at least partially, as there is a large and growing body of research on Asian writing systems – predominantly Chinese and Japanese, but also Korean. While on that account it might appear as if the grapholinguistic community had a relatively broad horizon, writing systems that are truly well-studied are indeed astonishingly few compared to the number of languages that have been described in linguistics. To make matters worse, it often seems as though the valuable results that individual works on these select writing systems arrive at are rarely – if ever – integrated into a bigger picture. Thus, categories are frequently only applicable to a single system, e.g., the definition(s) of 'grapheme' that German grapholinguists has developed (cf. Kohrt 1986, Berg et al. 2016). It is in this vein that W. C. Watt, a fervent observer and scholar of the study of writing himself who has published several

[2] For comparison, the Georgian or Armenian writing systems – alphabets using the Georgian and Armenian scripts, respectively – are not studied nearly as intensively as alphabets using the Roman script.

elaborate reviews of prominent works in the field, criticized the lack of theory, yearning for 'more':

> 'More' would constitute, or at least contribute to, a semiotic theory of writing systems: a theory that would *explain*, to put it pithily, why each such writing system is the way it is, instead of some other way, and why all such systems have in common what they have in common. […] Such a theory might continue by examining the cognitive factors that determine the forms of writing systems. (Watt 1998: 118, emphasis added)

I agree with Watt in that 'more' is indeed something we should strive for in grapholinguistics. The relevant descriptive work that has been done so far should now be used to arrive at and inform *explanations*. Instead of 'only' detailing how writing systems are structured and how they developed, the focus should shift on *why* they are structured and developed this way. However, asserting that one could easily compare writing systems is also naïve and oversimplifying the matter, as the line between what is universal and what is diverse in writing systems is truly fine.

This present paper is merely a further step in the direction of a comparative grapholinguistics (for a proposal of a comparative graphematics, cf. Weingarten 2011). After outlining the theoretical bases of the structure of writing systems, it offers an overview of both the broad universal traits of writing systems that have been discussed in the literature as well as diverse features that cannot be overlooked or understated. In doing this, it is in no way exhaustive. As this contribution represents a critical think piece and not a matured and methodologically sound proposal for how to do things from now on, it will close with remarks on how universality and diversity may be explained in a future theory of writing as well as how they possibly interact.

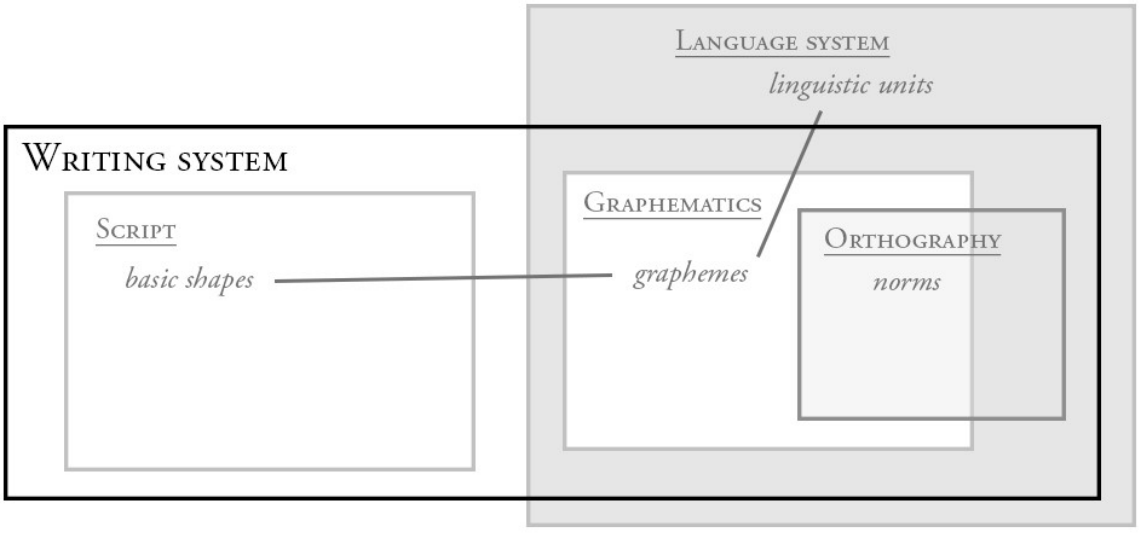

Figure 1. A multimodular model of writing systems (cf. Meletis 2018:61)

1. BASICS OF GRAPHOLINGUISTICS. My suggestion is a slightly modified version of the modular model of writing systems developed by Neef (2015). Figure 1 shows the different modules of a writing system and hints at how they interact: A **language system** represents the constitutive module. This corresponds with a narrow definition of *writing* that identifies only those forms of visual communication as writing in which visual units relate to linguistic units. In this view, visual units that correspond directly with referents of the real world are not regarded as writing (cf. Daniels 2017:83-84, Dürscheid 2016:100-101). While a language system – e.g. German or Chinese – offers linguistic units and information on various levels – phonemes, syllables, morphemes, etc., – a **script** offers the visual counterparts, the so-called basic shapes.

The basic shape is an abstract visual unit, a visual skeleton. Imagine stacking |a|-graphs[3] in different typefaces over one another in an image processing program and adjusting their opacity (cf. Frutiger 2004, Rezec 2009:64-67): this would reveal the smallest visual denominator of all of them, their skeleton, so to speak. As an abstract visual unit, the basic shape stores information on the number and the form (straight lines, curved lines, dots) of its segments as well as the relations between those segments, the most important of which is of spatial nature: topological configurations inform us about how segments are arranged in space in relation to one another, including different forms of connections between them (as visualized in |L|, |T|, |X| and |O|). It is crucial to keep in mind that scripts and their basic shapes are devoid of any linguistic information[4]; nothing about the basic shape |A| tells us that in many writing systems, it is in a graphematic relation with the phoneme /a/. In fact, in the Cherokee script, which borrowed some uppercase letters from the Roman script, this basic shape is graphematically related to the syllable /go/. The arbitrariness of scripts is the reason why they are positioned outside of the language system.[5] The module of scripts is studied by the grapholinguistic subdiscipline of *graphetics* (cf. Meletis 2015).

Linguistic units and basic shapes are related through the module of **graphematics**. The smallest of these graphematic relations are what I call *graphemes*. Graphemes, in my conception, can be seen as signs in the Peircean sense, the linguistic unit being the signatum and the basic shape being the signans (and the writer/reader being the interpretant). However, as the grapheme is an almost notoriously infamous term, there is not enough space here to discuss it in detail, which is instead done elsewhere (cf. Meletis 2019).

What greatly complicates the picture of a graphematic module is, among other aspects, the fact that due to conflicting tendencies, many writing systems are not completely biunique (cf. Dressler 2000). This means that a basic shape can sometimes lack transparency and signify more than one linguistic unit, as |v| does in the German writing system, being in graphematic relations

[3] Graphetic units such as graphs and basic shapes are enclosed in vertical strokes | | and graphematic units in angle brackets < >.

[4] There are authors who see this differently. In Primus's (2004) approach, for example, the visual features of the basic shapes in the Roman script correlate with phonological features.

[5] When a script is custom-tailored for a given language, which was the case for the first writing systems ever created – at the current time we hold those to be Chinese, Sumerian, and Mayan (cf. Daniels 2013, with other possible candidates, too) – the relationship between the visual and the linguistic proves more complex and not completely arbitrary. For example, iconicity (e.g., in the form of pictography) plays a relevant role in these systems.

with both /f/ and /v/ in different contexts (another example is the sequence |ough| in English). Vice versa, a linguistic unit can be signified by more than one basic shape (or a combination of basic shapes), exhibiting a lack of uniformity.

The imperfection of graphematic relations, namely the fact that there often exists more than one possible way of writing a given linguistic unit, is the next module's raison d'être. Even within the graphotactic limitations[6] of English, the word that is *correctly* spelled <city> could possibly also be written <*scity> or <*sity> because /s/ is not uniformly represented by one basic shape or combination of basic shapes (cf. Meletis 2018). The sum of possibilities licensed by a writing system is what Neef (2015) terms *graphematic solution space*. Why, then, is <*sity> – even though a reader of English can read it and possibly extract its intended meaning correctly, at least in context – marked with an asterisk and deemed 'incorrect'? Indeed, it is a graphematically licensed form. Its incorrectness is not descriptive, but prescriptive: it stems from the orthographic module.

The module of **orthography**[7] is optional. Historically, writing systems and communities of writers and readers could do without it, and historical records boast different spellings for one and the same word, sometimes even in consecutive lines (cf. Voeste 2008 for German). Different developments led to the growing need for standardization, even though it must be noted that some writing systems still do without the normative constraints of an orthographic module. The reason orthography serves as an example for the diversity of writing systems is that different orthographies display different focusses, conventions, and rules. Whereas in German orthography, for example, capitalization is a central topic, it does not exist in Arabic, Chinese, or Thai, as well as the majority of non-alphabetic (as well as some alphabetic, cf. Georgian) writing systems. The fact that the module of orthography is not completely positioned inside of the graphematic module in Figure 1 implies that some forms are orthographically 'correct' even though they are not graphematically licensed.

A model such as the one outlined above represents a gross abstraction. It is descriptive and not explanatory. If this model fits all writing systems, it is because it is highly general. This points exactly back to my initial question: Is there a degree of abstraction that allows comparison but leaves enough room for the diverse traits of writing systems? It all hinges on categories (or concepts, cf. Haspelmath 2010). There are, for example, phonemes and morphemes in every language, and their mere existence opens them up to comparison. However, it is we as linguists who analyzed and labelled them as 'phonemes' and 'morphemes,' which made possible the

[6] The graphotactics of a writing system tell us about "regularities, that is, statistical patterns concerning the arrangement of letters in words" (Sobaco et al. 2015:593-594), and of course this does not only concern letters, but basic units of types of writing systems other than alphabets as well. However, graphotactics are not primarily statistical. They reveal what combinations and sequences are allowed – that is, graphematically licensed – at all. If a licensed sequence occurs only once in the writing system, for example, it is not statistically significant but still part of the writing system's graphotactics.

[7] I do not treat *writing system* and *orthography* as synonyms, which is done often and obscures a crucial distinction. A *writing system* is the realization of a language in the visuo-graphic modality of writing. As such, it subsumes both the actual usage of writing (including variation, errors, etc.) as well as its standardization (its *orthography*).

unified description of languages as well as their comparison. Can the same not be accomplished for grapholinguistic categories?

2. UNIVERSALITY. One 'feature' that has sometimes been assumed as a universal of writing is that all writing refers to language. This, however, is a fairly circular argument and, in fact, merely a matter of definition. As mentioned before, the narrow and predominant definition of *writing* interprets it as visual notation that refers exclusively to language. Cave paintings, for example, are not writing. They have meaning and can be interpreted, but they cannot be decoded the same way writing can; they cannot be read, because no linguistic units are directly associated with them. This type of visual notation is sometimes called *semasiography* to distinguish it from *glottography* or writing (cf. Gelb 1969:13, Schmitt 1980:7-11). With this matter settled, however, the really interesting and important question is *how* and *which* linguistic units relate to visual units and what the nature of these relations is.

A claim by DeFrancis (1989) is that all writing is phonetic, or, to use a broader and less problematic[8] term, phonographic. Almost every typology of writing systems postulates a crucial distinction between phonography and morphography. The majority of graphemes – and, thus, the 'unmarked' grapheme – in a phonographic writing system relates basic shapes (letters, aksharas, etc.[9]) to a phonological unit – a phoneme, a syllable, etc., whereas the unmarked grapheme in a morphographic writing system relates basic shapes (characters) to morphemes. What, then, does "[n]o phonetics, no writing" (DeFrancis 1989:56) mean? The morphographic Chinese writing system offers clues of phonographic nature in the form of components within characters that hint at the pronunciation of the morpheme which, as a whole, is signified by the character. Due to the doubly articulated nature of language, morphemes also always have phonological representations. I do not completely discard the idea that there might be morphemes that only have a written, but no phonological representation[10], but *if* they exist, they are certainly not common in modern writing systems. For Chinese, the fact that the primarily morphographic morphemes can be 'pronounced', too, becomes evident when foreign names are integrated into the writing system. A Chinese teacher told me my nickname in Chinese is written <帝米>, literally translated as 'king rice': the first character signifies the morpheme *king* with the (Mandarin) phonological representation /dì/, the second character, the morpheme *rice*, pronounced /mǐ/. I am no rice king, and these graphemes are (mostly) emptied of their

[8] The use of the term 'phonetic' insinuates that writing systems give information about the lowest, etic level of spoken language, when in fact they often omit specific phonetic information and refer to phonological representations instead.

[9] I take the terms *character*, *letter*, etc., to be graphetic terms. Thus, they signify types of basic shapes – units of scripts. *Letter* thus equals 'basic shape of the Roman alphabet' (or other alphabets – which, admittedly, brings the functional level into the picture again) rather than 'grapheme of a given writing system'.

[10] One might think of determinatives or semagrams in Egyptian hieroglyphs in this context; they are mute and serve the purpose of disambiguating homophonous glyphs (cf. Loprieno 1995:13) – but do they refer to morphemes without a phonological representation?

morphological information[11], used only for their phonological content. There might be some exceptions (cf. the morphographic kanji in Japanese, which do not offer clues about their pronunciation), but writing appears to tend to phonography, indeed – including morphographic writing systems.

One common feature of linguistic units that writing relates to and Sampson (2015:32) observes is that they are all more or less members of closed classes. There is a limited number of phonemes in a language, and phonotactics regulate that there is a limited number of both moras and syllables. In phonographic writing systems, the number of graphemes is often roughly similar to the number of phonemes, moras, or syllables.[12] The sizes of phonographic grapheme inventories are, thus, quite manageable. What about morphemes and morphographic systems? Though the morphological level of language is certainly not completely closed, it is also not a level where new units are being added frequently. Whereas new words are created through word formation rather often and new sentences are being uttered by everyone of us every day, new morphemes are rarely added to a language system – loan morphemes (or words) being an exception. This means that in morphographic writing systems, even though there can be a very large number of graphemes (not all of which are commonly used), new graphemes also rarely enter the system.

A last observation that I want to present here was made by Peter T. Daniels and concerns the linguistic unit most salient for writing. He describes that both "[a]ll new writing systems […] invented by nonliterates who know that writing exists" (Daniels 2017:84) as well as the three independently created writing systems (Sumerian, Mayan, and Chinese) are or were syllabaries. He speaks of a syllabic origin of writing (Daniels 1992) and the primacy of the syllable (Daniels 2017:83) – this, for him, is evidence for the unity of writing systems. Is there actually a universal tendency towards the syllable? Syllables are indeed relevant in many other, non-morphographic and non-syllabic writing systems, as well. For example, for German and English, a graphematic syllable has been described (cf. Fuhrhop et al. 2011). Properties of syllables also play a crucial role in Thai and actually play an important role in determining the spelling. The reason for the syllable's special role in writing definitely poses a central question for future comparative research.

3. DIVERSITY. Let us start with the module of scripts which is often termed non-linguistic, and as such, quickly discarded in grapholinguistic research. It suffices to take a look – quite literally – at all the different scripts that are being used for the writing systems of the world to see the sheer diversity. The fact that the Roman script is used for so many of them should not distract from the richness of other scripts that are not utilized for as many systems. As such, there is a multitude of different basic shapes that are visually distinctive. As established before, basic shapes are devoid

[11] Even though for most syllables in Chinese, there are many homophonous (but visually and morphographically distinct) graphemes available that could be used, transliteration is not done randomly. The semantics of the graphemes play a role, and negative connotations, for example, are avoided. Semantic aspects, thus, sometimes outweigh phonetic similarity in transcribing foreign names and words (cf. Hsieh 2015).

[12] Various factors such as historical developments can lead to non-biuniqueness, of course, as is evident in the Thai writing system, where there are 44 consonant graphemes for 21 consonant phonemes.

of linguistic information. So, if we know what |d| refers to in the Roman script, it does not mean that this function is intrinsic to the basic shape, for if we do not read Thai, we will not recognize what the basic shapes |ค| or |จ| signify in the Thai writing system. What we do *see*, however, is that they – at a merely visual level – differ.

The number of basic shapes differs from script to script. Although it often does not neatly correspond to the number of graphemes in a writing system, given different degrees of biuniqueness of the graphematic module, the size of the two inventories is often very similar. In Chinese, for example, even though there are variant characters (called *yìtǐzì* 異體字) that signify the same morpheme (for example <峰> and <峯>, both referring to the morpheme *fēng* 'mountain top', cf. Galambos 2015), most characters are in graphematic relationships with distinct morphemes, meaning that the number of characters is very large, with counts ranging as high as from 85,000 to over 100,000 characters (although these numbers are to be taken with a grain of salt, as they include, for example, erroneous characters and characters attested only once, cf. Anderson 2015). A lot of different factors influence the makeup of a script and its units. For example, the need for so many characters in Chinese leads to the fact that the visual (or graphetic) differences between the characters can be minimal. Thus, the size of an inventory can influence both the individual visual complexity of the units and the visual distinctiveness of the units in relation to one another. However, a small inventory does not necessarily translate to maximal distinctiveness and low visual complexity, cf., |F| and |E| in the Roman script, differing only by one stroke, or |b| and |d|, differing only in orientation. Like writing systems and languages, scripts can be related, too. If they have an historical ancestor like the Brahmi-derived scripts do, visual similarities are common, and it is no coincidence that Korean Hangul and the Japanese kana inventories resemble Chinese characters, as the influence of the Chinese writing system was not only linguistic, but – in this case even predominantly – visual.

Even though many scripts are related, the visual richness and distinctiveness of them is undeniable. One reason that a *unified theory of writing systems* does not appear feasible is the fact that unlike our articulators of speech (our mouths, lips, tongue, teeth, lungs, etc.), our articulators of writing (our hands) are not subject to similar restrictions (cf. Günther 1993:33). Thus, the number of possible basic shapes we can produce is theoretically infinite. Watt (1999) weakens this claim by stating that there are restraints, after all, imposed upon us by our eyes and brains, our hands, and the physical properties of the writing materials available.[13] The fact that there are physical as well as cognitive constraints that influence the makeup of basic shapes produced by humans is also implied by the results of large comparative studies that have shown that there is an average number of strokes that basic shapes consist of and that there are preferred topological configurations of their constituents that resemble scenes in nature (cf. Changizi & Shimojo 2005, Changizi et al. 2006)[14]. The latter observation matches the *neuronal recycling hypothesis* that, in the context of writing, claims that brain regions that were originally dedicated

[13] This also marks a difference between writing and speech. For speech, we do not need any additional instruments or tools, whereas for writing, we always need a surface (unless we are writing in the air) and we usually need a writing tool (unless we are writing with our bare fingers in the sand, for example).

[14] Note the flaws of these studies pointed out by Daniels (2018:152).

to other functions were recycled for reading and writing processes (cf. Dehaene & Cohen 2007:386). There is some cognitive unity in visual diversity, it seems.

Diversity, of course, is not limited to scripts. It is diversity at the graphematic level that leads some in the field to conclude that comparisons of writing systems are not valuable, with some even arguing that they are downright impossible. The graphematic solution space and the various possibilities it stores of writing a single linguistic element even within a single writing system reflect that graphematic relations are complex. If we now go beyond a single system in order to compare, it is first necessary to identify the categories with which to work. This is exactly where the notion of a basic unit of writing comes in, one that has often been called *grapheme* (cf. Meletis 2019). If we leave this 'problematic' term aside and vaguely speak of a *basic unit*, then for most writing systems this unit predominantly relates to one type of linguistic unit. This fact is what makes it possible for us to group together the systems whose basic units refer to the same linguistic units and pronounce them a type. In alphabets, for example, basic units relate to phonemes, while in syllabaries, they relate to syllables. The problem that many seem to see here is that because the phoneme and the syllable are not directly comparable, the written units that relate to them should also not be comparable. This is faulty reasoning, I argue, because when we study writing, it is primarily the written units that interest us. What unites different basic units of different types of writing systems such as alphabets, abugidas, morphographic writing systems, etc., is precisely the fact that they are *basic* units, here preliminarily defined as units that cannot be broken down into smaller meaningful – or meaning-distinguishing – units. If the different linguistic levels that units of writing relate to were to keep us from comparing them, then they should also keep us from analyzing single systems, as well, for no writing system is an absolutely *pure* system, meaning every writing system incorporates features of other types, too (cf. Günther 1988:43). In German, for example, the phonological principle is predominant, but there are also other principles such as the morphological principle[15] at work. In Japanese, type-mixing is even constitutive, with one part of the writing system being syllabic (or moraic) and the other morphographic. Is the Japanese writing system in itself too diverse to allow a description?

As Weingarten (2011:12) points out in his plea for a *comparative graphematics*, the most prominent typologies of writing systems are not sufficiently fine-grained. We know, for example, how alphabets work, but just because two given writing systems – take Spanish and French – are alphabets (and additionally use the same script, albeit with small modifications), this does not mean that graphematically, they are the same. As grapholinguists, it is our duty to describe and explain what all writing has in common, but also to find out in what respects even closely related systems differ.

4. CONCLUSION: DIVERSITY IN UNIVERSALITY – THE COGNITIVE AND THE CULTURAL. Writing is the recording of language with visual means. As combinatory systems, writing systems are made

[15] According to the graphematic relationships of German, the noun <Kälte> *the cold* would regularly be spelled <*Kelte>. However, to show the morphological relation to the adjective <kalt> *cold* and to distinguish it from the (in most varieties) homophonous <Kelte> *Celt*, it is written with <ä>. The morphological principle prevails in this case.

up of basic units that combine to form larger units. These basic units can either relate directly to speech or to the morphological level of language and, thus, only secondarily to speech. The membership of a system to a given type is not clear-cut since systems are impure: phonographic systems exhibit morphographic features and vice versa. Observations such as significant visual similarities across a large sample of scripts, but also the fact that basic units of writing refer to linguistic units of closed classes, as well as the special role of the syllable in writing, all imply that writing systems are not randomly designed. Human nature – our brains, eyes, hands – imposes constraints on the makeup of writing systems, which is why at the lowest level, all writing systems must share features that aid cognition, perception and production, as well as communication (cf. Meletis 2018). But because writing records language, linguistic diversity is also reflected in it, resulting in a variety of different types of writing systems. Visual diversity is, at least partially, caused by the fact that the people who originally devised scripts had different materials and surfaces at their disposal. Orthographic diversity stems from the fact that different systems allow for different kinds of variation that calls for specific regulation and standardization. Also, orthography is a matter of linguistic policy and thus depends crucially and individually on which institutions or authorities are in charge.

In conclusion, after emphasizing again that this contribution full of fragments and open ends is only a tiny step towards an elaborated, comparative grapholinguistics, it can be preliminarily posited that at the core of all writing systems, there is a certain degree of universality. It is on top of this universal basis that diversity – a both linguistic and sociocultural phenomenon – can operate.

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CONTENTS

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GENDER INCLUSIVITY IN THE LINGUISTIC LANDSCAPE OF QUÉBEC'S UNIVERSITÉ LAVAL: AN ANALYSIS OF LINGUISTIC REPRESENTATIONS OF GENDER

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Abstract: The purpose of this study is to explore French gender-inclusive language practices by investigating linguistic representations of gender in signage encountered on the campus of Université Laval in Québec. Following the methodology of Linguistic Landscape to construct a dataset of relevant tokens recovered from signage photographed in shared public spaces (n=155), I examined the occurrence of gender-inclusive forms across official (top-down) and non-official (bottom-up) signage, shown to be influenced by the identifiability of a referent's gender and its grammatical number (singular or plural). The findings suggest that gender inclusivity is a well-established linguistic practice, yielding a high rate of inclusivity (81%) in official signage, which is aligned with official guidelines of the Office québécois de la langue française, with the non-official signagefollowing closely behind (62%). The approach developed in this work can be extended to the study of gender-inclusive language practices in the contexts of other languages.

Keywords: feminization, gender-inclusive language, Linguistic Landscape, Quebec French
Languages: French

THE WELL-KNOWN ISSUE OF LINGUISTIC VISIBILITY OF WOMEN in the French-speaking world has been a subject of debate and controversy for over four decades (see Fleischman 1997, and, for a comparative perspective, Planelles Iváñez 1996, Conrick 2000). Linguistic representation of women in language presents a challenge for a language like French, where nouns are inherently marked for gender (masculine or feminine), ensuing adjectival agreement with the modified noun. While some professions already have existing feminine forms associated with them, e.g., *étudiante,* 'student, f.', *directrice* 'director, f.', for many others, it is necessary to create entirely new forms, relying on morphological inventory and processes made available by the language: *chroniqu-eur* 'columnist' becomes *chroniqu-euse*, *doctorant* 'doctoral student' yields *doctorante*. Others undergo a semantic change: *présidente*, formerly referring to a president's spouse, has been resurrected as 'female president'. The need to create new terms results in sets of competing forms subject to regional, stylistic and even individual variation. This is the case of 'female author', for example: a Canadian *auteure* would be referred to as *autrice* in Switzerland, and a female scholar in Quebec could be known as *chercheure* or *chercheuse*, depending on the

sspeaker's position on the distinctiveness of the feminine form and the perceived status of the suffix itself.

In Quebec, which is widely viewed as Francophonie's leader of the linguistic feminization of titles and professions, gender-inclusive representation of women has attained a large consensus (Bouchard et al. 1999, cited in de Villers 2005:150, Conrick 2009). Most recently, the focus has been placed on gender-inclusive writing and speech in the public domain, applying to language used in official documentation and communication as well as public appearances and workplace interactions. In 2015, the Office Québécois de la langue française (OQLF) circulated a new, one-page notice, entitled *Féminisation des appellations de personnes et rédaction épicène* 'Feminization of people's designations and gender-neutral writing', which was then updated in 2018. This notice outlined the principles of recommended gender-neutral, or inclusive, writing. A more substantive and lengthier didactic document entitled *Formation sur la redaction épicène*, 'Guide to inclusive writing,' also published by OQLF, provides instructional modules and illustrations of recommended writing practices (Arbour & Nayves 2018). The guide prioritizes the use of feminine terms alongside masculine ones, a progressive elimination of the 'generic masculine', and a more equal overall representation of women and men in texts through manipulation of structure and style (3).

The status of feminization in Quebec has been the focus of multiple studies over the last two decades, most notably, in the context of journalistic language. As part of a comparative study of lexicon used throughout 1997 in two prominent newspapers, *Le Devoir* in Quebec and *Le Monde* in France, De Villers (2005) finds that an impressive three percent of all lexical items recovered in approximately 25 000 articles of the Quebec newspaper are new feminine forms of professions. Meney (2017), in another large-scale study, compares a Québécois and a French journalistic corpus, each consisting of eleven titles examined via the Eureka.cc database over a period of ten years, 2004-2014. Meney reports the omnipresence of feminized titles and professions in the corpus and finds that the Quebec press is more innovative than its French counterpart when it comes to word-formation in feminization. Neither study pursues a quantitative analysis of linguistic visibility of women in text, or, of the rate at which female referents or generic referents are represented with gender-appropriate or gender-inclusive forms.

The inquiry proposed here continues to probe the current state of gender-inclusive writing in the context of Québécois French, but steps outside journalistic corpora, turning instead to another kind of written language in the public domain – signage displayed in shared spaces in a university setting, which can be viewed as both reflecting as well as setting trends in the innovative practice of gender-inclusive language. Specifically, the study examines linguistic representations of gender in signage encountered in a selected area on the campus of Quebec's Université Laval. Unlike the studies that were previously discussed, I look beyond the total numbers of feminized terms and focus on the connection between the human referent(s) and the form used to represent said referent(s), be it specific or generic, which allows for a more accurate assessment of the scope and the spread of inclusive language practices in this context.

The following section will begin with an overview of the principles of gender-inclusive writing as applied to French in Quebec, widely known as *rédaction épicène* 'gender-neutral writing' and proceed to present the corpus and the methodology of the study. In constructing the

dataset for the proposed case study, this article will adopt the theoretical framework of Linguistic Landscape (see, for example, Shohamy & Gorter 2009), introducing a new approach for obtaining data for analyzing gender-inclusivity in linguistic practices. In the discussion of the findings that follows, I will identify and analyze the main linguistic trends observed in the use of gender-inclusive language, positing the identifiability of the gender of the form's human referent as the main factor affecting the rates of occurrence of gender-inclusive forms. More specifically, I will demonstrate the interplay of the identifiability parameter and the authorship of the sign (official or non-official), developing a framework of analyses that can be employed in studies of gender-inclusive language use in other languages. A brief conclusion will discuss the significance of these findings in the context of Quebec and provide relevant comparisons with analogous language practices observed in France (Bosworth 2019).

1. GENDER-INCLUSIVE WRITING. Université Laval, as well as all other educational public French-language establishments in Quebec, is required to institute a policy relative to the use and quality of the French language in instructional materials, administrative communication and official documents, as well as in the language used by students, faculty and staff (Corbeil 2007:261). Université Laval has thus issued its own *Politique sur l'usage du français à l'Université Laval* 'Policy on French language use at Université Laval', which declares its mission of ensuring "*l'utilisation d'un français de qualité*", 'use of quality French', and outlines the mission's specific objectives in the areas of teaching, research, and workplace interactions as applied to faculty, staff, and students. Notably, in "Responsibilities of the university", the institution commits to assuring "the quality of oral and written language used by the entirety of the university community" (2). It does not, however, mention any aspect of gender-inclusive or gender-neutral language use or its relationship to the quality French.

The guide reaffirms the position of the OQLF as the authority on inclusive writing in Québec. The fundamental principle of inclusive writing targets the traditional use of masculine as neutral, or the "generic masculine", as it is widely known. For example, in the sentence *L'employé a l'obligation d'arriver au travail à l'heure* 'The employee has the obligation to arrive to work on time', the employee, while referring to either a male or female, is expressed in the masculine. Inclusive writing offers two repairs. Namely, the feminine form can be added to the masculine form – syntactic feminization – resulting in what is defined here as a full doublet: *L'employé ou* 'or' *l'employée*, or *les employés et* 'and' *les employées*, in the plural. Alternatively, a strategy known as neutral formulation calls for a replacement of the gendered item with a collective noun, here, *le personnel* 'personnel'could be used.

To maintain readability, truncated forms, or 'abbreviated doublets' in the guide, graphically integrating both genders, e.g., *employé.e* or *employé(e)*, are generally discouraged, with the exception of contexts of limited space, e.g., boards, tables, charts, forms, etc. In these contexts, the guide recommends parentheses and brackets, dismissing capital letters, median points, slashes, dashes, periods and commas (Arbour & Nayves 2018:31). Since the signage in the study aligns closely with the criteria of restricted space, the majority of the signs being standard letter size (8.5x11) sheets of printer paper, abbreviated doublets are treated here as legitimate representations of gender inclusivity.

It should be noted that inclusive writing as applied to texts goes beyond terms and structures: Vachon-L'Heureux (2007:73-75) emphasizes overall readability and comprehensibility of the text, balancing the presence of feminine forms and structures throughout. Given the methodological difficulties in measuring whole-text readability, comprehensibility and balance in the context of each sign, I will focus exclusively on individual forms – here, tokens. Inclusive writing will henceforth be avoided in favor of gender inclusivity, or, simply, inclusivity, since inclusive writing also involves overall textual balance that falls outside the scope of this study.

2. THE STUDY: DATA AND METHODOLOGY. The methodological approach adopted for this study is that of Linguistic Landscape (LL), a recently developed and now established subfield of sociolinguistics (for an overview, see Gorter 2013), providing frameworks of analyses by which to examine the nature and the status of language that members of a given linguistic community regularly encounter in signage found in shared public spaces. In the foundational study of Landry & Bourhis (1997:25), signs are defined as any linguistic objects, road signs, names of sites, streets, buildings, places and institutions, advertising billboards, and commercial shop signs. In subsequent literature, the definition of a sign is expanded to include all visible signs of all sizes (Cenoz & Gorter 2006), containing "any piece of written text within a spatially defined frame" (Backhaus 2007:66). In line with this extended definition, a sign in this study is defined as any occurrence of visible text in shared public spaces within the selected area, covering a broad range of types of surfaces, presentation styles, purpose and content, sign creators and intended consumers. Given the study's objective to analyze the behavior of language users regarding gender inclusivity, and not the bulk of all relevant forms, only unique signs will be considered, with a single token of analogous use per sign. As such, multiple copies of the same sign will be treated as a single object, as well as multiple occurrences of analogous forms on a single sign.

The data used in this study is recovered from a large collection of almost two thousand digital photographs of signs taken in the Pavillon Charles de Koninck on the campus of Université Laval in Québec City in September of 2017. This large academic building houses the following divisions – The School of Arts and Sciences and the School of Social Sciences, and the following departments – Languages, Linguistics and Translation, Literatures, Historical Sciences, Information and Communication, Anthropology, Sociology, Political Science, as well as The Language School. This location was chosen due the largest number of programs represented within a single building, allowing for a large representative sample of sign creators and their linguistic behavior. For the purposes of this study, only the signs containing forms with human referents are included in the corpus, n=155. The number of tokens will be further discussed below.

In analyzing the relationship between sign authorship and the intended consumer, LL inquiry distinguishes between two types of flow, top-down and bottom-up, juxtaposing two types of LL signage, official and non-official (Ben-Rafael 2009:49). Top-down signs are signs that originate from public bodies at different levels: governmental, municipal, public/organizational or associative, catering to official policies and reflecting the dominant culture. Bottom-up signs are designed, produced, and presented much more freely by countless autonomous LL actor(s), or authors of signs, be it individuals or organizations. Following this distinction, the current study

divides the signage corpus into top-down and bottom-up sub-corpora, based on content and authorship. As such, the following signs are analyzed as top-down (n=108):

- Content: faculty listings (locations, course offerings), course descriptions, announcements (academic matters, academic events and events sponsored by official student organizations, publications, support services);
- Authorship: faculty, personnel/support staff, university administration, students representing leadership in an official student organization.

The following signs are analyzed as bottom-up, (n=47):

- Content: classified ads (lodging, rentals offered), private services of academic nature (tutoring, editing), event advertisement on and off-campus (non-campus organizations, clubs), commercial services (sale);
- Authorship: off-campus employers and advertisers, students in non-official, private organizations.

A relevant token is defined as a term having a human referent, e.g., professor, student, participant, tutor, smoker, employee, instructor, etc. Following the OQLF inclusive writing guidelines, I adopt the following criteria for determining the status of a token with respect to inclusivity.

- Feminine forms of titles and professions are to be used when the female identity of the referent is made obvious through text or image:
  - non-inclusive: *Professeur* (m.sg.) *responsable : Kristin Reinke*
  - inclusive: *candidate* (f.sg.) *: Nancy Gagné*
- Feminine and masculine forms of nouns and adjectives are to be used when the referent(s) are or may be assumed to be male and female:
  - non-inclusive: *Aidez un nouvel étudiant étranger* (m.sg.)
  - inclusive: *Rejoins l'application mobile des étudiants* (m.pl.) *et des étudiantes* (f.pl.) *de l'Université Laval*.

The rate of occurrence, expressed in fractions and percentages, will measure the proportion of inclusive tokens in a given context: the number of inclusive tokens out of all the tokens within a clearly defined category.

3. ANALYSIS AND DISCUSSION OF FINDINGS. The linguistic representation of the gender of the token is minimally premised on the knowledge or the assumption of the biological gender of the referent. Noun phrases denoting a human referent are analyzed here as a function of what I will call here the degree of identifiability of the referent, resulting in a three-way categorization: 1) those whose identity and gender are known, as in the case of a title followed by the corresponding individual's name, e.g., *Professeure Marie-Hélène Côté*, 2) those whose gender is accessible via contextual inference, as in the name of an organization that contains a title, e.g., *Syndicat des professeurs et professeures* 'Professors' m.pl. and professors' f.pl. union', and 3) those whose identity is not only unknown but is inaccessible through text or extralinguistic context, such as a reference in an advertisement in which the agent is looking for someone to fulfil a role, i.e., a tutor, a renter, students, participants, etc. In the first two cases, we can say that the gender of the individual or the collective referent is identifiable: the referent (or group of

referents) is either male or female or corresponds to a group of referents consisting of both genders. Even if no specific individual is referenced in the example of the name of an organization, it should be assumed that the members of this organization are both male and female. In contrast, the third category features human referents whose gender is not known and, unlike in the case of names of organizations, cannot be assumed to include both. Based on these observations, I propose a referent classification model based on the parameter of identifiability, further differentiated by specificity**,** as applied to the gender of the referent: the gender is identifiable if it is made obvious by a clear correspondence to a specific individual (identifiable specific) or if it can be deduced or assumed based on contextual knowledge (identifiable non-specific). Referents whose gender is not made obvious via correspondence to a specific human referent or cannot be derived from context are considered unidentifiable.

3.1. IDENTIFIABLE REFERENTS. As expected for tokens with a strong apparent link with a human referent, a high degree of inclusivity is observed with identifiable tokens denoting a specific singular female referent. While it may be tempting to take it for granted that specific female referents would be represented using feminine forms, a recent study of gender-inclusive language use in the linguistic landscape of Parisian universities (Bosworth 2019), for instance, has found that 17% of terms used to refer to specific females are, in fact, masculine (n=12/71), with, notably, two self-references. In our Quebec-based corpus, however, 99% (68/69) of all singular top-down tokens referring to a specific female are used inclusively: *professeure* (13)*, directrice* (16)*, conseillère* (12)*, conférencière* (3)*, agente* (2)*, chargée du cours* (2)*, doyenne* (3)*, présidente* (2)*, adjointe* (1)*, assistante* (1)*, autrice* (1)*, candidate* (1)*, coordinatrice* (3)*, chercheure* (1)*, championne* (1)*, chroniqueuse* (1)*, doctorante* (1)*, examinatrice* (1)*, rectrice* (1) (‘professor’, ‘director’, ‘counselor’, ‘presenter’, ‘agent’, ‘adjunct’, ‘dean’, ‘president’, ‘assistant/deputy’, ‘assistant’, ‘author’, ‘candidate’, ‘coordinator’, ‘researcher’, ‘champion’, ‘columnist’, ‘doctoral student’, ‘examiner’, ‘rector’). Three epicene, invariable tokens are also included: *responsable* (2), *titulaire* (1) (‘supervisor’, ‘permanent faculty’). Similarly, bottom-up signage displays a 100% rate of occurrence, albeit with significantly fewer tokens, with identifiable referents corresponding to a specific individual: *enseignante* (2)*, traductrice, réviseure, professeure* (2)*, une propriétaire, correctrice-réviseure, réviseure, rédactrice* (‘instructor’, ‘translator’, ‘reviewer’, ‘professor’, ‘owner’, ‘editor’, ‘publisher’).

In contrast, the rate of occurrence of inclusive tokens with specified gender in the context of plurals is considerably lower, as is the overall number of tokens, which is only eight. The tokens in question can be divided into two main types: a masculine plural term or a doublet, for which both orders of masculine first and feminine first are observed, e.g., *professeures*/*professeurs* (2), *chargés/chargées du cours*. These are signs displaying lists of faculty members’ names in the heading, followed by a list of office locations or courses. Of the eight corpus tokens, five can be considered inclusive (63%): *professeures/professeurs* (3), *chargés/chargées*, and *conseillères*. The three non-inclusive tokens, *professeurs, participants,* and *enseignant.s*, all have identifiable referents with fully stated first and last names, e.g., *France Martineau, Annie Houle*.

The disparate distribution of singular and plural identifiable specific tokens suggests that in the context of singular referents, the referential link between the denotatum and the

corresponding human referent is stronger than its plural analogue, which leads to a higher rate of occurrence of inclusive tokens. In sum, both top-down and bottom-up signage display a high degree of inclusivity with specific singular referents, with a lower degree of inclusivity observed with specific (top-down) plural referents.

Plural tokens with human referents can appear without a corresponding name, or image, of the referent. In most cases, a reference to a collective of students, faculty or employees entails the presence of both genders, thus making gender accessible. These plural tokens, analyzed here as identifiable non-specific, are often found on signs that contain names of organizations, a category that stands out due to the relative permanence and potentially high visibility and recurrence of the name in the context of a university campus. Our corpus contains eleven of these tokens: *Syndicat des chargées et chargés de cours*, *Syndicat des professionnelles et professionnels de recherche*, *Association des étudiantes et des étudiants de Laval inscrits aux études supérieures, Étudiantes et étudiants en anthropologie, Traductrices et traducteurs*, *Syndicat des employés et employées*, *Syndicat des professeurs et professeures, Collège des administrateurs de sociétés, Association des diplômés de l'Université Laval*, *Syndicats des retraités*, and *Association canadienne des réviseurs*. Of these eleven, seven contain a full feminine form, with the feminine form in the first position in five of the tokens. Notably, abbreviated doublet forms are absent from names of organizations, adhering to the general recommendation of the OQLF in regard to the use of abbreviated doublets. Outside the context of the names of organizations, the top-down signage contains a total of seven plural tokens of which four are inclusive and are abbreviated doublets: *étudiante.s, employé(e)s, bienvenuEs* 'welcome' (2). This translates to a total rate of occurrence for identifiable non-specific plural tokens of 11/18, or 61%, virtually identical to identifiable specific plural referents. These results indicate that for plural top-down tokens, the degree of identifiability of the referent, expressed here in the parameter of specificity (specific vs. non-specific), does not seem to play a role.

The flow of the sign is also an important factor. A drastic drop in the rate of occurrence of inclusive plural non-specific tokens (12%) is found in bottom-up signage, with the overwhelming majority of the tokens appearing exclusively in the masculine (15/17): *non-fumeurs* (3) 'non-smokers'*, professeurs, non-chanteurs* 'non-singers'*, acteurs* 'actors'*, conférenciers, enseignants, participants* (2)*, candidats, tuteurs* 'tutors'*, travailleurs* 'workers'*, professionnels* 'professionals'. In contexts in which the plural referent is identifiable but not specific, inclusivity appears to vary as a function of the flow parameter. With a significant gap in percentages – 12% and 61%, non-official signs tend to fall significantly short of gender inclusivity in comparison with their official counterparts. A discussion of the use of abbreviated doublets in the following section offers additional commentary on this disparity.

3.2. UNIDENTIFIABLE REFERENTS. Tokens with unidentifiable referents, i.e., those whose gender is not known and cannot be accessed, can theoretically appear in both the singular and the plural forms. However, in the context of a university campus, it is assumed, barring exceptional cases, that generic plural referents are to include representatives of both genders. For this reason, our analysis designates this type of token as identifiable non-specific, as discussed in the previous section. In analyzing unidentifiable referents, we therefore focus on singular tokens, largely

occurring in the context in which the noun phrase in question denotes an unknown referent of either gender, e.g., *je cherche un tuteur* 'I am looking for a tutor', or *L'étudiant doit remplir* 'The student must fill out'.

The distribution of the unidentifiable singular tokens varies with respect to the flow parameter. The corpus contains thirteen top-down signs containing singular tokens with unidentifiable gender. On a sign focusing on new international students, *un nouvel étudiant étranger* 'a new international student', the masculine singular form accompanies an image picturing three male and one female students. Elections are announced for organization positions that are not limited to students of specific gender but are presented using masculine singular grammatical structure: *d'un président* 'of a president', *d'un secrétaire* 'of a secretary', *de l'auditeur* 'of the listener'. Teaching tools are presented as *outils pour l'enseignant*. The office of the dean and the honorable mention of the dean are *cabinet du doyen* and *mention d'honneur du doyen*, with the term 'dean' used in masculine singular, independent of the corresponding human referent. A brochure advertising the profession of a notary public, whose cover pictures two females and one male student, presents the future *le notaire* 'the notary (m.)' as *un conseiller juridique* 'a legal counsellor (m.), exclusively with masculine morphology. Only three top-down tokens (23%) demonstrate gender inclusivity, all three via the use of an abbreviated doublet form *étudiant(e)*.

In bottom-up signage, however, gender inclusivity is much greater. Of the 20 total singular unidentifiable tokens, 18 are inclusive, and only two advertisements – one for a tutor and another for a marketing agent, are expressed in the masculine: *un tuteur d'arabe, agent de marketing*. Crucially, 14/18 inclusive tokens are expressed with abbreviated doublets, e.g., *employé(e), citoyen(ne)* 'citizen', *travailleur(se), professionnel(le), étudiant/e*. Only four tokens of the generally recommended, full doublet forms are recovered: *de participantes et de participants* (2) 'participants', *d'étudiants et étudiantes*, as well as the doublet *tutrice/tuteur*, which is arguably more resistant to abbreviation due to more complex morphological marking, compared to e-suffixation. What we find instead is a series of various forms of abbreviated doublets, dominated by the guide-recommended parenthetical notation (11/14), e.g., *étudiant(e)*, but also includes examples with a slash, e.g., *étudiant/e*, with a period, e.g., *étudiant.e*, and with a capital E, *bievenuE*s.

In contexts traditionally under the purview of the so-called generic masculine, non-official signs tend to favor abbreviated doublets, but mainly, and very disproportionately, with singular referents. In fact, it is precisely by using abbreviated doublets that non-official signs achieve a high degree of inclusivity with generic singular referents (unidentifiable, singular, bottom-up), while the identifiable, nonspecific, plural, bottom-up referents, without a single abbreviated doublet, display a very low rate of inclusivity.

3.3. NEUTRAL REPRESENTATIONS. The remaining pattern to be examined relates to what the last section of the guide refers to as "neutral formulation", an inclusive writing strategy that "favors forms that do not present alternation between masculine and feminine" (Arbour & Nayves 2018:47), allowing a language user to resort to a combination of syntactic and semantic tools in order to avoid committing to a gendered form. For example, the collective noun *le lectorat*

('readership') may be used to avoid *lecteur* 'reader m.', or *lectrice* 'reader f.', (46-8). In our corpus, among 'neutral' instantiations of 'professor', we find *corps professoral* 'professorial body' and two examples of *membres du corps professoral* 'members of professorial body'. As an alternative to *professeures/professeurs* serving as a list heading, we find two instances of *Noms* 'names', and a sign with no heading at all. A schedule containing names of various faculty members and information about their courses uses the unmarked truncation *Prof.* in front of individual names. For students, we find one token of *population étudiante* ('student population'). These occurrences, although not featuring feminine or dual morphological marking, are analyzed here as inclusive by virtue of not prioritizing the masculine.

4. SUMMARY AND CONCLUSION. The analysis of gender inclusivity patterns in the linguistic landscape of Université Laval developed in this work demonstrates a complex relationship in which the degree of identifiability of a given referent relates to its gender and number on the one hand, and the type of sign-flow, on the other. The findings can be streamlined into four main trends. First, the degree of the perceived connection to the referent increases the rate of occurrence of inclusive tokens: identifiable specific >> unidentifiable non-specific >> unidentifiable. The highest degree of inclusivity is found in the identifiable specific group of tokens, with a small reduction in the rate of occurrence for plural tokens, motivated here by a weaker link between the plural referent and its denotatum – singular tokens are shown to favor inclusivity: singular >> plural.

Second, the much-debated domain of the generic, or neutral, masculine, i.e., using masculine, singular or plural, to represent any referent outside the identifiable specific, remains a problematic area for gender inclusivity. The potential purview of the generic masculine includes all non-specific and unidentifiable tokens, as these tokens do not have specific referents. We find that LL signs are compelled to resort to feminine plural forms when it is known that the referents are specifically feminine plural, as is the case with specific plural top-down tokens, with a 63% rate of occurrence. When the token is non-specific, the rate of occurrence remains essentially the same, decreasing slightly to 61% in the top-down category, but plummets to 12% in the bottom-up category, creating a considerable disparity in the behavior of the two types of LL signs.

This tendency, however, plays out differently in the bottom-up flow in the context of abbreviated doublets. Our third main finding pertains to the use of abbreviated doublets, which emerges as a critical aspect of gender-inclusive text, contributing significantly to rates of occurrence of inclusive tokens for some types of signs. The most striking disparity is observed in the unidentifiable singular category, where the type of sign flow accounts for a large gap in the rate of occurrence, 23% for top-down and 80% for bottom-up tokens. What we have also found is that a large proportion of tokens in the bottom-up sample are abbreviated doublets, suggesting that non-official LL signs show little hesitation in using abbreviated doublets, while official signs shy away from them: only seven abbreviated doublet tokens are recovered in the entire top-down group, 6.7%, compared to 40% (18/45) bottom-up tokens. In the same vein, the extremely low rate of inclusivity of nonspecific plural bottom-up tokens discussed in the previous paragraph (12%), compared to the opposite pattern with identifiable singular bottom-up counterparts (80%), can be attributed to the reliance on abbreviated doublets by the non-official signs.

As the fourth and final trend, the sign flow stands out as a critical factor. While both sub-corpora display what can be called a pronounced tendency favoring gender-inclusivity in its language practices, with the rates of 81% (n=87/108) for top-down and 62% (n=30/47) for bottom-up signage, the top-down signage takes the lead, aligning closely with the guidelines set out by the well-regarded OQLF.

A comparative perspective drawn from an analogous study conducted in the context of France (Bosworth 2019) offers a number of useful insights into the issue under discussion. Notably, the study reports a gap between the top-down and bottom-up signage that, in stark contrast with the Quebec findings, is biased toward bottom-up usage, with the rate of inclusivity of 71% (62% in Quebec), compared to the much lower 46% (81% in Quebec) in top-down signage. The greater inclusivity in the language practices of non-official LL signs and the reservation on the part of official ones in the context of France can be explained by the influence that the long-standing, vocal resistance to feminization of Académie française may have had on the latter. These findings suggest opposite directions of the spread of the phenomenon in two respective contexts: from above in the context of Quebec, where the OQLF guidelines are closely followed by official signs, closely followed by non-official signs, and from below in the context of France, where it begins with non-official signs, percolates to official signs, and appears, as of very recently, to have influenced the position of the Académie – a new ground-breaking announcement legitimizes some previously rejected feminine forms of professions, e.g., *professeure, écrivaine, auteure* (Académie française).

More studies of gender-inclusive texts, in familiar contexts, such as journalistic language, as well as new ones, are needed to further corroborate the conclusions drawn from this study on a larger scale, namely, to conclude reliably that Quebec's well-established leadership in the feminization of professions, titles and occupations translates into the more recent emphasis on the inclusive writing of texts, a practice that goes far beyond the usage of feminized terms. Arguably, such continued linguistic leadership through innovation can lend support to the legitimacy of a locally based linguistic standard for French spoken in modern Quebec, reinforcing the endogenous position to which many Quebec-based linguists adhere.

Finally, the LL-based approach to dataset construction and the identifiability-based model of gender inclusivity developed in this work can be extended to other contexts and used to examine and assess gender inclusive practices in contexts of other languages, as gender-inclusive language gains ground across multiple societies and cultures.

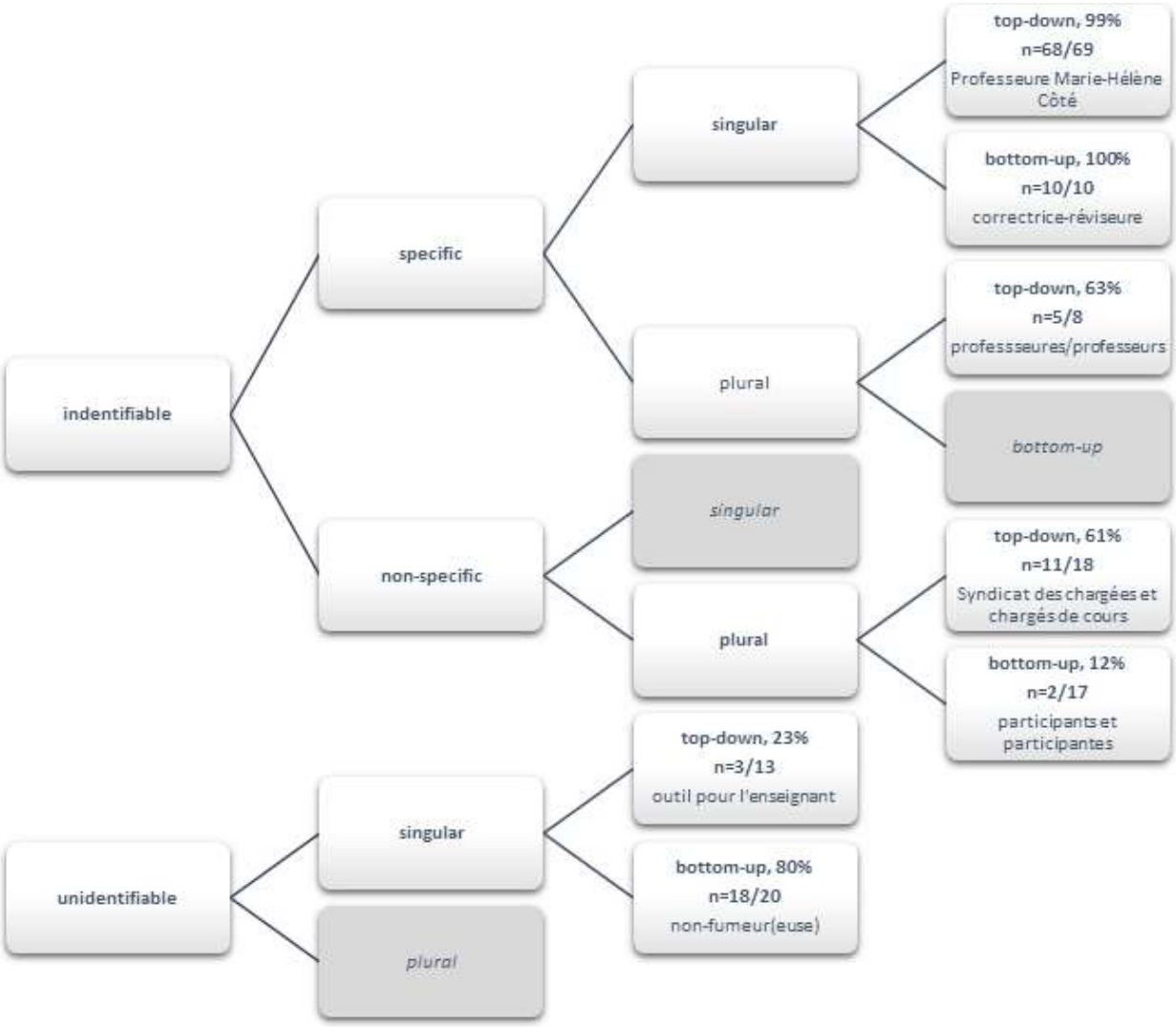

Figure 1. Summary of analysis: Rates of inclusivity across referent types.
Note: Terminal nodes in italics represent expected, contextually motivated gaps in the corpus data.

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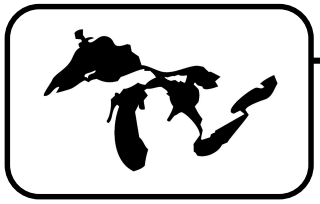

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GENDER REPRESENTATIONS IN U.S. K-5 ENGLISH-LANGUAGE TEXTBOOKS[1]

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Abstract: Critical Discourse Analysis has been used to discover bias within English language teaching and learning texts since the 1980s, noting a pattern of exclusion and stereotyping of female actors globally. There are few studies on American-made texts used in public schools in the U.S. This preliminary study examined a series of English Language Learning (ELL) textbooks adopted through year 2022 using Fairclough's (2015:30) framework for description, interpretation, and explanation. The inquiry has two purposes: the first being to examine gender representation within four of the six textbooks in the series *On Our Way to English* using computational survey techniques; the second, to examine role allocation more closely within Book 5 using CDA for interpretation/explanation. Results demonstrated improvements in quantity and quality of representation for female actors from the 1980s, nevertheless, themes of patriarchal respect, matriarchal backgrounding, and suppression of female accomplishments still permeate the texts.

Keywords: critical discourse analysis, gender, learning materials, corpus linguistics, English Language Learning
Languages: English

MANY INFLUENCES IN CHILDREN'S LIVES assist their growth, including teachers, peers, as well as school environment and learning materials. All of these agents in a child's life serve a myriad of purposes. Although the official curriculum publicizes the educational goals for each course of study, the (double) hidden curriculum stays around the unconscious level. While teachers and textbooks seem to teach a general message to all children, Harro describes the hidden curriculum as the institutional socialization messages children receive, such as "how to be, whom to 'look up to,' and 'look down on,' what rules to follow, what roles to play, what assumptions to make, what to believe, and what to think…" (2000:48). Furthermore, Giroux displayed three aspects of the hidden curriculum: organization of schools, communication inside and outside of classrooms, and curricular content (Giroux 1988:62). These silent messages also include gender messages

[1] Portions of this publication are based on my PhD dissertation (Burden 2020).

(Grayson 2006: par.1). There have been few published studies on the extent of gender messaging in EL textbooks in the USA since the early 1980s. Early studies in ESL/EFL learning materials functioned to raise awareness with lawmakers, publishers, and boards of education (BOE). They focused on content analyses of one textbook series or a random selection of single books within a series (Sunderland 2015:19).

Since 1984, few studies on ELL texts produced for public schools in the USA have been conducted. Sunderland (2015:20) believes that overt discrimination in current materials is no longer an issue. She hedges the claim that previous studies have failed to address the subtle forms of gender bias. This present study examines textbooks for underlying issues regarding role allocation and representation through Critical Discourse Analysis (CDA), which effectively exposes the subtle forms of gender bias within gender representations that are naturalized for ELLs.

In this study, I examine gender representation in a series of four books published for the US classroom. These books span from kindergarten through grade 5, describing gender through a corpus analysis of gendered pronouns and nouns and cataloging types and tokens of human and nonhuman characters. I interpret the texts and images using Fairclough's five categories for interpretation with a manual focus on Book 5.

1. LITERATURE REVIEW. Textbooks play a role in determining whose culture is taught. In the EFL context, teachers consider textbooks foundational for their teaching, and through them, learners are given contact with the second language (Alhamami & Ahmad 2018:80). Gershunny (1977) argues that textbooks convey "gender roles and social values" (p. 150). They contain represented human agents who carry out a range of social actions with social consequences that inform the reader about what to expect in a similar situation (van Leeuwen 1996:33). So, while textbooks are pedagogically motivated, those in powerful positions often use textbooks to teach students beyond documented curricular intentions.

1.1. GENDER IN AMERICAN TEXTBOOKS. The first studies of ESL textbooks in the USA that focused on gender representation began in 1978 with Hartman & Judd who found overt sexism in American and British ESL textbooks. Their contribution is important for its consciousness-raising efforts and the analysis of "firstness" (a term that will be defined in section 1.2.1.), which had not been examined at that point in educational materials. This was just a few years after second-wave feminism spread across the USA, making deliberate efforts at changing the policies regarding gender in education (Blumberg 2008:15).

The 1990s saw a second generation of gender analysis studies take place in the USA. ESL textbooks were absent from this work. Studies focused on content areas such as US History and World History (Clark & Mahonney 2004:7-63), as well as teacher training texts (Sadker 2000:80-83). These content area studies show that while the intensity of bias is diminishing, representation and positioning of females in educational materials have only made modest gains since the second-wave feminist movement of the 1970s. State Boards of Education and Secretaries of Education moved on from gender issues, either due to the fact that overt sexism had decreased or because

these powerful educational governing bodies felt it was not a big enough issue to continue contributing too (Blumberg 2008:16).

A review of historical and global efforts at ESL/EFL text content analysis can still provide a basis for understanding the issues that may be present in US manufactured ELL texts.

1.2. PREVIOUS STUDIES OF ESL TEXTBOOKS. Over the last three decades, both content and linguistic analyses of textbooks for gender representation have investigated sexist language, female visibility, firstness, and gender stereotypes. These studies have provided qualitative data on the unequal treatment of gender in education materials. The following section will highlight what has been done in the field of gender and language studies within textbook analyses.

1.2.1. POSITION. Porreca (1984:706) examined the order of appearance, or as she labeled it "firstness", in her study of 12 of the most popular ESL texts in the USA. Her study found a ratio of female firstness to be 1: 2.94, which demonstrated that men were given first position in the text almost three times as often as women. Lee (2014:370) found similar results, with men occupying first position in dialogues and readings more often than women. Samadikhah & Shahrokhi (2015: 129) examined two series in Iran and found that both series had statistically significant gender bias towards men in first positions within the text. Amerian & Esmaili (2015:8) had contradictory findings in their study of *The American Headway* series in which 75% of mixed gender texts placed women in first position.

1.2.2. LINGUISTIC REPRESENTATION. Through an examination of linguistic representation – using pronouns, nouns, and other gendered grammar markers, research has consistently shown men in first positions within learning materials at least twice as often. In *Dick and Jane as Victims: Sex Stereotyping in Children's Readers* (Women on Words and Images 1975: passim), the evidence demonstrated the portrayal of men twice as often as women in 14 child-centered stories. Graham discovered more than seven times as many male references through nouns as she did female noun references during her project creating a non-sexist dictionary for children (1974:60).

Several more recent studies have seen improvements in how women are represented linguistically in EFL texts. For example, Parham (2013:1677) investigated gender representation in nine children's books from the UK, designed to teach English literacy. Male and female characters were equally visible in terms of frequency of participation, number, and length of turns. Samadikhah & Shahrokhi (2015:129) saw equality in linguistic representation of males and females in *Top Notch* when addressing the use of nouns and pronouns, but the supremacy of male linguistic representation in the *Summit* series. Amerian & Esmeraili's (2015:10) study found that male nouns and pronouns were seen 61% of the time versus females at 39%.

1.2.3. GENDER ROLES. A 1972 study by Women on Words and Images, child-centered stories from 14 different publishing companies were examined. They noted that male characters were seen in a wide variety of roles, whereas female characters were more often depicted as housewives. Pakuła, Pawelczyk, & Sunderland (2015:16) examined Polish EFL textbooks and found similar results regarding role allocation - women were relatively powerless next to men within the texts. Women

and men had different roles, representing conventional and gendered stereotypical role allocation. Amerian & Esmaili (2015:10) broke the roles into sex stereotypes – female monopolized roles, male monopolized roles, female-dominated roles, male-dominated roles, and gender-neutral roles. They found that not only were the majority of roles available given to men, but also that the majority of roles given to men were stereotypical male roles.

1.2.4. PICTORIAL REPRESENTATIONS OF GENDER. Porreca (1984:715) also examined gender in textbook photos of people at work. She noted that men were displayed at work five times as often as women. Samadikhah & Shahrokhi (2015:130) found a significant bias towards males in images. In more recent studies, there is a movement towards equity in gender representation pictorially. One example is Lee's comparison of Hong Kong English textbooks from 1988-2005. While there were still significantly more men than women in the images, there were more women-only images, and more women and men represented equally in images in the 2005 edition of the text (2014:370). Esmaili & Amerian's investigation divided pictures into males only, more males, females only, more females, equal share, or not recognized. They found more male centric and male-only images. 24% were shared equally (2015:10).

2. METHODS**.** The purpose of the present study is to examine gender representation linguistically and pictorially through a mixture of computational and manual analysis using Fairclough's Critical Discourse Analysis (CDA) framework. Answers were sought to the following questions:

1. What is the ratio of male to female appearances linguistically?
2. What are the common types of activities and occupations allocated to males and females?
3. What is the ratio of male to female appearances pictorially?
4. What is the ratio of male to female-centered readings (firstness)?

2.1. PROCEDURES. The analysis began with a computational survey of four textbooks from the series – Kindergarten and books from grade 3, 4, and 5- using NVIVO 12 software with a word frequency query and node categorization of gendered pronouns and nouns (type and token). I examined character allocation through an analysis of proper nouns.

I completed multiple close readings of Book 5 for interpretation and explanation phases of CDA. I tallied texts that were mixed gender and gender dominant as well as texts that feature each gender in prominent positions (firstness). As most of the texts analyzed were literature as opposed to dialogues, my definition of firstness varied somewhat from those of earlier studies. Firstness within this study refers to a lead role within a text versus a supporting role within that text. I counted males and females in images within the readings to determine pictorial representation. I also tracked activities and occupations within each reading for males and females.

2.2. METHODOLOGICAL FRAMEWORK. After examination of the data, I used Fairclough's (2015) framework for CDA. It assumes that power, ideology, and language are a unitary system. It

concentrates on three things: understanding of text, evaluation, and explanation. I use these three factors to analyze the textual data gathered from the textbooks.

3. FINDINGS. To begin, it is important to clarify terms. First, a 'gendered noun' is any noun that is gendered through nomenclature such as male and female proper nouns like 'John' and 'Susan'. Other examples of gendered nouns are what Talbot refers to as "occupational stereotyping", wherein a noun regarding a career is feminized or masculinized linguistically; such as 'businessman', 'male nurse', or 'waitress' and 'governess'. Still, other examples of gendered nouns refer to titles that denote gender such as 'boy', 'girl' and 'mother', 'father'. Nouns that do not have any gendering inherent such as 'teacher' or 'janitor' were not included in the linguistic representation study, regardless of any cultural stereotypes about the gender that might (stereotypically) perform these actions.

Secondly, I determined 'firstness' in 4.2 through examining the texts for principal and peripheral roles. Those with the most dialogue, who are named, and/or who have point-of-view and carry the protagonist or antagonist position were deemed 'first'. All characters who were supportive in nature through lack of dialogue or remaining unnamed, were not viewed as a central character and were therefore considered 'supportive'.

Thirdly, a 'gendered' text is one that is predominantly about one gender or another. These texts had either an only male or female presence, or were overwhelmingly male in their focus, such as in a biography of Benjamin Franklin. Texts that were 'mixed gender' were those that had an equal focus on male and female characters. Both genders played a central role in the text.

Finally, a gender 'role' is a social or domestic role a character performs within the texts. It should not be confused with gendered nouns above.

3.1. LINGUISTIC REPRESENTATION. Through a frequency query of gendered nouns and pronouns, 1,000 cases out of 1,571 total cases presented males with nouns and pronouns; the portion of females was 571. Hence, men were presented in 63.65% of the cases while only 36.34% of cases represented females. This denotes that males were allocated almost two in three representations of gender as seen in Table 1 (p = .037824=).

Pronoun Allocation	**N**	**%**	**Noun Allocation**	**N**	**%**
Male	378	67	Male	622	61.7
Female	186	32.9	Female	385	38.2

Table 1. Nouns and pronouns by gender.

I further examined gendered nouns within the texts to determine the ratio of named characters (types) for males and females. The results are summarized in Table 2. Results demonstrate that female characters are neither named nor subsequently referred to with the same frequency as male characters in the textbooks. Named male characters outnumber female characters by a ratio of 1:0.625

Named Characters	#	%
Male	80	61.5
Female	50	38.4

Table 2. Character allocation.

3.2. FIRSTNESS. The first factor investigated in the manual analysis of Book 5 was firstness. Table 3 shows that male characters make up 47.82% of all characters within the texts analyzed; so male and female characters are presented to the reader at roughly the same amount. 60% of male characters are in first position within the text while 50% of female characters are shown in first position within the text. This shows that while female characters are within the text in the same number of times, they are backgrounded more often than male characters.

Firstness	N	%
Total Males	22	47.8
Males in 1st position	13	28.2
Males in support	9	19.5
Total Females	24	52.1
Females in 1st Position	12	26
Females in support	12	26
Total Characters Book 4	46	

Table 3. Role allocation and firstness.

3.3. GENDERED TEXTS. Secondly, topic analysis showed that 50% of the texts analyzed were mixed gender, and 20.8% were male or female. This demonstrates an attempt by the publishers to present gender equality within the text as seen in Table 4.

Text and Gender	N	%
Only Males	5	20.8
Only Females	5	20.8
Unclear	2	8.3
Mixed Gender	12	50
Total Texts	24	

Table 4. Gendered topics.

3.4. GENDER ROLES. Next, I examined stereotypical gender roles using the categories in Table 5. As this is a textbook series written in the Deep South and one that is currently in use in the Deep South, gender stereotypes noted in Table 5 will reflect those most often held in the Deep South. These regional stereotypes may not reflect those held by the wider English-Speaking population. Male roles were 40% neutral, 55% masculine, with only 5% of female roles allocated to men. Men overall were allocated fewer unique roles within the text than women. This denotes that male actors were given fewer opportunities within the text to inhabit unique and nonconforming roles than did

females. There were more opportunities to read about stereotypically masculine roles than stereotypically feminine roles, but most roles were gender neutral. There were 16 stereotypical male roles in contrast to seven female-dominated or prevalent roles in the textbook. There were many gender-neutral roles which occupied 50% of the female roles and 40% of the male roles. Five stereotypical male roles were given to females (31.25%). 21.7% of roles available to women were stereotypically male roles. 26.08% of roles available to women were stereotypically female roles. One such example of stereotypical female roles is that of a patient. While males, females, and non cis gender individuals do of course get sick, historically in children's stories, females are chronically ill at least 80% of the time, with males being ill only 18% of the time. In this series, the same phenomenon is evidenced, with only female characters being ill (Saad:2004: par 13).

Stereotypes	**Male**	**Female**
Neutral	student, assistant, immigrant, sibling, child/grandchild, nephew, cousin	Neighbor, customer, assistant, student, immigrant, parent, grandparent, aunt, cousin, child/grandchild, sibling
Conforming	principal, sculptor, entrepreneur, restauranteur, medicine man, conqueror (conquistador), soldier, tribal leader, archeologist, protector	housewife, elementary teacher, nurse, patient, girlfriend, baker
Nonconforming	social worker	entrepreneur, hotel owner, paleontologist, archeologist, tour guide
Total	**20**	**24**

Table 5. Stereotypical gender roles.

3.5. PICTORIAL REPRESENTATIONS OF GENDER. Out of the 44 pictures presented in the text, 72.72% represented men whereas only 27.27 % did women. And of the 44 pictures, 43.18% exclusively represented men while only 13% did women. In mixed-gender images, men outnumbered women 18.8% of the time, and women outnumbered men 9% of the time. Pictorial representation of gender in this text demonstrates a disparity between gender with a bias towards male images, despite there being more female roles and more unique female roles available within the text. Only 15% of the images displayed men and women as quantifiably equal.

4. EVALUATION. Upon interpretation of text structure and what Fairclough calls "point," (2015:70) I located themes of patriarchal wisdom and respect which include suppression of matriarchs; patriarchal imperialism, and the successful woman at the mercy of man's choices and emotionally connected to her work through affective verbs and adjectives – words to do with expressing feelings (Talbot 2010:36).

4.1. PATRIARCHAL WISDOM/SUPPRESSION OF THE MATRIARCH. Belittling of females is evident in the following lines taken from the narrative in chapter 1:

(1) At the school, Liliya ran to greet her girlfriends. Boris knew that it would not be cool to go into the school in a crowd of little girls. (p. 29)

The lead character refuses to walk with his female cousin because she is with her friends that he characterizes as “little girls” and “not cool” to be seen with.

(2) a. Then he realized that they wouldn’t be there in the classroom with him. Only his voice would be heard there. He could choose what to say and do next. (p. 30)
b. “Don’t worry, Mama. Don’t worry Grandmother and Aunt Stevka,” he thought. “This is going to work out well.” (p. 31)

He reflects on the matriarchs’ advice given him before school. He calls it ”worry”. He considers his voice and choices and uses the term ‘worry’ to dismiss his aunt and mother. Here is what was said to him before school:

(3) “Just be quiet for the first few days until you can figure out who’s who,” advised Aunt Stevka. “Be polite to everyone.” “Don’t let anyone push you around,” she [grandmother] said to Boris. (p. 28)

The result was a well-adjusted, likeable student who easily made friends with everyone. Dismissing the matriarchal advice seems to work out well for him, sending the subtle message that males are and should be independent of matriarchal wisdom to be successful.

Matriarchs are backgrounded in every instance throughout the textbook. They are given peripheral roles such as ‘mother who sends son to get grandfather to heal sick daughter’ (p. 266), and ‘aunt with whom immigrant child resides’ (pp. 36-41). This is another example of parenting within the text.

(4) I didn’t want to carry all that cash to Bicycle Town, so we decided that Dad would use his credit card to pay for the bike, and I would pay Dad. “Mom, Dad, look!” I called as I passed them on my bike. “There goes our entrepreneur!” my mom said proudly. (p. 307)

The mother plays a supportive role only. These maternal roles are in sharp contrast to what is said about patriarchs in the text. For example:

(5) He had many cattle, my father, and the respect of our village, but it was his voice that made him a rich man among men. (p. 41)

(6) When we’re sick, Grandfather makes medicine from the rain forest plants near our home. He knows exactly which ones to use for every purpose. (p. 266)

The manner that voice is treated in these two pieces serves to contrast the gender roles of parents. Boris (example 2) dismisses the voices of the matriarchs in his family, describing it as "worry" and deferring to his voice. Example 5 describes how the patriarch's voice made him a rich man among men (p. 41). The father of the young entrepreneur in example 4 controls the finances and financial decisions within the story. The father has the credit card, and the son - the small business. Finally, the grandfather in example 6 is revered for his skills in medicine. Each time a patriarch is mentioned within the text, it is preceded or proceeded by respectful language.

4.2. THE SUCCESSFUL WOMAN. There are five roles within the text given to women to demonstrate leadership within a male-dominated work field – hotel ownership, entrepreneurship (three texts), paleontology, archeology, and tour guide (two texts). These female-only texts exhibiting women in stereotypically male contexts show an attempt at empowering female readers and providing equal coverage of both female and male leadership roles.

4.2.1. PLAYS WITHIN THE PATRIARCHY. Suppression of female merits is pervasive in the following example:

(7) Harriet's first employer was Captain William Moore, the founder of Skagway. He hired Mrs. Pullen as a cook for his pier-building crew. (p. 297)

The text above glosses over the fact that Harriet Pullen was a single mother of four children who owned her farm, and instead credits Captain William Moore with providing Harriet a door to entrepreneurship.

(8) **She** transported freight for thousands of prospectors… until the need for freight haulers had lessened… because only a few stampeders ever found the riches they sought. (pp. 298-99)

Here the focus is not on her innovative entrepreneurial spirit, but on the whims and plights of the male customers she served as evidenced by the 3:1 ratio of male to female nouns/pronouns in the sentence with 'she' as the subject. In another article about female paleontologist Hildegarde Howard, the same control over female accomplishments is insinuated.

(9) She was able to get a part-time job with a paleontologist, Chester Stock. Now she was on her way to a career as a fossil expert. (p. 166)

She earned three degrees, but Chester Stock receives credit for starting her career.

4.2.2. EMOTIONALLY CONNECTED TO WORK. A second theme with the successful woman is that she is emotionally connected to her work.

(10) a. Maya makes memories. How does she do it? She makes scrapbooks for other people. (p. 320)
b. Joe started a business called Pet Pals. He feeds pets and walks dogs. (p. 321)

(11) What was the secret to her (Dr. Hildegarde Howard) success? She loved her work! (p. 169)

(12) a. Christa fell in love with the Colorado River when she was in college. (p. 112)
b. She loves the excitement of paddling down the river. She loves the stillness of the nights spent outdoors in a tent. She loves teaching visitors about the Grand Canyon. (p. 112)

The presence and absence of emotional words are especially evident in side by side periodicals about teenagers with their businesses (examples in (10)). Another stark contrast between genders at work is found in the stories about Hernando Cortes.

(13) Cortes was a conquistador. This is a Spanish word that means "conqueror". He got together a group of soldiers and ships. They set out to conquer the people and get their gold. Cortes was not afraid of conflict. If any group would not do what he said, he attacked them. He killed many local people. He scared them with his horses and his weapons. (p. 216)

There is a decided lack of words with affective meaning (expressing feelings) in favor of words with referential meaning (referring to an object or state of affairs) through the use of concrete action verbs that blatantly describe his work as a conquistador and go so far as to explain his *lack* of emotions in his job – fear. In contrast, each female character is described alongside emotional words with her work – Maya has her memories and Dr. Hildegarde's and Christa's success is attributed to their love of their professions. Dr. Robin Lakoff suggests that many affective words used to express approval such as "loves" in example (12) are strongly marked feminine (Talbot 2010:36).

4.2.3. BACKGROUNDING/SUPPRESSION OF FEMALE PROTAGONISTS. A third theme within the text concerning female protagonists is suppression of their merits through nominalization. Linguistic suppression occurs when there is no reference to the social actor in the text, but traces of the person are still present through the actions they commit. With backgrounding, the social actor is not mentioned with the actions they commit, but inferences can be made because the social actor is named in other places in the text (Tranchese & Zollo 2013:149).

(14) The company made up to $25 per day. (p. 298)

(15) Pullen House Hotel became famous for its soft beds, fine china and silver, and even bathtubs. (p. 299)

(16) When she fit fossils together, they taught her secrets about the past. (p. 165)

Here, non-living things are personified and act, concealing the female actors. Examples (13) and (14) are examples of backgrounding as Mrs. Pullen's name is not mentioned in these sentences, but we are aware from a full reading that she is the owner and manager of both the company and Pullen House Hotel. Example 15 is suppression, as 'she' and 'her' are the traces of Dr. Howard, the social actor. There is a notable contrast in the way male actions are stated – namely that when men are acting, as in example 6, the verbs are active and attributed to the character. Grandfather "makes" medicine, but Fossils "taught" Dr. Hildegard Howard.

5. EXPLANATION AND IMPLICATIONS**.** Following Fairclough's (2015:172-175) third stage of CDA, the findings should be explained according to their ideologies and effects. The gender ideologies present in this text refer to patriarchs, matriarchs, and successful woman. Patriarchs are revered, wise, and respected, whereas matriarchs are supportive and secondary. The successful woman is only truly successful if she plays by patriarchal rules and is emotionally committed to her work. The effects of these ideologies are often seen in the classroom as males are called on more often, hold the floor for longer, and interrupt female students and teachers more often than the reverse. Many US classrooms are set up as a competitive environment; males are socialized for competition and females for cooperation, making the classroom a place where females must follow patriarchal rules to be successful (Norton & Pavlenko 2004:505).

The ideological impact of female leaders, academics, adventurers, and entrepreneurs is positive. These texts have brought a new sort of woman to the educational institution and specifically the ELL classroom. One who combines traditional properties of femininity and reliance with an ambitious outlook on her future. Insofar as she has reached into several male-dominated fields within this textbook, she has strengthened the position of female students who want to pursue traditionally male jobs when they grow up. A female ELL may feel more empowered through the opportunities available to them, but subtle subversion of their merits and wisdom encourage them to play by patriarchal rules.

Policymakers and educators must use information regarding gender representation issues to make more informed decisions about the texts used to educate ELL's in the USA to avoid these potentially harmful effects of gender bias within the texts. As the population of the United States is slightly more female than male, these texts are unrepresentative of reality. Furthermore, 47% of the current US workforce are women (US Census Bureau 2015:2, 4). To better reflect reality, publishers should include more stories about women at work in the fields where women's voices are increasing, such as speech language pathology, physical therapy, law, politics, and pharmacy. Females have accomplished much in American history and the sciences, but these texts choose to overwhelmingly display the accomplishments of males, which does not reflect reality. This study does not seek to create texts that shape reality but simply to more accurately reflect it.

Additionally, the knowledge that the curriculum may be working against the educator to create equality in the classroom can and should influence the way educators respond and treat the texts within their classrooms. Teachers can apply critical pedagogies to teach critical literacy skills necessary for success in American educational environments as well to assist ELLs in promoting positive change within their spheres of influence.

6. CONCLUSION. This study examined gender representation within ELT materials in a context that has needed an update since the 1980s. By examining a Common-Core Aligned textbook series produced within the USA by Houghton Mifflin and adopted in state ELL curricula, it is safe to say that progress has been made since Porreca's (1984) study of ESL materials in the USA. As linguistic analysis from Fairclough's (2015) framework for CDA demonstrates, bias toward male characters as well as their prominence within the textbook both textually and visually, is persistent and pervasive in these materials. Additionally, evaluation and explanation of themes and ideologies that impact classroom society demonstrate the need for more work in the field of both applied linguistics and TESOL curriculum specialists for equal gender representation within textbooks. In the language learning classroom, teachers can employ various critical approaches to engage in explicit discussions of heteronormative or hegemonic texts and challenge assumptions of gender norms and ideologies that students bring with them to the classroom. Teachers should also pre-screen texts for these issues and either make conscious choices to read more feminist texts or to compare the current text to a more egalitarian text on the same topic.

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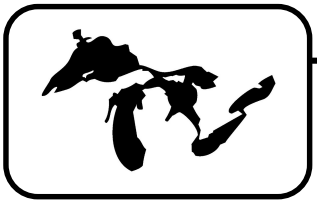

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A LINGUISTIC ANALYSIS OF THE ENDURING ISSUES ESSAY AND ITS PEDAGOGICAL IMPLICATIONS FOR ENGLISH LANGUAGE LEARNERS

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Abstract: This paper examines the new essay question on the 10th grade New York State Social Studies Regents Exam in Global History and Geography II. The purpose of this study is to complete a linguistic analysis of the change in the extended essay, known as the Enduring Issues Essay (EIE) and to adapt a language-based approach to instruction. This study's theoretical basis is situated in the social and contextual orientation to language (Gumperz 1983, Gee 1996) and undergirded by the work of Swales (2007) on nonnative speakers' academic communicative competence and Halliday's (1978) conceptual framework (field, tenor, and mode). The tasks of identification, definition, and persuasion are examined through specific observer perspectives offered within the Systemic Functional Linguistics (SFL) framework (Halliday & Matthiessen 2014). The findings suggest a language-based approach to instruction to support students in history writing. This research has implications for second language writing about the past, English for academic purposes (EAP), and history pedagogy.

Keywords: Systemic Functional Linguistics, language-based approach, history writing, state assessment, nonnative speakers, second language writing
Language: English

THIS STUDY INCLUDES AN SFL-INFORMED LINGUISTIC ANALYSIS of the New York State Education Department's new essay on the Social Studies Regents in Global History and Geography II, examines the writing demands of the newly proposed version entitled the "Enduring Issues Essay" (EIE), and evaluates and suggests a language-based approach to instruction that prepares students, especially English language learners, for the writing of this EIE.

Throughout the last decade, American classrooms have evolved into complex, multidimensional environments that include students with identified or unidentified learning problems, highly advanced learners, English language learners (ELLs), culturally diverse learners, students in poverty and homelessness, students who underachieve for various reasons, and students whose degrees of motivation are disparate and indistinct (Darling-Hammond, Wise

& Klein 1999, Tomlinson et al. 2003). Simultaneously, some states in the U.S. have continued to develop and revise their expectations for student performance considering societal and technological changes. New York State has moved away from the Common Core State Standards of the early part of decade and announced a new set of standards in 2017 to be fully implemented by 2020.

Under these newly introduced Next Generation Learning Standards in New York State (NYSED 2017a), teachers are expected to prepare all students to be successful in an increasingly diverse society and its demanding advanced literacies – a set of skills and competencies that enable communication, spoken and written, in increasingly diverse ways and with increasingly diverse audiences. For teachers, this means they are expected to implement high-quality learning environments that enable students to master sophisticated literacy skills and competencies that promote students' access to subsequent social and economic opportunities.

These changes and circumstances necessitate a re-evaluation of the current pedagogy inasmuch as current instructional approaches may fall short, to greater or lesser degrees, in helping students achieve success in the disciplines and on new or revised assessments associated with the new standards. Many content teachers, even those who are accomplished writers in their disciplines, have not been trained in composition pedagogy, and in the case of social studies teachers, writing in this multidisciplinary content area (which includes history, economics, political science, sociology, and geography) demands not only extensive content knowledge but also a complex set of linguistic and rhetorical skills. Of particular concern in social studies classrooms are English language learners (ELLs), who have not yet mastered the English language sufficiently to perform more complex linguistic tasks and rhetorical structures. Though ELLs bring knowledge of words (and their concepts) acquired in a home language to the classroom, educators are often beset with the task of choosing and employing appropriate instructional strategies and supports that can help students establish connections between this prior knowledge and their developing knowledge in English, especially knowledge of the content and linguistic demands of the disciplines (Schleppegrell 2008, Martin & Rose 2008).

With these concerns in mind, we decided to investigate the new essay on the New York State Global History Regents from a linguistic perspective. The EIE has been recently introduced to students and presents a considerable challenge to them. It was previously used on the Advanced Placement Exam, so it is in effect a task previously completed by advanced placement students being tested for college credit.[1] The research questions for our investigation were designed to reveal the complexities of the essay and to find out how English language learners are being prepared for the assessment:

1. What will an SFL-informed linguistic analysis of the EIE reveal about the lexical and grammatical complexity of the texts?
2. How can this knowledge be used to develop or enhance a language-based approach to instruction to help students prepare for the essay?

[1] Kevin Sheehan, interview by J. Nenchin, Molloy College, Rockville Centre, NY, March 1, 2019.

3. Which approaches to instruction on the EIE are currently being used for English language learners in two New York global history classrooms?

1. BACKGROUND. The theoretical basis of this study is situated in the social and contextual orientation to language (Gumperz 1983, Gee 1996, Hasan 2009). Language cannot be detached from its users and from the context in which it is used. In its exploration and examination of the generic and linguistic features of the EIE question, the study is undergirded by the work of Swales (2007), whose focus is on the "pragmatic concern to help people, both native and nonnative speakers, to develop their academic communicative competence" (p. 9) and Halliday's (1978) conceptual framework (field, tenor, and mode) for analysis of the data, which comprises the sample EIE question text, including several historical documents and graphic representations that are used in answering the question. Field, tenor, and mode are the parameters of the context of situation, that is, the social situation, and are also referred to as register variables. Field is how experience is encoded in the text (the ideational metafunction), tenor is how interaction is encoded (the interpersonal metafunction), and mode is how these meanings are organized in the text and in relation to other meaning-making resources such as visual images (the textual metafunction) (Halliday 1978).

2. METHOD. The analysis started with the examination of the texts for their readability. A readability profile of the EIE prompt and documents was generated using Microsoft Word tools to obtain Flesch-Kincaid measures. The reading ease score is based on a 100-point range (see Table 1).

Flesch-Kincaid Reading Ease Score	**Readability Level**	**Grade Level**
0-29	Very difficult	University graduate and professional level
30-49	Difficult	University undergraduate level (Grades 13-16)
50-59	Fairly difficult	Grades 10-12
60-69	Standard / Plain English	Grades 8 & 9
70-79	Fairly easy	Grade 7
80-89	Easy	Grade 6
90-100	Very easy	Grades 5 and lower

Table 1. Flesch-Kincaid Reading Ease Measures and Grade Level Measure. Adapted from Flesch (2016) http://www.mang.canterbury.ac.nz/writing_guide/writing/flesch.shtml

The lower the score, the more difficult the text. The grade level score reflects the U.S. grade level equivalent from primary through tertiary schooling, grades 1 - 16 and beyond.

Next a detailed SFL analysis of the EIE prompt was completed. The prompt was divided into clauses, and each clause was analyzed for the experiential, interpersonal, and textual metafunctions. The experiential metafunction construes "the field of social process" (Halliday 2002: 201), that is, what is happening. The interpersonal metafunction expresses "the tenor of social relationships" (201), that is, who is involved and what the relationship among speakers/writers and listeners/readers is; the textual embodies "the mode of the discourse itself" (201), that is, how it is organized. Then the accompanying documents were examined for process types, voice, and generic features (Martin & Rose 2008).

2.1. DATA. The texts analyzed comprise the EIE prompt and the five accompanying documents in the sample text for test preparation. The prompt states:

> *An enduring issue is a challenge or a problem that has been debated or discussed across time. An enduring issue is one that many societies have attempted to address with varying degrees of success.*
> *Task:*
> - *Identify and define an enduring issue raised by this set of documents.*
> - *Using your knowledge of social studies and evidence from documents, argue why the issue you selected is significant and how it has endured across time.*
>
> *Guidelines:*
> - *Identify the enduring issue based on a historically accurate interpretation of at least **three** documents.*
> - *Argue that this is a significant issue by showing*
>   - *How the issue has affected people or has been affected by people*
>   - *How the issue has continued to be an issue or has changed over time*
> - *Include outside information from your knowledge of social studies and include evidence from the documents.*

The sample documents accompanying the prompt for a practice test were as follows:

1. One cartoon, one poster, and two descriptive sentences (Appendix A)
2. Excerpt from an article on Japanese education (Appendix B)
3. Excerpt from a book on Iran (Appendix C)
4. Excerpt from a book on China (Appendix D)
5. Newspaper article with photograph (Appendix E)

Each document except the fifth one begins with a brief summary of one or two sentences, providing an orientation to the documents.

3. RESULTS. The findings of the analysis of the EIE prompt and the accompanying documents present information on their readability and grammatical complexity.

3.1. THE EIE PROMPT. The prompt was analyzed for readability and linguistic features.

Ranked clauses: 14 Rankshifted clauses: [[10]]
A1. An enduring issue is a challenge or a problem [[1.1 that has been debated]] [[1.2 or ^THAT HAS BEEN discussed across time.]]
B2. An enduring issue is one [[2.1 that many societies have attempted to address with varying degrees of success.]]
C3. Identify ^AN ENDURING ISSUE [[3.1 ^THAT IS RAISED BY THIS SET OF DOCUMENTS]],
C4. and define an enduring issue [[4.1^THAT IS raised by this set of documents.]]
D5. Using your knowledge of social studies and evidence from documents,
D6. argue (projecting clauses 7 and 8)
D7. why the issue [[7.1 ^THAT you selected]] is significant
D8. and how it has endured across time.
E9. Identify the enduring issue
E10. based on a historically accurate interpretation of *at least **three*** documents.
F11. Argue (projecting clause 12)
F12. that this is a significant issue by showing [12.1 how the issue has affected people]] [[12.2 or ^HOW THE ISSUE has been affected by people]] ^AND [[12.3 How the issue has continued to be an issue]] [[12.4 or ^HOW THE ISSUE has changed over time.]]
G13. Include outside information from your knowledge of social studies
G14. and include evidence from the documents.

Table 2. Clause listing.

3.1.1. READABILITY PROFILE. To develop an overall profile of the EIE prompt with regard to reading difficulty, we used Microsoft Word, which facilitates an analysis of the readability of any text. After Word has checked the spelling and grammar and errors, there is an option to display information about the reading level of the document, including readability scores based on the Flesch-Kincaid Grade Level Test and Flesch Reading Ease Test. Through the review function, we measured the text of the essay prompt at the Flesch-Kincaid Grade Level – 10.7 (Grade 10 and 7 months). This corresponds to the grade level of the students taking the test at the end of 10th grade in high school in the U.S. The Flesch Reading Ease results were 49.9. This measure indicates that the EIE prompt is as difficult to read as the beginning of university-level reading (Grade 13).

3.1.2. CLAUSE PROFILE. The EIE prompt text contains 7 clause complexes (sentences), 14 ranked clauses (dependent and independent clauses), and 10 rankshifted (embedded/defining clauses. Table 2 shows the clause listing with rankshifted clauses in brackets, and verbs in all clauses are underlined. Capital letters preceded by a carat are ellipsed parts of the clauses that are recovered.

3.1.3. FINDINGS OF THE SFL ANALYSIS OF THE PROMPT. The SFL analysis of the prompt focused on five areas: (a) transitivity, (b) voice, (c) rankshifting, (d) cohesive devices, and (e) theme. A transitivity profile reveals agency (voice) and process type. Rankshifting is an indicator of the complexity of the text. Cohesive devices and thematic choices contribute to the unity and progression of the text.

3.1.3.1. TRANSITIVITY. An SFL analysis of transitivity involves the experiential metafunction, which is how experience is construed; in other words, it tells what the text is about (Halliday & Matthiessen 2014). Process types are semantic categories of verbs: material (verbs of doing and happening), behavioral (verbs of behaving), verbal (verbs of saying), relational (verbs of being and having), mental (verbs of thinking, inclination, perception, and emotion), and existential (verbs of existing) (Halliday & Matthiessen 2014). The use of process types varies across text types, and choice of process helps create the meaning of the texts.

In the EIE prompt, the dominant process type in the clauses is Material (50%) (verbs expressing what is happening), followed by Relational attributive (29%) (verbs indicating a relation between entities). This profile is typical of a procedural text, in which the audience is meant to follow the steps to complete the task. This means that the text is skewed towards doing and describing. The main participants are the reader (you), the topic (enduring issue), and the goal (arguing based on documents/evidence).

3.1.3.2. VOICE AND RANKSHIFTING. There are 14 ranked clauses, all in the active voice, and 10 rankshifted (defining) clauses, 5 of which are in the passive voice (2 of which are agentless); thus, 50% of the rankshifted clauses are in the passive voice. According to Halliday & James (1993), in English across texts, voice is a skewed system; about 90% of texts are in the active voice. Therefore, this high frequency of clauses in the passive voice diverges from the general usage. Likewise, the high number of rankshifted clauses in the prompt distinguishes it from

colloquial or informal texts. This marked use of passive voice and rankshifting (embedding) increases the difficulty of the text considerably for ELLs, especially beginners. Embedding is an advanced language skill that is learned later for both first and second language speakers. Embedded clauses function as part of a group (usually a nominal group) in a clause. Syntactically, they are complex for second language learners (Brown 1971, Gass 1979).

3.1.3.3. COHESIVE DEVICES. Halliday & Hasan (1976) explained that English employs five types of cohesion: reference, ellipsis, substitution, conjunction, and lexical cohesion. Reference is the use of pronouns to refer to a nominal group. Ellipsis and substitution (a subtype of ellipsis) are when something is left out or replaced with another word; for instance, in the clauses *Jenny worked hard and completed the project*, Jenny is ellipsed in the second clause, but she is clearly the actor of the process. Conjunction is the use of a conjunction or conjunctive expression to connect clauses. Lexical cohesion involves the use of repetition of a lexeme or the use of synonymy, antonymy, or hyponymy to create a chain or unity of meaning throughout a text.

In the EIE prompt, certain cohesive devices prevail. Repetition of two key nominal groups – *enduring issue* and *documents*, and of the processes required (argue, identify, include) – is the author's main cohesive strategy and foregrounds the main point of the assignment.

Ellipsis is another feature of the EIE prompt, and reference is limited to *that, it,* and *one,* with the first of the three as the dominant choice, a strategy which is connected to the rankshifting.

3.1.3.4. THEMATIC ORGANIZATION. According to Halliday & Matthiessen (2014), the Theme "serves as the point of departure for the message" and "locates and orients the clause within its context" (64). It is also one of the means by which the clause is organized as a message. Theme is a cohesive strategy that gives form to and connects the ideational and interpersonal meanings. The topical theme of the clauses is the enduring issue and the processes connected with it (*identify*, *define*, *argue*, *include*). Thus, the thematic development tightly connects all the procedures to the initial theme, the enduring issue. The textual themes used are *and*, *how*, and *why*.

3.2. FINDINGS OF THE ANALYSIS OF THE FIVE ACCOMPANYING DOCUMENTS. Document 1 (see Appendix A) is multimodal. It is entitled "Luddites" and comprises a two-sentence summary and two images: a cartoon and a poster. The features of the cartoon are visually challenging because of the poor quality of the cartoon and the hard-to-discern images specific to the 19th-century British textile industry. The poster has a difficult grammatical beginning with the conjunction "whereas" and content-specific lexis (frames, guineas, rioting, conviction, procure, Messrs…), some of which are in British usage and/or archaic. The Flesch-Kincaid reading ease score is 27.9, which indicates "very difficult," and the grade level is 15.1, thus university level. One of the grammatical features that makes the text more difficult for language learners is the use of passive voice, which appears in 20% of the clauses. Learners may expect the subject to be the doer of the action, but in a clause in the passive voice, the goal or object is at the beginning of the clause.

Document 2 (Appendix B) is an excerpt on Japanese education. It is a mixed genre type, part historical recount, part exemplification. Its linguistic features include the prevalence of material

and relational processes, circumstantial elements that express a sequence of events, and the passive voice. The Flesch-Kincaid reading ease score is 27.5 or "very difficult," and the grade level is 14.8. With regard to passive voice, the text approximates the general English profile of voice as observed by Halliday & James (1993) at 11.1%.

Document 3 (Appendix C) is an excerpt from a book on Iran. Its genre type is explanation (Martin & Rose 2008). Its linguistic features are the predominant use of verbal process. It has a quote within the quote and includes definition of one vocabulary term. The Flesch-Kincaid reading ease score is 34.6, which is "difficult," and the grade level is 12.4. There are no clauses in the passive voice in this text.

Document 4 (Appendix D) is an excerpt from a book on China. Its genre type is a consequential explanation (Martin & Rose 2008), construing the consequences of each action. The material process dominates the text, and the passive voice is used in 20% of the clauses. The Flesch-Kincaid reading ease is 21.4 or "very difficult, and the grade level is 15.9, the highest level of all the documents.

Document 5 (Appendix E) is multimodal, an excerpt from newspaper article with photograph. Its genre type is a news story. Its linguistic features include the passive voice -- 50% of the clauses are in in the passive voice, in some cases the agentless passive. The Flesch-Kincaid reading ease score is 32.6 or "difficult," and the grade level is 14.6

Taken as a whole, the five documents have a Flesch-Kincaid reading ease score of 27.7 ("very difficult") and a grade level of 14.5. The average use of passive voice is 16.6% of the clauses, with a range from 11.1% to 50%.

The findings of the analysis strongly suggest that the EIE prompt and its accompanying documents are lexically and grammatically complex and may present a challenge not only to the English language learner but also to the native speaker. The documents are all above 10th grade reading level and are primarily university level reading. The documents will vary with each new test, so a pedagogical focus on any individual document or its lexicon may not help learners with other EIE prompts. To better understand how students are being prepared, our fellow researcher Nicholas DiBenedetto explicated the approach that he and his colleague used in the course of an academic year (personal communication, June 20, 2019).

4. THE EIE IN CLASSROOM PRACTICE. As with any academic research, the researchers were concerned about their work's connection to and implications for professional practice. To that end, one of the researchers initiated a plan for action research in his classrooms. Action research is a way for teachers "to regenerate their practice through investigation of pedagogical interests, issues and concerns in their own classrooms" (Burns & Kurtoğlu-Hooton 2016: 10). In New York, action research is included in teacher preparation programs on the master's level. In action research, teachers are both participants and investigators in their own practice (Burns & Kurtoğlu-Hooton 2016). It is a form of ongoing professional development that is motivated by teachers' interest in finding the best pedagogical practices to help their students succeed. Teacher researchers choose what they would like to investigate in their classroom and devise plans for action that will deepen their understanding and that they hope will increase student success. They observe and document what occurs in their classrooms as the result of any interventions that they

employ. Action research can "bridge the gap between formal qualifications and effectiveness in the classroom" (Borg 2013: 217).

The following account is based on action research as part of professional practice in the yearlong instruction of two integrated Global 10 classes preparing for the first administration of the New York State New Framework Global Regents examination. Both classes were co-taught by one social studies and one dually certified social studies/TESOL teacher. The first class was comprised of sixteen students: eight non-ESL students and eight ESL students who are native Spanish speakers. The second class was comprised of twenty students: sixteen non-ESL students and four students who are native Spanish speakers. In addition to these two global history classes, the majority of the ESL students received a Global workshop that was offered every other day throughout the course of the school year. These workshops were offered by the TESOL educator that co-taught the global classes, which allowed ESL students to learn content-specific language in English, as well as instruction and additional materials provided in their native language. The ESL students ranged in five levels from Entering through Commanding as determined by the NYSESLAT (New York State English as a Second Language Assessment Test). These interventions represented part of normal classroom practice, and the data comprise personal teaching reflections (DiBenedetto, personal communication, June 20, 2018).

The new framework exam was novel for students and teachers alike, and much of the instruction throughout the year was trial and error. The following information is an attempt to elucidate some of the components and methods of instruction used during the action research that were regarded as successful to student comprehension of exam tasks in both parts two and three.

4.1. EXPLICIT INSTRUCTION OF ENDURING ISSUES. Early in the school year, students received explicit instruction of the enduring issues that were provided by EngageNY (a New York State Education Department website that provides resources for educators and parents) (NYSED 2017b). Initially, students worked in groups to define an assigned enduring issue. Once students defined their issue, they were tasked with thinking about events in any period of history that demonstrated their enduring issue and explaining the connection. Students then presented their issue to their peers, while their peers were tasked with coming up with additional examples of the enduring issue in history. In this manner, students were building their understanding of the enduring issues, while simultaneously completing the task of the EIE in reverse; rather than extrapolating an issue from a set of documents, students were finding any event in history that could be connected to the enduring issue (DiBenedetto, personal communication, June 20, 2018).

4.2. WRITING FRIDAYS. Much to the initial chagrin of students, "Writing Fridays" began about two months into the school year. It was the opinion of the educators that students would only refine their skills for writing about history by writing consistently. The task of Writing Fridays changed from week to week in an attempt to teach all of the components necessary for the EIE and help students feel more confident in their writing abilities. ESL students are afforded the ability to write in their native language (Spanish or other languages) on the Regents exam, so this option was always available to ESL students (although many chose to practice their English by completing some of these assignments in English). Some examples of Writing Friday

assignments included looking at a regents-style document and explaining the historical context, explaining how a topic from the week demonstrated a particular enduring issue, and writing a full enduring issues style paragraph using a document related to the week's instructional topics. By the halfway point of the academic year, it was clear to both the ESL teacher and the social studies teacher educators that consistent historical writing had helped students answer historical writing prompts and, as a whole, made them better writers (DiBenedetto, personal communication, June 20, 2018).

4.3. FORMULAIC WRITING. Students received whole-class instruction on how to write the introduction to the EIE as well as frames for explaining how historical documents connected to enduring issues. Students were not forced to use these methods to write, but for many native English speakers, as well as the nonnative ones, they became the foundation for the style of writing that they would use as the year progressed. The goal in the formulaic writing of the introduction was to give ESL students a framework from which they would be able to earn at least three out of the available five points on the EIE as a whole. The formula was as follows:

> 1: Define the phrase Enduring Issue - *Enduring Issues are problems which have existed throughout history in locations all over the world.*
> 2. Define the Enduring Issue you are using in your essay - *The Enduring Issue of* _____ *is when* _____.
> 3. Write where the issue can be seen - *The enduring issue of* _____ *can be seen in* _____.

In item 2, students were instructed to write their enduring issue and then define that specific issue. In item 3, students were given multiple ways in which they could explain where the enduring issue was evident. For example, they could use document numbers (*...can be seen in documents 1, 3, and 4)*, locations/times (*...can be seen in Czarist Russia, Colonial India, and Post-WW2 Europe)* and specific leaders/individuals (*...can be seen under the rule of Mao Zedong, Josef Stalin, and Adolf Hitler).*

As students progressed to writing multiple paragraphs based on historical documents, they were instructed to approach the paragraph by beginning with the historical context of the document. A puzzle analogy was used to explain historical context; the document was the piece that completes the puzzle, so the historical context was everything else that was going on in the image. By conceptualizing in this manner, student focus shifted away from the lexical archaisms that existed in many of the documents and towards the content that they had learned and could describe in their own words. Essentially, if a student could identify what historical period and location the document was talking about, they could successfully use their content knowledge to explain the historical context.

Once students explained the historical context, the last portion of each paragraph was dedicated to explaining the connection to their selected enduring issue. Students were asked to be explicit in this instruction so that it was clear to the person reading their essay that they were utilizing the enduring issue. For example, students were given the frame *"This demonstrates the*

enduring issue of _____ *because* _____*."* Students who left out the explanation of the connection to the enduring issue were referred to this sentence frame or something similar as a must in every document paragraph.

Finally, students were instructed to use the conclusion to demonstrate what made their issue enduring. To do this, students were asked to think of a modern example of their enduring issue. By doing so, students were showing the reader the issue was truly enduring. For this portion of the EIE, many ESL students were able to impress readers by utilizing examples from their own countries that had connections with their issue (DiBenedetto, personal communication, June 20, 2018).

4.4. TEST PREP. Prior to the administration, there were two elements of last-minute preparations that stood out as important to the success of the students on the Regents examination. The first was the language students would use to complete the EIE. Although many ESL students used writing Fridays to practice their English writing skills, the teachers suggested that students write in their native language or English based on the work that they had produced throughout the year. It was often the case that ESL students knew exactly what their task was, but they could better explain their thoughts if they were using their home language. The second element was how many enduring issues a student should be familiar with when they walked in to take their exams. The NYSED resource listed twenty enduring issues, but it was the opinion of the educators that taking the time to memorize all of these issues was not productive, as some of the more prominent enduring issues (such as conflict, power, or technology) could be used with almost any foreseeable set of documents. Native English speakers were asked to memorize ten issues and write them down as soon as they arrived for the exam, while ESL students were asked to memorize five issues since they had the additional burden of reading in a second or other language that the native speakers did not have (DiBenedetto, personal communication, June 20, 2018).

5. DISCUSSION. A combination of the results of the analysis of the EIE prompt and the teacher researcher's observations from the interventions in classroom practice in response to the change in the state assessment can help ESL and social studies teachers as they prepare their students for these new challenges. The language-based approach described above helped the ESL students achieve success. The emphasis on scaffolded writing, extensive practice, and using writing to learn the content (Martin & Rose 2008, De Oliveira 2015) helped the students meet the demands of the task. Because they had the option of composing their answers in their native languages, they were able to answer the question without interlanguage issues, such as negative language transfer.

In addition to the successful pedagogical approach in the two classes, there are two areas of instruction that can be further expanded based on the findings from the analysis. Firstly, the prompt and sample documents presented some predictable linguistic features of advanced reading and writing that could present difficulties to English language learners: the frequent use of the passive voice and defining relative clauses. Explicit instruction in the passive voice, especially agentless passive, is recommended to help learners better comprehend and respond to

the selection of documents. The development of skills in interpreting and using embedded clauses (who/that/which/how…) might also facilitate their response to the prompt and documents and help students develop their ability to expand nominal groups through the use of embedded (defining/restrictive) clauses, which moves their writing from more spoken-like to more written-like (Halliday 2002). Secondly, the students would benefit from a deeper understanding of text types common in history writing, such as those represented in the selection of documents (newspaper story, explanation, and so on). The onus of this additional instruction would likely fall on ESL teachers because of their training that focuses on the language needs of their students, though content teachers could also address text types in their instruction for all learners' gain.

6. CONCLUSION. The challenges of the EIE are significant for English language learners and for some native speakers, for example, those reading below or at grade level. This study focused on the analysis of the EIE prompt and the ways in which a TESOL professional approached writing instruction in preparation for the EIE as part of the NYS Global History Regents. A social studies teacher without the help of a TESOL professional is ill-equipped to deal with the linguistic needs of ESL students, despite professional knowledge of content and historical writing genres. Making both content and ESL teachers aware of the readability measures and linguistic features of the EIE prompt is an important step in helping them prepare their students for the essay part of the examination. Additionally, test makers on the state level should make certain to test the reading and writing skills that the students have acquired, not skills they have yet to acquire. The language-based approach used by the social studies team has implications for all content-area teachers. Supplementary language support may be called for, especially in the case of classes with students of mixed native languages because the teacher may be unable to use the students' L1.

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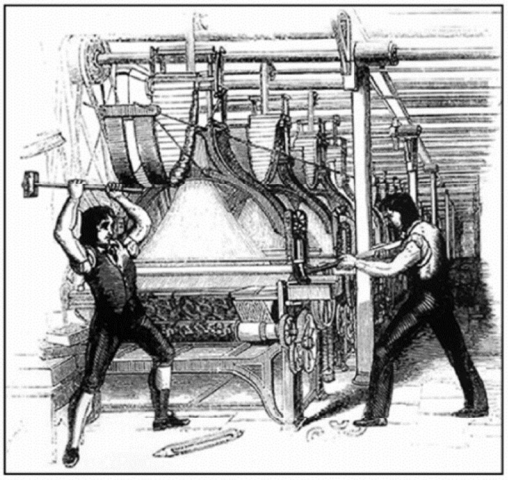
Appendix A

Document 1

Between 1811 and 1813, workers in textile districts in England often violently protested against social, economic, and political conditions they were experiencing. The poster on the right was published in 1811.

Luddites



Source: "Luddites," Robinson Library online

WHEREAS,

Several EVIL-MINDED PERSONS have assembled together in a riotous Manner, and DESTROYED a NUMBER of

FRAMES,

In different Parts of the Country:

THIS IS

TO GIVE NOTICE,

That any Person who will give Information of any Person or Persons thus wickedly

BREAKING THE FRAMES,

Shall, upon CONVICTION, receive

50 GUINEAS

REWARD.

And any Person who was actively engaged in RIOTING, who will impeach his Accomplices, shall, upon CONVICTION, receive the same Reward, and every Effort made to procure his Pardon.

☞ Information to be given to Messrs. COLDHAM and ENFIELD.

Nottingham, March 26, 1811.

Source: "Luddites," Robinson Library online

Appendix B

Document 2

This excerpt discusses Japanese education as it developed during the Meiji period.

The fad for things Western was strongest during the 1870s and early 1880s. Starting around the mid-1880s, however, there developed some conservative tendencies that began emphasizing Japanese or "Eastern" traditions. What resulted was a blending of Western and Eastern traditions. One of the best examples of this trend can be found in the area of education. When the Meiji government introduced a modern education system in 1872, the basic structure of education was based on the French model with a curriculum heavily influenced by the United States. In the 1880s, conservative elements in the government exerted their influence and added Shinto and Confucian based morals to the compulsory education curriculum. In 1890, the "Imperial Rescript on Education" (that is, the Emperor's words to students) was issued and became the basic moral guideline until the end of the WWII. This imperial rescript clearly contained elements of State Shinto, stating: "Our Imperial Ancestors have founded Our Empire on a basis broad and everlasting" and "should emergency arise, offer yourselves courageously to the State; and thus guard and maintain the prosperity of Our Imperial Throne coeval [of the same age] with heaven and earth." It also emphasized the Confucian virtues of filial piety, loyalty, faithfulness, etc. What began to emerge was a Western-style education system with a uniquely Japanese twist. […]

Source: adapted from RACEL, M. N. Motivations for the 'Westernization' of Meiji Japan: A sin of omission in world history survey textbooks. In *World History Bulletin* Vol. XXV, No. 1: 8-11. https://www.thewha.org/files/pdf/whb/25.1.pdf

Appendix C

Document 3

Iran's people experienced economic dissatisfaction during the 1960s and 1970s. It was a period of growing Iranian discontent. […] In 1963, a cleric named Ayatollah Ruhollah Khomeini began to criticize the regime in his sermons and articles. Khomeini opposed the shah's close relations with the United States, Iran's sale of oil to Israel, the corruption of the regime, and Iran's failure to help its masses of poor people. Other Iranians bemoaned [lamented] Iran's dependence on the West in general and on the United States in particular.

"Today we stand under that [Western] banner, a people alienated from ourselves; in our clothing, shelter, food, literature, and press. And more dangerous than all, in our culture. We educate pseudo*-Westerners and we try to find solutions to every problem like pseudo-Westerners." (AL-E AHMAD, JALAL. 1962. *Plagued by the West (Gharbzadegi)*. [original clandestine publication in Farsi] Translated by Paul Sprachman Columbia University, NY. Delmar, NY: Caravan Books, 1982.

Source: CHOICES FOR THE 21ST CENTURY EDUCATION PROGRAM. 2009. *Iran Through the Looking Glass: History, Reform, and Revolution.* Providence, RI: Choices Program, Watson Institute for International Studies, Brown University.

*pseudo-fake

Appendix D

Document 4

In this passage, experts in Chinese history discuss difficulties China faced in opening the country to economic relationships with foreigners. […] Foreign economic policy is always closely linked with domestic economics and politics. Mao's self-reliant development model was based on capital accumulated by repressing living standards and political freedoms. Deng's open-door policy brought in foreign capital and trade, but at the cost of greater vulnerability to Western influence not only in the economy but in culture and politics. Deng's reforms encountered opposition, but in time they gained wide support. With each new step of reform imports surged, foreign exchange tightened, inflationary pressures mounted, and conservatives complained about the loss of cultural and ideological discipline. In response Deng decreed retrenchments [cutbacks] in 1979, 1986, and 1988. Each retrenchment reduced inflation and tightened discipline, but slowed growth and provoked protests from pro-reform officials in the regions and bureaucracies that profited most from the open door. Each retrenchment soon gave way to a new phase of reform and accelerated growth that benefited wider circles of the population. The 1989 democracy movement was sparked in part by public opposition to the inflation and corruption associated with the open-door policy. But the policy survived the suppression of the movement and gained new momentum in 1992 when Deng Xiaoping made a symbolic tour of the southern open zones to reaffirm his commitment to reform and opening. […]

Source: NATHAN, A. J. & ROSS, R. S. 1997. *The Great Wall and the Empty Fortress*. New York: W.W. Norton & Co.

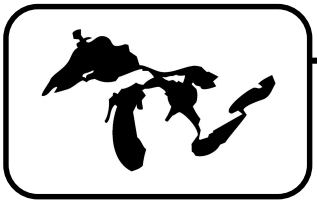
Appendix E

Document 5

McDonald's Celebrates 26 Years in Russia

One of the world's biggest chains of fast-food restaurants marked its 26th anniversary of business in Russia Saturday, Jan. 31. The first McDonald's was opened in 1990 on Pushkin Square in Moscow, one year before the collapse of the Soviet Union, and became a pioneer for the many foreign food chains that flooded Russia afterward. The restaurant was temporarily closed by the state food safety watchdog in August last year [2015] and reopened in November. Nowadays 471 McDonald's restaurants serve more than 950,000 customers per day in Russia.

Source: "McDonald's Celebrates 26 Years in Russia," *The Moscow Times* online, February 2016 https://www.themoscowtimes.com/archive/mcdonalds-celebrates-26-years-in-russia#:~:text=One%20of%20the%20world's%20biggest,31.



LACUS Forum **44:2.61-74 (2022)**

MULTILINGUALISM AND GENRE IN THE EVER-CHANGING ARABIC VOCABULARY: ARABIC FOLKTALES, NARRATIVES AND CONVERSATIONS IN ISRAEL

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Abstract: Arabic has many spoken dialects that are distinguished by factors such as geographic location, demographic group, social status, communal faith, and gender. In Israel, foreign effects are reflected in mainly Hebrew and English elements or features. Native speakers of Arabic in Israel are multilingual by way of life: they first acquire a dialectal L1, then pick up other dialect(s) spontaneously, and study (at least) both Hebrew and English at school. In Israel, Hebrew is the official and dominant language and is more important for them than English. Our research question explored how the multilingualism of native speakers of Arabic in Israel is expressed in different communication genres. We study here three genres of spontaneous oral speech: Bedouin folktales, spontaneous personal texts narrated by native speakers of Arabic from Haifa, as well as conversations and interviews of Arab college students. The study reveals differences between the groups and genres in the way that the speakers use foreign languages in their spontaneous colloquial speech.

Languages: English, Colloquial Arabic, Hebrew, Modern Standard Arabic
Keywords: Arabic dialects in Israel, Bedouin folktales, Haifa Arabic, younger and older speakers of Arabic, Hebrew effect on colloquial Arabic, English effect on colloquial Arabic, Modern Standard Arabic.

ARABIC IS A LANGUAGE WITH MANY SPOKEN DIALECTS, as well as a literary (written) register. Much literature deals with differences between Arabic dialects in many geographical regions of the Arabic-speaking world. Various factors affect the verbal production of dialect speakers. These factors include geographical location, demographic group, social status, religion, as well as gender, expressed in differences between male and female speech. Such factors change the structural features of the speakers' utterances (Trudgill 1986, Holes 2004, Behnstedt & Woidich 2005, Owens 2006, Versteegh 2006-2009).

Over the centuries, various languages and varieties have influenced colloquial Arabic dialects. This is evident in written Literary Arabic (also named Classical or Modern Standard

Arabic, MSA) and in foreign language elements, such as Turkish or English (cf. Davies et al. 2013, Kossman 2013). In Israel, this linguistic mixture refers now mainly to Hebrew, the official and dominant State language, and the globally used English. Both of these languages affect colloquial Arabic dialects and MSA[1]. For the purpose of this case study, we focus solely on the situation in the Arabic dialects used in the northern part of Israel. However, similar processes may appear in Arabic dialects used elsewhere.

The basic issue to note is that native speakers of Arabic in Israel are more inclined to be multilingual due to their lifestyle: they grow up using a dialectal L1 and as they grow up, they spontaneously pick up other dialects or dialectal elements from the people with whom they interact in their environment. These speakers learn MSA at school as their literary communication language, and Hebrew and somewhat later, also English as foreign languages (at least to the end of their high-school education). Since Hebrew is the dominant official language in the State of Israel, it is more important for the students to be fluent in Hebrew than in English. However, (American) English affects Modern Hebrew, and therefore, in addition to studying it at school, some elements of the English language reach the Arabic dialects (Qasis 2018, Spolsky & Shohamy 1999, Rosenhouse 2008, Marʿi 2013).

This state of mixed languages is present in practically every communication event conducted in colloquial Arabic (cf. Marʿi 2013) and creates cognitive problems for the Arabic speakers, related mainly to reading and writing MSA (Saiegh-Haddad & Malatesha Joshi 2014). In view of the literature, the research question of this study is the following: How is multilingualism of native speakers of Arabic in Israel expressed in their different speech communication genres? Our hypothesis is that different genres will reveal different features of linguistic multilingualism, expressed in linguistic forms and sociolinguistic criteria. This article is organized as follows: after describing the method of work in section 1, we present examples of multilingualism in three genres of spoken communication in section 2, and then present the findings in section 3. Section 4 presents our conclusions.

1. METHOD. We studied multilingualism by comparing three different genres of spontaneous oral recorded speech. The first includes the genre of Bedouin folktales (Perez 2017). The next is narrative texts recorded from Haifa-born native speakers of Arabic (Geva-Kleinberger 2004). The third genre is interviews/conversations conducted by college students (Brand 2013). Brand's recordings are the most recent, as they were made in the first decade of the 21st century. Geva-Kleinberger collected his material in the 1990's. Perez collected his recordings in the early 1980's but published them in book form much later (2017[2]). The participants' ages differed between young adults (the students) and old speakers (the Bedouin and Haifa speakers). All of the groups included male and female speakers in varying numbers. The speakers in each of these three text collections belonged to different groups – Brand's students were Bedouin and Druze, as well as urban and rural Muslims and Christians; Perez's narrators were Galilee Bedouins; and Geva-

[1] The split between colloquial dialects and MSA or Classical Arabic was named diglossia (cf. Marçais 1930, Ferguson 1959, Bousofara-Omar 2006).

[2] Although languages change in time, we use this material because of its authenticity. In section 3, we refer to the different factors that relate to Code Switching in each speakers' group.

Kleinberger's narrators were Muslim, Christian, and Jewish natives of the city of Haifa. Table 1 summarizes the main aspects of the research material. The differences between the participants and their recordings are discussed below.

The focus of our analysis of the three genres is on the time-related and community-related differences between the speakers' groups, reflected in the ways and rates they used foreign elements in their spontaneous speech. We analyze the components of quantity, pronunciation, age, gender, and comment on the vocabulary, with comparisons between the three sources, which enable us to draw some conclusions.

Source	Dialects	Narrators	Genre
Perez (2017)	Galilee, Bedouin	Bedouins, old	Folktales
Geva-Kleinberger (2004)	Haifa, Urban	Haifa, Urban, old	Personal narratives
Brand (2013)	Galilee and Haifa: Bedouin, Druze, rural and urban Christians and Muslims	College students – young adults: Druze, Bedouins, rural and urban Christians and Muslims	Conversations, Interviews

Table 1. The research material

Multilingualism and genre are common subjects of sociolinguistic literature, sociology media studies, as well as computerized data analysis (e.g., Biber 1988, Swales 1990, Wolters & Mathias 1999). Let us begin with short definitions of these genres:

1. Folktales: Folktales are stories passed down orally from generation to generation. They originated among non-urban people without much of a formal education. (cf. definition in: https://www.tale.co.il/סיפורי-עם/ and in Bronner 2019)
2. Personal narratives: These are prose texts relating to personal experience. They are usually told in the first person and have non-traditional content (cf. more in Waletzky & Labov 1997, Todeva & Cenoz 2009).
3. Conversations: These are interactive communications (exchange of words) between two or more people. Also, they are defined as oral expressions of sentiments, observations, opinions, or ideas (cf. Merriam-Webster dictionary, Sidnell & Stivers 2013).
4. Interviews: These are conversations based on questions and answers. They can be un-structured (open-ended questions with no predetermined plan), semi-structured, or highly structured (with specific questions occurring in a specified order).[3] In addition, an interview is a meeting at which information is obtained (as by a reporter, television commentator, or pollster) from a person (cf. Merriam-Webster Dictionary).

[3] Brand's (2013) material is of the semi-structured type.

2. EXAMPLES. First, we present a few examples of code switching (CS) found in three source works. The examples below specifically demonstrate various CS types from Hebrew (H), English (E), as well as from Turkish (T), French (F), Italian (I), Aramaic (A), and Modern Standard Arabic (MSA). Code-switched elements in each speaker's text differ in number and original language. Some examples are from more frequently used patterns, others are from languages that are not used much in Israel presently (Turkish, German, Italian, and French). See section 3 for discussion.

Note that sometimes, not only single words appear in the CS unit, but also phrases or whole sentences, as is well-known in CS research (cf. Poplack 1980, Mejdell 2006). Sometimes the foreign element appears without a preceding Arabic parallel, and sometimes the narrator uses a Hebrew word to translate a preceding Arabic word or vice versa. At times, the speaker repeats the Hebrew word or phrase more than once. Sometimes, the foreign word is pronounced with a pronunciation error (for instance, /yavanaim/ 'stones' for Hebrew /'avanim/, example 4) due to the narrator's imperfect knowledge of the language. Such errors occur mainly in the texts of older speakers, who probably did not sufficiently acquire Hebrew (if at all) as part of their school education.

2.1. EXAMPLES FROM THE BEDOUIN FOLKTALES.

(1) histakel. 'af aḥad lo ba**.**
'(He) looked. No one came.'(H)[4]

(2) ga'adat [e]b-bēto šahar, [Hḥodeš, ḥodeš, ḥodešH]…
'(She) sat (lived) in his house (a) month [Hmonth, month, monthH]'.

(3) [Htište kafe. jištu qafe. nehene.H]
'[H(She) will drink coffee. (They) will drink coffee. (He) enjoys himself.H]' [5]

(4) ga'ad hu wiyyā 'ala ha-kōm ḥğār. [HyavanimH].
'(He) Sat he with him on that-pile (of) stones. [HStonesH].

(5) uxaḏat, dazzet il-hadiyye m'āha, [HmatanaH].
'and (she) took, sent the gift with-her. (A) [Hgift.H']

(6) rāḥan 'alēha, [HḥatunaH], u-rāḥan.
'went (they f.pl.) to it, (a) [HweddingH], and (they) went.'

(7) 'add [Hze misparH].
'(he) counted: [Hthis (is a) numberH].

(8) 'assa iḥna qunna (=qulna) inno [HlakaḥH] bi-ğ-ğamal

[4] Note: These two short but whole sentences are in Hebrew.
[5] Note: These three short but whole sentences are in Hebrew.

'now we said (=we said) that (he) [(he) HtookH] the camel.

(9) kān-le hā-l-wufūd… ṯalāṯ-arba‘ [IṭaljāneI], ğnūd w-as-syūf ma‘āhom
'He had these delegates… He had three-four [IItaliansI], soldiers, with their swords with them.'

(10) u-rāḥ ğāb [EtaksiE], stakrā…
'And (he) went, brought (got) a [Etaxi,E], (he) hired it…

2.2. EXAMPLES OF HAIFA SPEAKERS.

2.2.1. CHRISTIAN SPEAKERS.

(11) hāda [AmārA] ilyās bisammū bi-l‘ibrāni [Hha-tišbiH].… w-‘ala ’isim maryam il-‘aḏra, žuwwa, [HmiryamH] ya‘ni.
‘This [ALord/ProphetA] Ilyās, they name him in Hebrew [HHa-TishbiH]... and after the name of Maryam the Virgin, inside, [HMiryamH], that is.’

(12) ṭayyar, mandīl, ṭayyar, ḥukm il-[T‘usmanliT] tġayyar
'wave (fly) head-kerchief, wave (fly), the rule (of the) [TOttomanT] (has) changed’

(13) innik xtara‘et [EflutE], zummēġa…
‘that-you invented/created (a) [EfluteE], flute’

(14) w-‘imlu kamān li-[Ebrek wotterE]… kān usmo il-[FbontF][6] il-’almāni[7]
‘And (they) did also the-[Ebreak-waterE]… was its-name ‘the German [FbridgeF]’

(15) ṣāru yis’alu il-[EArabikE] illi māšyīn
'They started asking the [EArabsE] who (were) walking by.'

(16) kānu ixwⁱti yⁱrūḥu ‘ala [Ewik-endE] ya‘ni.
'My brothers used to go for [Eweek endE], that is.

2.2.2. MUSLIM SPEAKERS.

(17) hōn kān – šū [E/HbosE/H] kān hēn fīhin…
'here (there) was – what (a) [E/HbossE/H] was here in (among) them…'

(18) illi sa’īno [HbīraH<I]…
‘(those ones) who made it drink [HbeerH]…’

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[6] bont < French pont, 'bridge'. Arabic phonology does not have the unvoiced bilabial stop /p/, and therefore /p/ in foreign words is usually pronounced as the voiced bilabial stop /b/.
[7] ’almāni < French Allemagne, allemand 'Germany, German'.

(19) ’abūy kān [T‘arbaži(T)…. [TḥanturžiT].
'My father was (a) [TcoachmanT]'… [TcoachmanT]

(20) ’abū ṛā ‘a-[IfarmašiyyiI], žāb dawa.
'his father went to the [IpharmacyI], brought (a) medication

(21) w kān yīži wāḥid ‘inna min [AZummarīnA]…
'and there came one to us, from [AZummarinA][8]

(22) ’aža l-[IbaḅḅōrI][9] w-ḥammanna ‘a-libnān.
'the [IboatI] came and took us to Lebanon'

2.2.3. JEWISH SPEAKERS.

(23) ’al-li l-inglīzi, bi-l-inglīzi ’al-li, “[Eay tink for e long taym ’end ’ay wont te-tuwriE]”[10]
‘Said to me the Englishman, in English (he) said to me, "I think for a long time and I want to do it"’

(24) ’axadt-la [HmatanaH] u-nzilna
(I) took-for her (a) [HpresentH] and we went down'

(25) kānu yrūḥu ‘a-l-turbi, l-[HgoyimH]
‘They went to the cemetery, the [Hnon-JewsH].’

(26) w-’immi w-duktūr yōfe kānat mitl il-’ixwe, ka’inna [H’axot rašit(H) ’iddāmu.
‘and my mother and Dr. Yofe (she) was like brothers, as if she (was) a head nurse with him.’

(27) min iž-žīš it-turki, farār, [H‘arikimH] ya‘ni.
'(he was) from the Turkish army, deserter, [HdesertersH], that is.'

(28) kān ‘indin HsoragimH, ba‘rifiš šū bi’ūlu …ḥadīd ‘ala š-šababīk.
'there was by them HgratesH, I don't know what they say… iron on the windows.'

2.3. STUDENTS’ CONVERSATIONS AND INTERVIEWS.

2.3.1. CONVERSATIONS.

(29) ṭayyib, [E’o-keyE], Lāna…[HbāyE], Lāna
‘Well, [EOKE], Lana… [E'ByeE], Lana.’

[8] The name of a village which is now the town Zikhron Yaakov (Hebrew). The original Aramaic name means 'vine growers'.
[9] baḅḅōr < Italian 'vapore'
[10] This last word is not clear, but this is how Geva-Kleinberger writes it.

(30) wēn bitḥibbe bi-l-[HhafsakaH] nrūḥ, ba‘ed il-ta‘līm wa-l-nakad?
'Where do you want in the [HbreakH], to go, after the learning and vexation?'

(31) lāzem tkūni [MSAmustaqille[11] ’iqtiṣādiyyanMSA]
‘you (sg.f.) have to be [MSAindependent financiallyMSA]’.

(32) bas huwwe, el-[H’exutiH], wāḍeḥ ’aktar min el-[HkamutiH].[12]
‘but it (the analysis), the (H)qualitative(H), (is) clear more (clearer) than the (H)quantitative(H).’

(33) kunt ḥābbe ‘akammil, bas yalla [EbayE], [Hnitra’eH].
‘I would have liked to continue, but what, [E'byeE], [H'see youH] (=Hwe will see each otherH).’

(34) fa-ṣirt [H'ašqi‘aH] wa’et ’aktar la-l-[H‘avodotH] min el-[Hma’amarimH]
'and I began (to) (H)devote(H) time more to (writing) the (H)papers(H) than to (reading) the (H)articles'

2.3.2. INTERVIEWS.

(35) Il-[EfutbolE], mīn bitḥibb itšağğe‘, ’ayy farīq?
[E‘footballE] – whom do you like to encourage(=whose fan are you), which group?’

(36) ’ana kamān bi-l-[HmaslulH] ta‘ il-[HmictaynimH], ’il-[MSAmutafawwiqīnMSA].[13]
‘I am also in the study [HcourseH] of the [HexcellentH], the [MSAexcellentMSA] (ones).’

(37) ‘indi, bi-xezānti, kill il-awā‘i mrattabi, il-[FbluzātF], il-[FbanaṭīlF]…
’I have, in my wardrobe, all the clothes are arranged, the [FshirtsF], the [FtrousersF]…[14]

(38) bidna nsāfer ‘ala [HitāliaH] [MSAšahr il-‘asalMSA].
‘We want to go to (H)Italy(H) (for) the (MSA)honeymoon(MSA)’

(39) ma ’aqdar ’ukmil ta‘līmi dūn il-[E/Hin’ternetE/H] li’anno huwwe it-[HtikšoretH],
'I cannot complete my studies without the [E/HinternetE/H] because it is *the* [HcommunicationH]'.

(40) kull maḥall [Hbesofo šel davarH], ya‘□□□, biṣīr fī [Hhitarbe֗vutH]
'(In) every place, [Hin the endH], that is, there is [HmixtureH]'

[11] The vowel –e in 'mustaqille' is the bound f.sg. suffix of the adjective in colloquial Arabic; in MSA it would have been –a. The form itself is MSA.
[12] The words 'clear more' are in the Hebrew syntactic structure of adjective + complement, though the words are in the colloquial Arabic dialect. The Arabic comparative adjective structure ("clearer") would be just one word, i.e., /’awḍaḥ/.
[13] Note: the word "excellent" in the pl. in Hebrew, is followed by the MSA pl. word.
[14] Note the sane plural suffix /āt/ in /bluzāt/, and the broken plural pattern /banaṭīl/ for the foreign /banṭalōn/ (a pair of trousers).

3. FINDINGS.

3.1. QUANTITY. We first discuss the quantity of CS in these three genres as found in our three sources. Table 2 summarizes the data.

The occurrence rate of Hebrew CS differs in the three genres, as shown in Table 2. The young adults used Hebrew words about six times more than the Haifa speakers and about 70 times (7:0.1 = 70) more than the old Bedouins' CS cases.

Genre	Hebrew items in the texts	English items in the texts	Speakers' age	Speakers' dialect
Folktales	29 (Bedouin) in 32313 words = ~0.1%	Few < (via Hebrew)	Old (>60)	Galilee, Bedouin
Personal Narratives	149 (Jews, Muslims and Christians) in ~12900 = ~ 1.15%	30 (Jews, Muslims and Christians)	Old (>60)	Haifa, urban
Conversation and Interviews	3892 (CS in the groups, conversations and interviews) of 56050 (all words) = 6.94%	Directly from English: 20 Via Hebrew: 44	Young adults (20-30)	Druze and Bedouin; Urban and rural Christians and Muslims

Table 2. Multilingualism and Quantity.

Most of the CS cases were with Hebrew. English CS cases were few, and elements from other languages were even less. The latter are therefore not statistically considered. Furthermore, quantities of foreign words (in CS) vary between speakers per group and between groups.

Note that foreign language elements (i.e., CS with Hebrew or other languages) were generally pronounced as in Modern Hebrew. This observation refers to vowels and consonants that are not part of the Arabic phonological system, syllable stress in words, etc. Older foreign items had already adapted to Arabic and its phonology and were integrated in the Arabic system.

3.2. LANGUAGES. The speakers of the three genres studied here, used (in addition to L1) mainly three language groups: 1. Hebrew – the currently dominant and official language of the state. 2. English – the official language in the country during the British Mandate (1918-1948), which also became important over time due to its hegemony as a global language. 3. Some other languages, used by officials of the Ottoman rule, merchants, missionaries, etc., in previous centuries. Those languages included Turkish and the Romance languages (French, Italian and Spanish). Various words from these languages are still used (if not obsolete) as they have been integrated into the Arabic dialects and mostly adapted to their phonology, and sometimes even to their morphology.

3.3. MULTILINGUALISM IN AGE GROUPS. The material included two adult groups, one group being older than the other. The participants revealed considerable differences as noted above (in section 3.1). The students used Hebrew words (CS) much more than the old Bedouins and the

urban speakers of Haifa did. This difference between the old and young speakers apparently reflects the effect of school and literacy on their language use in the on-going Israeli Hebrew language development. The younger speakers had a higher education than the older speakers did. In addition to MSA literacy, the students used Hebrew more consistently and frequently in their college environment than the two older groups (and other people), who used it for daily routines or (formal) meetings with Hebrew speakers.

The difference in the use of Hebrew CS between the two older groups can be attributed to two facts: (1) Urban Haifa speakers had more contacts with foreign language speakers in the town than the Bedouins did - foreigners in Haifa included, e.g., Turks, during the Ottoman rule, Germans,[15] and the British during the Mandate period. (2) The Haifa residents may have also been more literate than the Bedouin speakers due to the cultural environment in the urban center, compared to the Bedouins' harsh life in the remote, thinly populated Galilee in the first half of the 20th century (Ashkenazi 1938).

3.4. GENDER. The number of male and female speakers between and within the groups was not equal. However, we used these corpora due to the large number of their spontaneously recorded material. The authors of the three studied works enumerate narrators and their gender, shown in Table 3. However, the consulted works contain a smaller number of narrators (and texts) presented in Table 4. The students' sub-groups (by gender) would not have been significantly valid. We realized this fact when we found that the students' group included six sub-groups of speakers (Bedouin, Druze, Christian and Muslim urban, and Christian and Muslim rural communities), with few speakers in each sub-group. Still, the material was sufficiently rich in CS data. We therefore did not conduct any statistical analysis. Table 5 therefore summarizes the rate of CS in these texts only qualitatively.

Speakers' Gender	**Bedouin speakers**	**Haifa speakers**	**College students**
Male	12	21	14
Female	11	8	37
Total	**23**	**29**	**51**

Table 3. Authors' recorded narrator numbers and genders.

Speakers' Gender	**Bedouin speakers**	**Haifa speakers**	**College students**
Male	12	8	8
Female	11	4	18
Total	**23**	**12**	**26**

Table 4. Actual narrators' number and their gender in the published works.

[15] A quarter in Haifa was (and is) named "the German colony". It was built during the 2nd half of the 19th century and was inhabited by the German "Templars" group until World War II. See Geva-Kleinberger (2004:6-11).

	Bedouin speakers	**Haifa speakers**	**Students**
No. of male vs. female speakers	Males =~ Females	Males > Females	Females > Males
CS rate per group	Smallest rate	Middle rate	Highest
CS rate of male vs. female speakers	Females > Males	Males > Females	Females > Males

Table 5. Summary of relative Hebrew CS rates.

Table 5 sums up the rates of Hebrew CS, the largest CS language, in the three studied works. The number of male and female speakers was about the same in the Bedouin group. There were more male than female speakers in the Haifa group,[16] and more female than male speakers participated in the student groups. The CS rate was highest in the student group, smaller in the Haifa group, and smallest in the Bedouin group. Furthermore, CS rate difference between male and female speakers shows that the female Bedouin speakers and the female students used more CS than the male speakers in these groups, while in the Haifa group the male speakers used more CS than the females did. These points require further analysis with larger numbers of speakers per group, to check the significance of this finding.

3.5. NOTES ON MULTILINGUALISM AND VOCABULARY. The vocabulary in each of the three sources reflected different topics and styles. Both the students and Haifa speakers referred mainly to historical events and real-life discussions of personal experiences. The Bedouin narratives, legends, and folktales, however, related partly to imaginary entities and supernatural powers, such as witches, monsters, giants, ghosts, and genies, i.e., fictional elements and events inherited from their old culture, that were narrated as if they were real.[17] In addition, some Bedouin personal narratives referred to their own lives as children e.g., their lives as sheepherders. The Haifa speakers spoke about daily life in Haifa in the First World War, the British conquest of Haifa in 1918, conflicts and friendships between Jewish and Arab families, etc. The students, in their turn, spoke about modern life, habits, notions, the modern male and female status, their attitude towards college studies, the importance of modern technology and upbringing, etc. The variability in the texts suggests that the foreign lexical elements reflect salient linguistic topics (in the relevant semantic fields of the vocabulary) and each group's specific proficiency in those foreign languages. Thus, Arabic vocabulary (and semantics) also reveals inter-genre differences, as part of our analysis of multilingualism and genre. This aspect is, however, beyond our present scope and could be analysed for another study.

4. DISCUSSION AND CONCLUSIONS. In this article we have explored a few aspects of the linguistic history of multilingualism in Israel in the 20th century. The findings have shown that the languages used in the studied texts differ between the genres and speakers' groups.

We have not explored here whether or not other foreign languages affect linguistic fields to the same extent as the lexicon. However, the examples demonstrate several features of Hebrew

[16] For example, there was only one female speaker in the Haifa Muslim speakers' group, but the book contains many texts she had recorded.

[17] About current beliefs in such spirits, demons and witches, see Lebling (2010), Marom (2008). Cf. also Henkin (2010) about Bedouin narrative style.

CS structures in spontaneous Arabic speech. We also haven't discussed morphological and syntactical examples, though the examples presented above indicate such processes as well. Morphology and syntax apparently require longer periods to affect the recipient language to the same extent as the lexical vocabulary. Such effects, as has already been shown in Marʿi (2013) and Rosenhouse & Brand (2016), may later involve deeper revisions or changes in the linguistic make-up of relevant (Arabic) dialects.

Our research question and research hypothesis have been positively answered: inter-genre multilingual differences do exist between the studied Arabic genres. In addition, elements of foreign languages differ between the studied works. CS quantity rates and CS language origins differ between the genres and groups. Multilingualism appears in these colloquial Arabic texts as elements from few foreign languages.

Historical non-linguistic processes have changed the locally used languages (language landscape) and speakers' communication habits. In this country, during the 20th century, Turkish stopped being the ruler's official language, French and Italian lost much of their status as foreign (Western) model languages, being replaced in the 20th century by English and later by Hebrew in Israel. Since the establishment of Israel in 1948, Hebrew has become the main source of linguistic changes found in the studied texts. Modern Hebrew penetrates old and young people's speech, whatever their community, faith group, or gender – but at variegated rates, depending on the diverse linguistic background of each group and speaker. English has its place as the global language in Israel, affecting Hebrew as well as other languages. In addition, English affects also Arabic, partly directly and partly via Hebrew.

The foreign lexical elements in the studied texts seem to reflect topic or context rather than genre, however. Spontaneous speech style seems similar in many respects in these three studied genres, though their topics and vocabulary vary. The prose text in Bedouin narratives was sometimes accompanied by traditional phrases or folk poetry.[18] These elements tend to disappear from stories and folktales everywhere, however, including the texts studied here. Thus, modern simplified style or rather matter-of-fact style, affects the Bedouin stories as well as the other spontaneous genres we studied. This trend was not an expected finding at the outset of this study.

Modern Standard Arabic (MSA), found mainly in the educated Arabic society, has also been found in this study. This is one of the features of modern daily Arabic communication, which mixes freely colloquial and MSA elements for the speakers' current needs. It thus appears in students' recordings in Israel, along with the Hebrew CS elements.[19]

To conclude, the studied texts revealed code-switched elements mainly from Modern Hebrew, some British and (more recent) American English elements, and a few foreign words from older periods (Turkish, Italian, etc.). Speakers' modern education (i.e., literacy) affects native speakers' use of both Hebrew and MSA, found mainly in the students' texts. Regarding multilingualism in genre, the analyzed texts suggest the role of time. That is to say, the period during which certain languages are dominant in the speech of a speaker or a group, seems more effective than the inherent structure of a spoken genre (use of opening and ending formulas,

[18] Or rather: the story accompanied the poetry (Sowayan 1985).
[19] On this point see, e.g., Davies et al. (2013), Kossman (2013) and other chapters there.

rhetorical questions, etc.). The general structure of a genre does not change, apparently, compared to the free field of vocabulary. Further investigation of these issues is required, in e.g., the same speakers' manner of speech in the contexts of different genres.

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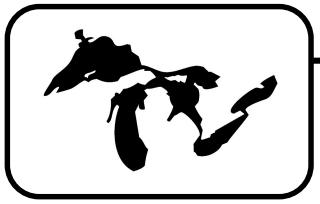

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PEJORATIVES, ACCIDENTAL PEJORATIVES, AND "ACCIDENTAL" PEJORATIVES

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Abstract: Pejoratives are commonly described in a way that depends on an unwarranted unrealistic idealization, which logically leads either to an acceptance of a prescriptivist stance or self-contradiction. This article examines different actual public events purportedly involving the use of pejoratives; in each case, controversy arose over whether the speech actually involved a pejorative. It is shown that in every case, the question could not be resolved by looking at the *words* that were supposedly involved. Rather, a number of situational factors have to be taken into account (not in addition to, but *instead of* words). The relevant factors are examined via the framework of Human Linguistics (Yngve 1996:*passim*). A real-world account, as contrasted with one that relies on logical-domain idealizations, leads to the categorization of apparently similar speech events into pejoratives, accidental pejoratives, and "accidental" pejoratives — the last type being those with speaker expectation that a pejorative understanding will arise in the hearer in such a way that the speaker can later claim the result was accidental or the result of an error on the hearer's part.

Keywords: pejoratives, affect, meaning, Human Linguistics, Hard-science Linguistics
Languages: English

PEJORATIVES ARE COMMONLY DEFINED IN TERMS OF A NON-REFERENTIAL ASPECT OF THE MEANING OF A WORD, and they are usually assumed to be a result of a historical process undergone by a word. For example, The Cambridge Encyclopedia of Language defines "pejoration" as a word "developing a sense of disapproval" (Crystal 1987:330); Finch (2005) defines it similarly as "a semantic process [...] in which a word takes on a negative evaluation" (p. 164). Typically cited are examples like "notorious" (which "once meant 'widely known' and now means 'widely and unfavorably known'" Crystal, p. 330) and "gossip" ("which originally meant 'god-relative' and now means 'idle talk'" Finch, p. 164).

1. BASIC DEFINITIONAL PROBLEMS. There are two key problems with the widely accepted view of pejoratives: (1) there is counterevidence to the assumption that PEJORATION is a historical process

per se which happens to words; (2) PEJORATIVE itself as a construct rests on an unsupported assumption of a logical ideal.

There are widely recognized examples categorized as pejoratives that have never had a non-pejorative understanding among English speakers. Three obvious categories exist. The first are borrowings[1] which had no negative affect within the speech community they were borrowed from, but an immediate pejorative understanding after borrowing. The second category consists of clipped forms from non-pejoratives which were pejorative as soon as the clipping occurred. The third category consists of pejoratives which have undergone metonymy, with or without clipping. One example of the first category is *polak*, which is a Polish reference to a male Pole[2]. When a Polish speaker says "polak," the affect is neutral. However, once *Polak* appears among English speakers, it carries negative affect. *Hausfrau* (from speakers of German) is similar, albeit with a weaker negative affect. Such borrowings, neutral in the speech community of origin and negative in the target speech community, have been noted for at least several decades, e.g., from English to Russian, by Benson (1959:251-263); they have frequently been mentioned more recently, as from English to Japanese, by Forth (2001:152-153). In fact, the number of authors who note that something neutral can be pejorative after being borrowed forms a long list. An example of the second category (clipped forms) is *Jap*, formed from *Japanese*. While the latter is not in itself pejorative, the former was at the time it was formed. Another example is *gyp* ('swindle'), pejorative since it was clipped from *Gypsy*. Another example of the second category is *Nip*, clipped from *Nippon* (the latter rarely spoken in English), pejorative ever since its borrowing. Another example from the third category is *kraut*, clipped from *sauerkraut*. It retains a neutral affect when referring to the pickled cabbage, but when an English speaker metonymically refers to someone (or something) German by saying *kraut*, there is a negative sense to it. In sum, there are numerous cases in which something is pejorative from the very origin of its use within a speech community. Other examples, without clipping, are metonymic pejoratives such as *Beaner* (to refer to a person of Mexican descent) and *Kimchi* (to refer to a person of Korean descent).

The counterclaim that the forms just cited *are* evidence of pejoration as a historical process leads us to the problem of idealization. The idea that the word *polak*, for example, took on a pejorative sense when it moved from Polish to English assumes that the word *polak* not only exists as an entity separate from individual speakers, but that as a word it exists beyond the domain of a single language (i.e., that Pol. *polak* and Eng. *Polak* are the same word which gained a new meaning). It also presupposes that clipped forms are the same word as the longer form from which a speaker created them, e.g., that *Jap* and *Japanese* are two forms of the same word[3]. This way of thinking places words (and thus pejoratives) outside of people as independent entities and fails to recognize that each person has a linguistic behavior with a unique understanding attached to it, an

[1] By using the term "borrowing," I refer here to *linguistic behaviors* borrowed from one speech community by another, not to words.

[2] In this paper, I will identify so-called cited forms in italics as is conventional. However, I do so with the recognition that such cited forms identify idealized abstractions, not real-world entities which can be observed. I distinguish them from specific (observable) cases of things said or written by placing the latter in quotation marks.

[3] Actually, the same kind of thinking pervades much of linguistics, as when we speak of the OE word "brȳd" changing its meaning and phonology to that of NE "bride," as if it were a living entity growing from a child to an adult.

understanding that is altered by use (both in speaking and in hearing) and is based on the sum of each individual's communicative experience.

2. WORDS DON'T HAVE MEANINGS, PEOPLE DO. Two people in communication perform linguistic behaviors. Each person undergoes changes of state (neurological and gestural). Each person's behaviors affect energy flow in the environment. For example, articulatory gestures create sound waves which flow outward to the other person. Some of these (movements of the lips, jaw, etc.) as well as other behaviors (changes in facial expression and body posture, movements of the arms and hands or even of the whole body) perturb the light waves in the environment which in turn reach the other person. This energy flow, modeled in Human Linguistics (HL) in terms of CHANNELS, causes changes in the state of the other person (in HL, this is called the person's COMMUNICATIVE PROPERTIES). Such changes cascade back and forth as the two people are in communication. In the real world (what Yngve 1996:24,79-92 calls the "physical domain"), there are just the people in their environment. A flow of physical energy causes a mutual change of state, back and forth, as long as they are in communication. There is no need to assume the existence of abstract entities (words and sentences) somehow flowing between them, nor is it even necessary to assume that the people contain identical knowledge of words and grammar. The idea that words carry their meanings from speaker to hearer has been debunked repeatedly (see, for example, Yngve 1996:4)[4]. Pejoratives demonstrate very clearly the problem with attributing sense or meaning to *words*, a theoretical failure which has very practical implications. Numerous cases of *Is-it-really-a-pejorative?* have been in the news in recent decades; this paper will analyze several, the last two (in section 3, below) in the most depth.

2.1. A NIGGARDLY AMOUNT. In 1999 conversation, David Howard (white), head of the Washington, DC Office of Public Advocate, called part of the city budget "niggardly" (Woodlee 1999). He was speaking with two staff members (one or both of them black). Seeing their reaction, he apologized immediately to his staff of three (two black, one white). He, and the media shortly after that, apparently offered the explanation that his saying "niggardly" did not involve a form of the taboo racial pejorative. The *Washington Post* article reporting on the incident noted that *niggard* can be traced back to Middle English (*nig*, *nigon*) and ultimately to a Scandinavian source (Woodlee 1999); this places the origin of *niggard(ly)* centuries prior to the borrowing of *negro* to refer to a black person and thus, to the origin of the similar-sounding pejorative. Howard professed no racist intention but was soon forced to resign. The history of *niggardly* may sound like it proves the case that Howard is innocent, but it does not. Words do not carry meaning.

2.2. A BLACK HOLE. In a 2008 Dallas County Commissioners meeting during a discussion of traffic tickets, Commissioner Kenneth Mayfield (white), complained that the central collections

[4] As Maturana and Varela put it more generally, "the nervous system as part of an organism operates with structural determination. Therefore, the structure of the environment [the form of the sound waves of another person's speech, for example] cannot specify its changes, but can only trigger them" (1992:131).

department had become "a black hole" (that is, it was not accounting adequately for the funds it took in). Fellow commissioner, John Wiley Price (who is black) interrupted him, saying "Excuse me!" then described the office as a "white hole." Also, at the meeting, Judge Thomas Jones (black) "demanded an apology from Mayfield for his racially insensitive analogy" (Krause 2008). "Mayfield said he intended his comments to be taken in the scientific context [of a black hole as an astronomical phenomenon] and was upset that he was being misunderstood" (Fox News 2008). Commissioner Price, in a later interview, described Mayfield's saying "black hole" as racist, comparing it with phrases like *black sheep* ('family outcast') and *Jewing someone down* ('bartering aggressively'). Mayfield continued to profess no racist intention, citing the meaning of "black hole" in what he said as an astronomical phenomenon. Again, this does not really resolve the matter, because words do not carry meaning.

2.3. WELCHING ON A PROMISE. Years ago, a certain dean promised support for a conference that my university hosted; he later reneged on half of what he offered. Much more recently, I casually described the dean's action to a colleague as "welching" on his offer of support. The colleague professed offense, explaining that he was Welsh[5]. I responded that (a) no offense was intended, (b) when I said "welch" I did not say something historically related to *Welsh* but said something believed to be of Scandinavian origin, and (c) I am partly of Welsh ancestry myself. In this case, I know some of the purportedly *extralinguistic* details (which in Human Linguistics are not *extra*linguistic at all). The colleague accepted my explanation graciously, without me having to offer an apology (which would not have been sincere). I believe three factors gave my explanation a high degree of plausibility: (a) I had to my knowledge never used such a slur (toward any ethnicity) in his presence before, (b) I am a linguist (and he is not), and (c) I indicated that some of my own ancestry is Welsh. The historical argument really carries no weight. It was really his understanding of me (in HL, his orthoconcept of me, dealt with in some detail below) that would have played a key role in how he understood me when I said "welch".

What these examples in sections 2.1-2.3 illustrate is that the linguist really needs more than a transcript of an event in order for us to infer whether a speaker in a certain case expects a pejorative understanding to arise in the hearer. Even if we had the exact words as understood to have been spoken by those present (assuming they agreed on what those words were), we could make few, if any, valid inferences about the meaning of what Howard or Mayfield said, or about the understanding they expected to arise in their hearers as a result of their speaking *without other information about the people and their environment*.

Pejorative meaning is not carried by a spoken (or written) word but arises in the eye of the beholder when someone speaks. It may be that the speaker expects to cause offense, that the hearer takes offense, or even that a third-party observer takes offense vicariously (or denies that any should be

[5] This is a way some Americans commonly refer to their ancestry, e.g., by saying "I am Welsh" instead of "I am of Welsh ancestry". The skeptical reader may do an image search on Google using "Kiss me I'm Irish," "...Italian," etc., to see the array of t-shirts, for example, with similar slogans.

taken). Because the meaning does not lie in the words, it makes no sense for the linguist doing a post-performance analysis of the communicative behaviors to say that a speaker or hearer has made an error if a hearer's understanding differs from the speaker's expectation[6]. Observed behaviors arise as a result of the properties of the people involved, which are neither correct nor incorrect. Yet, if we accept the age-old assumption that words are coded into the sound of speech and that they carry meaning from speaker to hearer, then we are left with no choice but to reach the conclusion that some behaviors of speaking and hearing *are in fact incorrect.* If we do not want to reach this (prescriptivist) conclusion, we must reject once and for all the idea that words carry meaning.

3. COON. To illustrate what kinds of information are needed to understand whether it seems reasonable to call something pejorative or not, much of it often considered *extralinguistic*, I will look at two cases in which speakers apparently said "coon" [kun] in connection with Martin Luther King.

The available material surrounding the origin of *coon* as a racial pejorative is conflicting. The earliest occurrence cited by the *Oxford English Dictionary* ("Coon" 2019) is from 1862. Flexner (1976) gives the same date as the *OED*. However, *The Online Etymological Dictionary* ("Coon (n.)" n.d.) claims a significantly earlier occurrence than that given by the *OED* and Flexner, offering 1837 as the first recorded case of *coon* as a racial pejorative. It also makes a (possibly weak) claim that the pejorative may be clipped from Port. *barracoon* 'slave quarters' ("Coon (n.)" n.d.), which could date it to sometime in the very early 1800's. The pejorative association in America between *raccoon* and blacks may be considerably older: the *Online Etymological Dictionary* ("Coon (n.)" n.d.) also notes that there was a black character named "Raccoon" in a colonial-era comic opera.

The date of origin is significant to some, because they may cite it as a reason that a similar phrase like *in a coon's age* cannot be racist in meaning. The argument goes like this: *in a coon's age* as a neutral phrase is older than *coon* as a racial pejorative by as much as twenty years (if you accept the *OED* date for *coon* and a date for *in a coon's age* given by Hendrickson 1997), so *in a coon's age* can't contain a pejorative reference that did not yet exist. This argument, however, leads us right back into the arms of the problem of idealization of words as entities existing apart from people. Even if we accept the later date for *coon* as a racial pejorative, the neural connections needed to say "coon" and to understand someone saying "coon" as a pejorative have still been present in the heads of speakers, side-by-side with those associated with "a coon's age" for over a century and a half. Every living speaker who knows how to say "coon" to refer to a raccoon, "coon" to refer to black person (as a pejorative), and "in a coon's age" to refer to a long time period has some kind of neurological connections among the understandings, even if indirect ones. For theoretical accounts which, surprisingly enough, converge on this point, compare Ruhl's theory of

[6] I will concede that one might describe speaker A expecting to create in hearer B the understanding U and failing to accomplish this as a case of ineffective communication. This is quite different from describing A or B as having made an error.

MONOSEMY (1989: *passim*), Lamb's description of POLYSEMY (1999:143), and Yngve's concept of DOMAIN OF CONTROL (1996:276-77).

The interconnections of an individual's understandings should alert the reader that it is hasty to reject out-of-hand the validity of the offense taken by David Howard's black staff members in Washington, DC (the "niggardly amount" incident); that taken by Kenneth Mayfield's colleagues on the Dallas County Commission (the "black hole" incident); or by the colleague of mine who objected to my saying "welch" ('go back on a promise'). The relevance of this point will become more obvious as the following analysis is developed. Of the two incidents I will be looking at involving people saying "coon," both involve a slip — real or contrived — involving the articulation [kun] where the surname of Dr. Martin Luther King, Jr. is expected.

3.1. ANTICIPATORY EFFECT IN PHONOLOGICAL PROCESSING. The first incident (which occurred in 2005) involves Rochester, NY television weatherman Jeremy Kapell, of WHEC ("Rochester Weatherman" 2019). Unfortunately, we do not get to see him, his facial expression, or other immediate situational factors. In the available clip, he is doing voice-over; the camera shows the ice-skating rink at Martin Luther King Jr. Park in Rochester, NY. Kapell says of the overcast scene, "...grey, just the way it looked out at Martin Luther [kun] King Jr. Park...."[7]. See (1) for a key section of the speech, transcribed conventionally. The [.] indicates a very slight pause. Note that the pause precedes a mid-stream correction, namely the correction of [kun] to [kɪŋ]. Hypothetically, what we might expect his speech to look like if he had corrected just a quarter of a second or so later would be (2). That is, we might have seen a slip of the tongue very similar to a Spoonerism — [kundʒɪŋjɹ] (see, e.g., Dell & Reich 1980). Consideration of the hypothetical version in (2) makes it more obvious, but is not really necessary, to see that there is a possible anticipatory effect of the articulation of the first syllable of "**Jun**ior" on the preceding syllable "**K**ing" in a Spoonerism-like way, to yield "Kun" [kun] by combining the onset of "King" with the peak+coda of the "Jun" of "Junior." Any kind of spreading-activation model, whether it involves neural nets, relational networks, or domain of control predicts such errors (again, see Dell & Reich 1980: passim or Yngve 1996: esp. 276-277). Note that Dell and Reich show that anticipatory slips of the tongue are more likely than perseveration slips (1980:21).

(1) [mɑɹʔnluθɹkun.kɪŋdʒunjɹpɑɹk]
(2) [mɑɹʔnluθɹkundʒɪŋjɹ.kɪŋdʒunjɹpɑɹk]

Now let's compare this case involving Kapell to a purportedly similar case involving Joseph Smitherman, mayor of Selma, Alabama in 1965. In referring to Dr. King, he says, "Martin Luther Coon, er, King... pardon me sir, Martin Luther King." See (3). Note that without "Junior" after the surname, there is no opportunity to explain the appearance of [kun] where [kɪŋ] is expected in terms of an anticipatory phonological processing effect. We know this because Smitherman repeats

[7] Here, and in the representation of the speech in the next clip, [kun] is shown in phonetic transcription to avoid interpretive bias inherent in ordinary orthography.

the entire name after "Pardon me, sir," still without "Junior" ("Martin Luther Coon er... King" 2008)[8].

(3) [mɑːʔnluθɹkun.ʔʌ.kɪŋ.pɑDnmisəː.mɑːʔnluθɹkɪŋ]

3.2. SUPRASEGMENTAL CHARACTERISTICS OF THE SPEECH. Let's first look at what is stressed in Smitherman's speech. Here is a larger segment (4).

(4) Our city and our county has been subjected to the greatest pressures I think any community in the country has had to withstand. We've had in our area here outside agitation groups of all levels. We've had Martin Luther [kun] uh King — pardon me, sir — Martin Luther King.

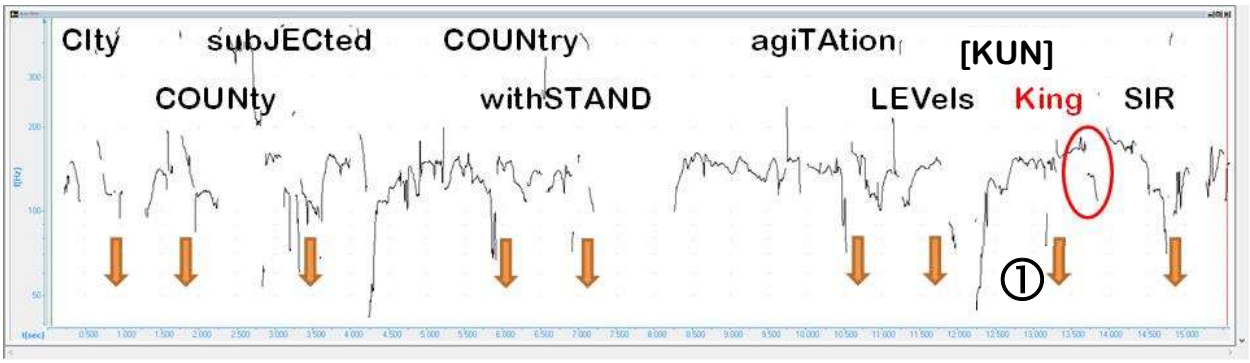

Figure 1. Annotated Intonation Plot of a Segment of the Speech of Smitherman. Capitalization and downward arrows indicate points of falling intonation.

Intensity (not shown here) correlates in his speech with sharply falling intonation. Smitherman's speech has a subjective quality of declamation as a result of the frequent, almost rhythmic intonational downbeats, each strongly correlating with stress. Note that [kun] is both stressed and given a downbeat - see ① in Fig. 1. In contrast, "King" is unstressed and includes only minimal phrase-final downward intonation. (The parts of the graph corresponding to [kun]

[8] Going back to YouTube to check the reference for the video of Kapell, I found in another video an almost identical argument in regard to the anticipatory effect on Kapell's speech. It was made by blogger David H. Lawrence, who argued that Kapell made an error based on transposition of "the 'k' in 'king' and the 'oon' in "junior." His argument about Kapell is stated in non-technical terms but is essentially the same as the one I am making here in terms of syllable structure and others' past research on articulatory slips. Lawrence also discusses the Smitherman [kun] for "King" substitution; I think Lawrence is wrong there; he describes Smitherman's speech as containing a purely accidental slip. See below.

and “King” are circled, at far right.) A video of a longer portion of Smitherman’s speech can be seen on YouTube (“Martin Luther Coon er... King” 2008).

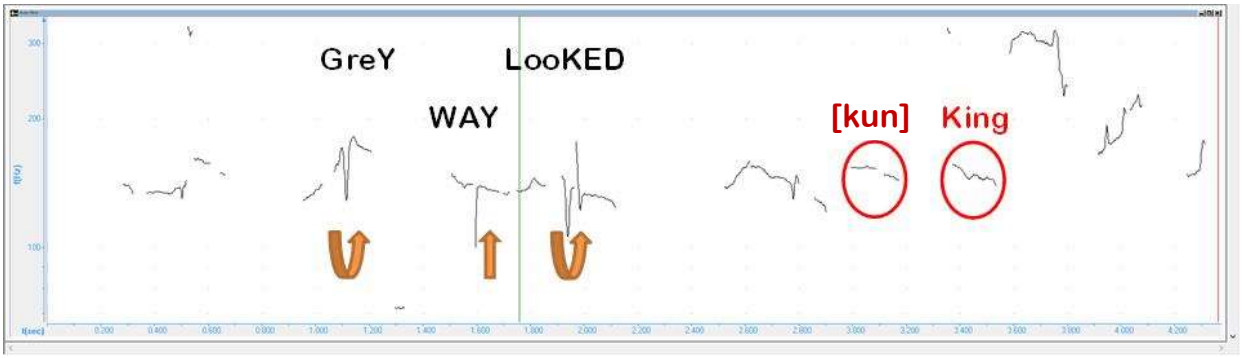

Figure 2. Annotated Intonation Plot of a Segment of the Speech of Kapell.
Capitalization and arrows indicate points of distinctive intonational shift.
Change in intensity (not shown here) is relatively unmarked throughout.

In Kapell’s speech there is relatively little of the highly marked stress (intensity correlating with intonational downbeat) that is so clear in the speech of Smitherman. In fact, what we hear as stress in Kapell’s speech sometimes correlates with rapid falling-rising or rising intonation, rather than sharply falling. Of particular note is the fact that [kun] and “King” are equally (un)stressed by Kapell. Kapell’s intonation overall is less exaggerated and his speech rate is also faster than Smitherman’s. Kapell’s speech is like that of a broadcaster rather than like the orator’s speech style exemplified by Smitherman. Dell and Reich (1980:23) cite MacKay (1970), who showed that rapid speech is more likely to produce slips than slower speech.

3.3. DOMAIN OF CONTROL. Knowing Smitherman’s role as an orator and politician and the specific properties he had in that role are critical to our ability to make inferences about his expectations in regard to his audience. The same is true of Kapell. Human Linguistics models the relevant aspects of the communication as a LINKAGE, here modeled as [Weather Report]. If the race of a viewer is relevant to how the weatherman speaks during his report, we could describe the viewer’s race as a property of the viewer, for example, [Viewer$_X$]<white> or [Viewer$_Y$]<black>[9]. The linkage [Weather Report] is defined in (5) as consisting of subsystems, including the participants — [Weatherman] and an unspecified number of viewers [Viewer$_1$] ... [Viewer$_N$]. [Weather Report] also includes the channels here labeled [Audio] and [Video], and the prop [MLK Park][10].

[9] In Human Linguistics, models of physical systems are indicated by labels enclosed in square brackets [ ], such as [Weather Report], [Weatherman], or [Viewer$_1$]. Their modeled properties are identified in pointed brackets < > beside the name of the system to which they refer, as in [Viewer$_Y$]<black> ([system name]<property>).

[10] The park here is treated as a prop (a representation of an object relevant to the linkage) rather than as a setting, since it is not the location where either the weatherman or the viewers are located. Another description focused on some other aspect of the interaction might find treating it as a setting more useful.

(5) [Weather Report] = [Weatherman$_1$] + [Viewer$_1$] ... [Viewer$_N$] + [Audio] + [Video] + [MLK Park]
(6) [Weather Report Obs] = [Weatherman$_1$ Obs] + [Weather Report]
  (a) [Weatherman$_1$ Obs]<[Viewer$_X$]<black>>
  (b) [Weatherman$_1$ Obs]<[Viewer$_Y$]<white>>
  (c) [Weatherman$_1$]<[MLK Park]<named for [MLK]>>
(7) [WHEC News] = [Weatherman] + [Supervisor] + [Station Owner] + [Employee$_1$] ... [Employee$_N$] + [WHEC Station] + [TV] ...
(8) [WHEC News Obs] = [Weatherman$_2$ Obs] + [WHEC News]
  (a) [Weatherman$_2$ Obs]<[Supervisor]>
  (b) [Weatherman$_2$ Obs]<[Station Owner]>

While the weatherman is engaged in that linkage (5), he is also considered to be an observer of the linkage of which he is part. In HL, this is modeled in terms of his being an observer in another (observing) linkage [Weather Report Obs], shown in (6). Here he has the role part [Weatherman$_1$ Obs]. A role part is the functional aspect corresponding to a particular participant (in this case, to [Weatherman$_1$] in the linkage [Weather Report])[11]. This allows us to represent the weatherman's understanding of his viewers, for example, in terms of ORTHOCONCEPTS, representations in Human Linguistics of a person's *understanding* of another person, thing, or event. The weatherman's understanding that one of his viewers might be black is given in (6a); his understanding that another viewer might be white is given in (6b). His understanding of the source of the park's name is modeled as [Weatherman$_1$]<[MLK Park]<named for [MLK]>>; this understanding will also be connected to his understanding of Martin Luther King, which although not part of this linkage, would be [Weatherman$_1$]<[MLK]>. It is important to distinguish, for example, [Viewer$_X$]<black> ('viewer X is black') from [Weatherman$_2$]<[Viewer$_X$]<black>> ('the weatherman understands viewer X to be black'). The latter — [Weatherman$_2$]<[Viewer$_X$]<black>> — models the weatherman's *understanding*, not the external reality; there need not be a Viewer X, let alone that the viewer be black in order for [Weatherman$_2$]<[Viewer$_X$]<black>> to apply.

Separately, and simultaneously with his voice-over to the video showing outdoor conditions at the Martin Luther King Jr. Park, the weatherman (Kapell) is involved in a communicative interaction in his place of employment. This is modeled as [WHEC News], shown in (7). Corresponding to it there is also an observing linkage (8), [WHEC News Obs], of which Kapell is also a part, shown here as [Weatherman$_2$ Obs]. In this role part, he has understandings of his supervisor (8a) and the station owner (8b). He also has an understanding of the channel, that it has the properties of being available to a very large number of watchers and that it is persistent (not

[11] The structural aspects of physical systems identified so far are modeled as participants, props, channels, or settings. In HL, we also model the corresponding functional aspects of each system within its linkage as role parts, prop parts, channel parts, and setting parts.

fleeting, recorded for possible later access): [TV]<broadcast widely> and [TV]<persistent>. The domain of control involved in the description of Kapell — the active properties and those standing ready to be activated — point to a significant strengthening of the probability of a phonological error (plus an on-the-fly correction) like [mɑɹʔnluθɹkun.kɪŋdʒunjɹpɑɹk] where the output [mɑɹʔnluθɹkɪŋdʒunjɹpɑɹk] might be expected, yet far more likely to be accidental than intentional[12].

It becomes clear from later exchanges (his online apology for the event, for example) that Kapell has an understanding of someone saying "coon" as involving a racial pejorative. The evidence so far suggests that this property [Weatherman]<["coon"]<pejorative for a black person>> is *not fully active* at the time of the event (here, ["coon"] can be regarded as a functional part of a speech channel, [Weatherman]<["coon"]<pejorative for a black person>>, as Kapell's understanding of it as such). However, it is worth noting that if Kapell knows who Martin Luther King Jr. is, this involves knowing that he is black; this means that [Weatherman]<["coon"]<pejorative for a black person>> will be partially activated (the part referring to the person's race) or at the very least that part is standing ready to be activated[13]. This adds another factor (to the possibility of anticipatory error) that an accidental slip of the tongue involving his saying "coon" would occur.

If we contrast Kapell's situation with Smitherman's, we see key differences. Smitherman's participation is as a politician making a speech, not as a television station employee making a report. In HL we can represent the event in terms of the linkage [Televised Speech] (9). Smitherman at the time was the Mayor of Selma, Alabama, so his relationship to the makers of the televised program was markedly different from that of an employee; hence it is represented as [Politician$_1$] in (9). As an observer of the [Televised Speech] linkage of which he was a participant, he had an understanding that some viewers were white, others, black; this is represented in the orthoconcepts shown in (6a) and (6b). He also knew that in Selma, many fewer of his black viewers were voters than were his white viewers (Themba-Nixon 2000). In fact, at the time, black voters virtually did not count with regard to his continuance as mayor. In his speech, he names Martin Luther King Jr. directly as an "outside agitator". In fact, Smitherman's public stance on race relations was at least that of a segregationist (Johnson 2000), more likely perhaps, openly white supremacist (Themba-Nixon 2000). In this speech, his description of King in the speech is as an agent of "outside agitation" causing "the greatest pressures... any community in the country has had to withstand" ("Martin Luther Coon er... King" 2008). In Selma, he led the official and quite negative reaction to civil rights marchers along their 50-mile route from Selma to Montgomery in 1965. Given all the properties in the model of Smitherman when giving this speech, it is hard to avoid the inference that Smitherman's supposed slip was intentional, performed with the expectation of even more clearly signaling his stance on race to the local white *and black* members of his audience. The domain of control in a model of Smitherman while giving this speech (especially properties like (10c) and (10d) in combination) point to an increased likelihood of

[12] A somewhat more detailed (and somewhat more technical) account of how domain of control can affect interpretation can be found in Coleman (To appear).

[13] It seems hard to dismiss the relevance of Kapell knowing that King was not only famous, but highly respected by a large proportion of his audience, fellow employees, and perhaps by his supervisor and the station owner as well.

[mɑːʔnluθɹkun]. Recall that in Smitherman's case, since the evidence rules out this being a phonological error, it must have occurred because of activations of other (non-phonological) task-related properties. The only question is whether or not he consciously controlled his speech to say [mɑːʔnluθɹkun] in order to communicate a pejorative reference to his white constituency by saying "coon."

(9) [Televised Speech] = [Politician$_1$] + [Viewer$_1$] ... [Viewer$_N$] + [Audio] + [Video] + [Selma in 1965]

(10) [Televised Speech Obs] = [Politician$_1$ Obs] + [Televised Speech]

- (a) [Politician$_1$ Obs]<[Viewer$_X$]<black>>
- (b) [Politician$_1$ Obs]<[Viewer$_Y$]<white>>
- (c) [Politician$_1$]<[MLK]<outside agitator>>
- (d) [Politician$_1$]<[MLK]<black>>
- (e) [Politician$_1$]<[MLK]<WS nickname / "Martin Luther Coon">>
- (f) [Politician]<anti-civil rights activism>

3.4. THE MYTH THAT ALL SLIPS ARE FREUDIAN. More than one person has responded (in various interviews online and in comments to online stories) to the event involving WHEC weatherman Kapell with a variant of "If you say it, it's there in your head". Certainly, it is the active (and ready to be activated) properties which will contribute to predicted speech output; these properties in a Human Linguistics model form the domain of control which affects activation of other speech task-related properties. Dell and Reich (1980:23) note that Motley and Baars (1976) confirmed the effect of Freudian slips experimentally, which they defined as slips as a result of something within the attention of the speaker. In Motley and Baars' experiment, subjects were asked to repeat nonsense phrases as quickly as possible. Some subjects were wired up to a machine and told that they would receive a shock if they made an error. When given the stimulus "shad bock," the subjects who had been wired up were more likely to produce the error "bad shock" than those who were not wired up. However, as Dell and Reich note (1980:21-23), there are many other contributing factors, including the ones cited in the current paper relevant to the case of Kapell's weather report.

4. CONCLUDING REMARKS: WHAT THIS ALL MEANS ABOUT WORDS AND MEANING. If words do not carry meaning, then it can be impossible to look at a transcript of speech (whether in ordinary orthography or phonetic transcription) to determine if a pejorative is present. In order to make the determination, we have to be able to infer, with high likelihood, whether the speaker expects the hearer to understand what is said as pejorative. If this is the speaker's expectation, then we can say that the speech contains a functional *pejorative*. A clear case would be a white counterdemonstrator wearing Nazi regalia shouting "coon" at black participants at a BLM rally. If the speaker does not expect the hearer to understand the speech as having pejorative function, but the hearer interprets it as such, then we might say that the speech was *accidentally pejorative*. A case I actually observed

was a white southerner who said "I haven't seen one of those in a coon's age" in the presence of a black fellow customer in the same grocery line; a discussion of the origin and meaning of *coon* in *in a coon's age* ensued. I have argued above that Kapell's "Martin Luther [kun] King Junior Park" was also an *accidental pejorative*, though for different reasons. If the speaker expects the hearer to understand the speech as having a pejorative function, but the speaker has created an "out" ("oops, it was a mistake"), then we can say the speech is *"accidentally" pejorative* (not really an accident, as indicated by the quotation marks). Because we do not have sufficient information about the relationship between David Howard and his employees or the specific conditions of the communicative interaction when he said "niggardly," we cannot confidently infer whether his speech was yet another kind of *accidental pejorative* or an *"accidental" pejorative*.

While the narrow topic of speaker expectation vs. hearer interpretation in cases in which the speaker is charged with using a pejorative is very interesting, my intention in this paper is to make a broader point: it is not only with regard to pejoratives that we have to completely abandon the age-old notion that meaning lies in words and that speakers share common (identical or nearly-identical semantic content of words). This is a general problem of how we think about meaning in human communication. The only solution starts with a focus on people rather than on words.

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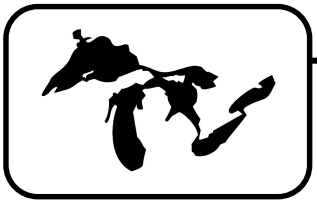

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DIFFERENT WORDS, DIFFERENT WORLDS: THE IMPACT OF LINGUISTIC LABELS ON THE SOCIETAL PERCEPTION OF REFUGEES

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Abstract: Since the fear of *the other* is universal, discrimination against newcomers to a country is widespread and not unexpected. However, the 21st century added a new dimension to this established phenomenon: the omnipresent cyber-hate speech, which not only reflects the negative attitudes of some groups, but also may influence the opinions of others to an unprecedented degree. In the times of the so-called refugee crisis, words chosen to talk about those affected are particularly meaningful. Therefore, this article focuses on the choice of linguistic labels that refer to newcomers and illustrates how this choice *may* allow for the miscategorization of groups of forcibly displaced people. By analyzing examples from Italy, the Netherlands, and Poland, we also point out the dangers of the spread of such language manipulation, and suggest some measures to prevent its future dissemination.

Keywords: hate speech, cyber hate, social media, refugees, migrants
Languages: English, Italian, Polish, Dutch

REASONS TO LEAVE ONE'S COUNTRY, ONE'S CULTURE, ONE'S HOME ARE NEVER STRAIGHTFORWARD; stories of upheaval and moving to a different country are always multidimensional. This is especially true if the motivation to move is in any way traumatic. We experience many kinds of migrations: from migration to receive better education, to the waves of refugees from war-torn regions. All of them migrate, but their stories are not alike.

Whether the language we use can shape the way we think has been widely discussed in literature on linguistic relativity. Conscious of those findings, this article will analyze how the choice of different labels to refer to the phenomenon of migration and the groups of forcibly displaced people not only reflects the attitudes towards these phenomena, but may also blur the complexity of an issue and influence the societal perception of refugees and asylum seekers.

We dedicate this article to the memory of Vikki Cecchetto (1950-2020), our great friend, colleague and co-author.

1. DEFINITIONS. In the English language, there is a repertoire of labels which might be used to describe a person who moves from one country to another. To illustrate, if one searches for synonyms of the word "migrant" on Google, the following nouns and phrases appear: immigrant, emigrant, incomer, newcomer, asylum seeker, settler, expatriate, expat, exile, nomad, itinerant, gypsy, traveler, vagrant, transient, rover, wayfarer, wanderer, drifter, displaced person, DP, homeless person, streety (in New Zealand), etc. In the present study, which concentrates on migration motivated by external reasons, two of these labels are made the focus in this chapter: *exile* and *asylum seeker***,** and an additional label, *refugee,* is added to provide a context for the discussion. In order to understand differences between these labels, it is not necessary to search in legal sources. The distinction is quite clear in definitions provided by online dictionaries – such as the Oxford English Dictionary (OED) or the Cambridge English Dictionary (CED), as illustrated below:

> *refugee:* "A person who has been forced to leave his or her home and seek refuge elsewhere, esp. in a foreign country, from war, religious persecution, political troubles, the effects of a natural disaster, etc." (OED); "… or for economic reasons" (CED), or in the United Nations' definition: "Refugees are persons who are outside their country of origin for reasons of feared persecution, conflict, generalized violence, or other circumstances that have seriously disturbed public order and, as a result, require international protection." (United Nations, n.d)
>
> *exile:* "person barred from their country, usually for political or punitive reasons ... or a person who lives away from native country either from choice or compulsion" (OED)
>
> *asylum seeker:* "someone who leaves their own country, often for political reasons or because of war, and who travels to another country hoping that the government will protect them and allow them to live there" (CED)

The 20th century with its waves of refugees, asylum seekers, and migrants brought attempts to distinguish between groups of people, and official definitions were adopted by the UN and its member agencies to help in their settlement. The 21st century brought migration from new conflicts, such as from tribal/ethnic conflicts in Rwanda, Mali or Sri Lanka, religious conflicts in Myanmar or Iraq, as well as those seeking economic relief due to famine, drought, and abject poverty. All of these added yet another dimension to the stories of people moving to different countries. Yet increasingly, in the media of various political persuasions (with most examples used here found in right-wing media sources), the label given to all these people is *migrant*, or *undocumented immigrant*. If one falls under the category of undocumented immigrant, they are no longer protected by international agreements. The recent developments brought one more change in labels as the US administration now refers to *undocumented immigrants* as *illegal aliens* with all of the negative connotations of this WWII designation.

The problematic character of the usage of only one label - namely *migrant* - to refer to all groups of people on the move was noticed by the United Nations and the following distinction was made: refugees are persons who left their countries of origin "for reasons of feared

persecution" and, "as a result, require international protection". Migrant, on the other hand is defined as "someone who changes his or her country of usual residence, irrespective of the reason for migration or legal status" (United Nations n.d.).

This usage of migrant as an umbrella term to cover all groups of people blurs the distinction between them making it possible for governments to ignore them. For instance, Mexican, Central, and South American asylum seekers are categorized in the US as economic migrants. The same category is used to refer to African, Middle Eastern, and Asian refugees/asylum seekers in Italy, France, Austria or Hungary. Stripping refugees or asylum seekers of their complex stories makes it possible to presume that they are "invading" the new country, where, it is assumed (by many citizens of the "invaded" country) they feel entitled to be helped. It hides the tragedy of people fleeing from hunger, war, or extreme poverty. As Eric Fassin claims: "The emigrant is the one who has left, the immigrant is the one who has arrived, the migrant is the one who has no 'purpose' to be here, nor anywhere: he's just moving about" (cited by Lehn 2018).

The attempts to comprehend what is behind label choices has motivated numerous studies, however, the understanding of reasons motivating the choices remains extremely complex (see Haynes et al. 2016). For instance, in the context of the US, the interchangeable usage of the labels *illegal aliens*, *illegal immigrants*, and *undocumented immigrants* was investigated, and the conclusion was that they all have different connotations, with *illegal immigrants* being perceived as significantly less positive than *undocumented immigrants*, and *illegal aliens* being the most positive (Ommundsen et al. 2014). However, even if it were considered the most positive of them, *illegal aliens* sounds markedly negative.

To aid in the comprehension of what a label represents, Lee & Nerghes (2018) suggest using a four-dimensional model with perceived *Agency*, *Economic Cost*, *Permanence*, and *Threat* as aspects, which should be taken into consideration when looking at word choice. *Agency* "refers to actors having relatively higher agency in crossing borders (e.g., those who are not in fear for their lives," Lee & Nerghes (2018: 9)). *Permanence* concerns whether or not the migrants will stay in the host country. *Economic cost* focuses on the expected expenses of the host country and its welfare system to accommodate the migrants. Finally, the dimension of *Threat* refers to the fact that migrants are often portrayed as a criminal threat to the host countries. In their analysis, Lee & Nerghes (2018) demonstrate that *Threat* influences people's sentiments most negatively, with *Agency* being the second most influential, followed by *Permanence* and *Cost* (p. 10). Although originally devised to be used in a qualitative study of YouTube comments on two videos, we adopted this model as the frame for our analysis of examples found in the Italian, Dutch, and Polish media.

2. HATE SPEECH. Hate speech appears very challenging to define, and, as noted in the eMORE (Monitoring and Reporting Online Hate Speech in Europe) report, while some of the European Union (EU for short) countries have an accepted definition of hate speech, in many, the phenomenon is not officially defined, resulting in a lack of consensus about what actually constitutes hate speech. Therefore, in the eMORE report, an attempt is made at defining hate speech, hate crimes, and online hate speech. The definitions suggested therein are presented

below. These definitions are very general and open to interpretation, thus illustrating the complex and multifaceted nature of the term "hate speech".

> HATE CRIME: Includes all forms of expression or action that constitute a criminal offence involving prejudice or bias based on race, ethnicity, nationality, religion, sexual orientation, gender identity, and disability.
>
> HATE SPEECH: Includes all forms of expression (oral and written) involving prejudice or bias based on race, ethnicity, nationality, religion, sexual orientation, gender identity, and disability.
>
> ONLINE HATE SPEECH: Includes all forms of expression (with specific reference to written words and symbols) made available over the Internet and through social media, involving prejudice or bias based on race, ethnicity, nationality, religion, sexual orientation, gender identity, and disability.

From the communication point of view, hate speech does not follow the principles of human communication, as its goal is not to transfer information, but rather to offend and hurt. However, unlike in most other types of interpersonal interaction, no apology is offered or, indeed, expected. What is also characteristic of hate speech, especially the online version, is its anonymity. Hidden behind technology are internet users who are not afraid of consequences, given that there are multiple types and layers of anonymity protecting the author and making prosecution difficult.

Despite breaking the rules of human communication, hate speech is a very powerful tool of community building. The like-minded people can feel a sense of belonging if they share the same, especially the most radical, points of view. This builds a community, not unlike a political party or tribe, with members supporting each other in hating the same enemy. This tribal affiliation often goes beyond the borders of a country and spreads through the use of English as a lingua franca on the Internet. The sense of belonging to a group may strengthen prejudice or discrimination of the *other* (cf. Junger 2016, Stroińska & Cecchetto 2019).

Hate speech may take different forms. A common one is *name-calling* or *referring* expressions depicting a group of people in a certain way (e.g., referring to refugees as *invaders*, *animals*, or *pests*). Another form is represented by *assertions* about the addressee's ethnicity, sexuality, political affiliations, mental health, etc. (e.g., *"*It would be <u>insane</u> to accept refugees now so take your strawman arguments somewhere else as well" (Winchell 2015).

The next figure of speech used to express cyberhate is *calls to action*: what should happen or what should be done to the addressee (e.g., "Was to się powinno spakować w kartony i do Tel-Avivu wysłać" [You should be packed into cardboard boxes and shipped to Tel-Aviv[1]], Konrad Smuniewski, member of the Ruch Narodowy – National Movement – political party, on Twitter, DC 2018).

Often, aggression is implied by the use of *rhetorical questions directed to the audience***,** a method which is especially difficult to detect by automatic hate speech recognition, as the very words of hatred may never be spelled out (e.g., "Dlaczego polityków PO/Nowoczesnej nie stać na podobny patriotyzm?" [Why are the Civic Platform/Modern political party members not able

[1] All translations have been provided by the authors.

to display such patriotism?], online comments found on https://wiadomosci.dziennik.pl). Finally, the most obvious and easiest to detect form of hate speech is *the use of vulgarity* even though not every use of obscenities is considered hateful. This makes the substitution of lexical items, as is the case of *migrants*, a unique example of hate speech. Although the substitute words used are not offensive per se, the very motivation to use them is loaded with bias and prejudice.

3. EXAMPLES: ITALY, THE NETHERLANDS, AND POLAND. The choice of these three countries to illustrate how migrants are presented in the media is not only motivated by the nationality or country of residence of the authors of this article, but they were also chosen to show how the issue of online hate speech is seen in countries with different approaches and attitudes towards newcomers.

In Poland, with hardly any asylum seekers (cf. EuroStats), the attitude of citizens towards refugees is mainly negative, and the willingness to provide shelter is based on their country of origin (CBOS 2018). Moreover, the attitudes towards minorities are deteriorating. For instance, in 2014, the test sentence "Muzułmanie to podłe tchórze, mordują głównie kobiety i dzieci" [Muslims are mean cowards who murder mostly women and children] was considered offensive by 62.7% adults and 60.2% youth in the study. In 2016, the same sentence was used to check if it would elicit the same rates of response. This time only 46.8% adults and 35.4% youth considered the statement as offensive. This leads to the observation that fewer and fewer people perceive hateful speech as offensive: rather they become immune and desensitized to it. (Winiewski et al. 2016). Both studies were conducted by the Centre for Public Opinion Research on a representative sample chosen randomly (1007 adults and 653 teenagers in 2014, and 1052 adults and 682 teenagers in 2016), and by means of interviews.

In Italy, attitudes towards refugees are mostly sympathetic, with 72% of people supporting the principle of asylum (especially given the heartbreaking situation of people risking death to cross the sea), and 41% percent expressing their warm personal attitude towards refugees (as compared to 29% against and 27% neutral). They are, however, highly concerned about how the process of immigration influences the economic situation of the country, especially the job prospects and safety, since the Italians feel the authorities failed to deal with the situation properly (Dixon et al. 2018, Glionna 2017, Finotelli & Ponzo 2018). The study was conducted by Ipsos, a global market research firm, and was comissied by the non-profit organization *More in Common*. In this study, 2000 participants responed to online and phone surveys.

Although the Netherlands takes pride in being a welcoming environment for incomers, and 63% of the responders of the census claim it is a moral duty to accept people fleeing war and persecution, migration remains by far the largest social issue (Sociaal en Cultureel Planbureau, 2016). According to Continu Onderzoek Burgerperspectieven (operating within the Netherlands Institute for Social Research), in 2016, 56% of people would name immigration the most important problem in their country. The same agency found a polarization of views on the issue in their research and pointed out how this division in the society negatively affects the refugees (Sociaal en Cultureel Planbureau 2016).

On a very general level, these three countries differ significantly in their approach to migration. The Netherlands and Poland tend to assess immigration relatively positively if

respondents are asked whether one's country is made a better or worse place in which to live as a result of immigration, while Italian attitudes are generally negative (Heath & Richards 2019: 13). But if the question is altered and re-formulated as "how many migrants should be allowed to enter from poorer countries outside Europe?", Poland and Italy are both below the average level of acceptance, with the Netherlands still being more open (Heath & Richards 2019: 14).

3.1. ITALY. Concrete visual examples of what hate speech looks like, and what it encourages the audience to do, can be found in the posters produced by Forza Nuova in Brescia, a Northern Italian city in the heart of the Lega stronghold for distribution in Southern Italy. The Lega Nord/Lega Nord Salvini and Forza Nuova are neofascist parties that came on the Italian political scene in the 1990s. In addition to highlighting the need for the Northern Italian regions to separate from the rest of Italy, since the start of the migrant crisis in Italy, these parties advocate a more aggressive response to the "migrant invasion", including beatings and killing of migrants wherever they are found on the peninsula. The following text (example 1) accompanied by a photo of a group of young African men in front of the Hotel Milano was found on a poster distributed widely through social media (most of the party members are in the 20 – 45 age range):

(1) STOP INVASIONE. DIFENDI LA TUA CITTÀ.
[Stop the invasion. Defend your city]
Rifiuto del modello di "accoglienza" voluto solo da mafie, cooperative e politica corrotta;
[Rejection of the "welcoming" model that was wanted only by Mafias, cooperatives and corrupt politicians.]
Priorità nelle politiche sociali ai cittadini italiani;
[Priority to Italians in social policies]
Difesa etnica a fronte di una progressiva africanizzaazione di Brescia.
[Defense of ethnicity to combat a progressive Africanization of Brescia
ITALIANI DIMENTICATI - IMMIGRATI NEGLI HOTEL
[Italians Forgotten - Immigrants in the hotels!]

This example illustrates three of four dimensions of the Lee & Nerghes (2018) model. First of all, it refers to the *Threat* by talking about invasion and calling on "true" Italians to defend Italian ethnicity. Secondly, it emphasizes the *cost* of supporting the migrants (putting them up in hotels). Finally, there is an implied message of different motivations of these groups to move between countries (*Agency*).

The next example is even more striking. It is taken from il Giornale.it, the on line edition of the daily newspaper published in Milan and owned by Paolo Berlusconi, the younger brother of the former prime minister of Italy (July 8, 2014). The article focuses on the *Economic cost* of supporting immigrants and argues that Italians are becoming of secondary importance for their own government which is a form of *Threat*:

(2) Pozzallo [Sicilian town with migrant center]

Al Centro di Accoglienza per migrant il cibo finisce nella spazzatura.
Gettati via i pasti dei profughi: si indaga sullo sprecco in Sicilia.
Con gli italiani che non hanno soldi per fare la spesa…
Vergogna! Basta soldi per questa gente.
[At the migrant reception center food ends up in the garbage. Meals for refugees thrown out. The waste in Sicily is being investigated. While Italians have no money to buy food… Shame! No more money for such people.]

3.2. THE NETHERLANDS. In December 2015, in the Dutch city of Arnhem, the Nederlandse Volks-Unie (Dutch Peoples-Union - a Dutch Neo-Nazi political party) called on its supporters (3) to block the creation of new AZCs (asielzoekerscentrum - centers for asylum seekers).

(3) "Stop de vluchtelingen invasie! Grenzen dicht nu! Opvang in eigen regio!"
[Stop the refugee invasion! Close borders now! Take care of your own region!]

Using the word *invasion*, and thus appealing to the most influential of dimensions - the dimension of *Threat*, the party tried to evoke feelings of danger from the migrants, not only on the local level, but also on the national level. The same party, also used a different slogan:

(4) "Gelukzoekers niet welcom! Grenzen dicht!"
[Fortune seekers not welcome! Close the borders]

This is a *Call to action* invoking *Agency* as the main dimension to express their negative views of refugees.

3.3. POLAND. In the Polish context, an extreme example comes from the #PolskaJadeTam campaign (Kim 2018). This campaign was organized in 2015 by the anti-Islamic portal Euroislam.pl. Posters distributed in Warsaw depicted armed men, with images accompanied by the slogans in examples (5) and (6).

(5) "Państwo Islamskie ukrywa terrorystów wśród imigrantów. Decyzję o ich przyjęciu podejmuje Ewa Kopacz." [Islamic State hides terrorists among immigrants. The decision to accept them is made by Ewa Kopacz (then the Prime Minister of Poland)]
(6) "Zalejemy Europę imigrantami na małych łodziach i zamienimy ją w piekło.
Państwo Islamskie 2015." [We will flood Europe with immigrants on small boats and turn it into hell. Islamic State 2015]

The appeals to *Threat* and *Agency*, similar to the Italian and Dutch examples, are clear in these texts. The alleged motivation of groups of refugees to move to a different country is depicted not as seeking safety, but rather as their desire to commit terrorist acts and turn the host countries into "a hell on earth".

4. LANGUAGE SIMILARITIES IN THE HATE SPEECH ON SOCIAL MEDIA OF OTHER COUNTRIES. We not only notice similarities between Italy, the Netherlands, and Poland, but we also find the same characteristics of the narrative about migrants/refugees in the discourse of the official media of other countries (such as Hungary), or the official/social media platforms of rightwing groups in the US and Canada. The similarities are reflected by the lexical choices and imagery which are used in anti-immigrant blogs or Twitter or Reddit posts and comments (see, e.g., Breitbart Network publications or tweets from @realDonaldTrump) and which are summarized in (7).

(7) Nouns & adjectives: chosen for their associations with danger, lack of education, lazyness, disease, dirt
Verbs: indicating proximity, aggression, invasion, taking advantage of others, catastrophic effects
Images: people who look different, foreign, mostly young men, ragged, dirty, bearded

Verbal aggression online has multiple effects on the audience. First of all, the omnipresence of hate speech may lead to the growth of insensitivity on the part of the bystanders. The radical views expressed openly contribute to the growing polarization of views and opinions. Also, if the governments, party leaders, and social influencers use such loaded, offensive, xenophobic, racist, and often rude discourse, their example - "example from above" - justifies the behavior of the rest of the society. This results in the growing solidarity of the haters and overall increasing acceptance of linguistic incivility, which then is reflected in comments of anonymous internet users. Examples of hate speech are numerous, but what is missing from these online discussions is a reaction/backlash towards such verbal violence. Hardly anyone is holding the haters accountable for their language and extremism. Hate discourse becomes the norm online and spreads to interpersonal communication offline.

5. IMPACT OF LABEL REBRANDING. The financial crisis of 2008 added a disturbing aspect to the recent attitudes towards migrants, although this pattern of attributing blame is not a new phenomenon (cf. e.g., Becker et al. 2011 and Bukowski et al. 2016). People whose financial security was threatened, some of whom lost their jobs, savings or even homes, started to attribute their situation to the perceived "invasion of immigrants." Inhabitants of the host countries, many of them immigrants themselves, started to blame their governments for not taking proper care of their own citizens, but rather focusing on assisting immigrants instead. A final source (the proverbial straw that breaks the camel's back) of negativity towards immigrants is the "benefits" that the governments in the accepting nations give to the refugees/immigrants. In the minds of the local people, such financial support offered to the newcomers, comes "out of their own pocket". They see it as money taken away from them and they feel deprived of the help, such as monthly support, housing, and health assistance, that they themselves often desperately need.

Following the defeat of the 2011-12 Arab Spring uprisings by the governments in power and a new wave of refugees from these war-torn countries towards Europe, many people in the receiving countries supported the initiatives to help them. Stories appearing in the media then presented refugees as a defenseless group seeking a refuge among the more fortunate nations.

People openly expressed their support of refugees on social media, for instance, by editing their profile picture on Facebook and adding an "I support refugees" frame. However, incidents such as the Bataclan (November 2015), Nice (July 2016), and the Toronto attack (April 2018) caused a significant shift in discourse which appears to reflect the shift in attitudes. People in host countries, previously accepting of refugees and migrants, seemed to feel threatened. This feeling of threat appears to provide them justification for racism, discrimination, and hate. The justification is based on the assumption that because particular groups of migrants share the same ethnicity or religion, by default they also belong to the same group who perpetrated terrorist acts (e.g., ISIS).

With relabeling refugees and asylum seekers as *migrants*, it is easier for governments to manipulate the attitude citizens have towards the newcomers. The often painful reasons for having fled their home countries are now hidden to the receiving nations' citizens. What remains is the perceived threat that newcomers pose to the local community, thus raising fear of the *other*.

Modern political parties and organizations, regardless of orientation, cleverly use sophisticated manipulation techniques across social media platforms to disseminate their propaganda. However, they may differ in their focus. For example, left-wing parties tend to emphasize the tragic stories of refugees, their treacherous journey to safety, and sometimes death (e.g., the photo of the body of 3-year-old Syrian Kurdish refugee, Alan Kurdi, on the Greek shore), while right-wing parties put the stress on the impact refugees have or will have on the personal safety of citizens, as well as the economic hardships and cultural changes to the host country which accepting migrants could cause.

The audience is inundated and assailed by multimodal loaded messages about refugees. First of all, as discussed above, the choice of the word *migrant* instead of a more specific label, simplifies the situation of varied groups of people, depriving them of their legal status. The word *crisis,* chosen to refer to the wave of refugees, helps to proliferate negative views of migrants through social media. In all three countries, both the word *migrant* and *crisis* are omnipresent and often used together. A Google search for the English phrase "migrant crisis" instantenously produced 45 million results. Examples 8-10 illustrate how the word *migrant,* in tandem with the word *crisis*, is now used to refer to the refugee situation.

(8) La crisi dei migranti in Siria scoppia con l'inizio della guerra nel Paese arabo (Indelicato 2018)
[The migrant crisis in Syria erupts with the beginning of the war in the Arab country.]

(9) Het voorstel, dat volgens een gelekte ontwerptekst „tijdelijk" en „vrijwillig" is, is een doorbraak in de migratiecrisis in de Middellandse Zee. (de Gruyter 2019)
[The proposal, which is "temporary" and "voluntary" according to a leaked draft, is a breakthrough in the migration crisis in the Mediterranean.]

(10) Europie grozi większy kryzys migracyjny niż w 2015 roku. (Onet 2019.)
[Europe is facing a greater migration crisis than in 2015.]

These messages are spread not only through words, but also via images, which are often very graphic, and have a very high impact on the audience, but at the same time are extremely easy to manipulate by the people who post them. These often-manipulated visuals are instantaneously available worldwide and can spread very quickly across the internet. The authors of such posts often remain anonymous and the receivers of the message are rarely critical enough to check if the image has not been manipulated. Therefore, not surprisingly, even fake news is spreading quickly. With no effective filters on many platforms, messages of hate and discrimination can be freely expressed, proliferated, and instantly spread.

6. MIGRANTS AS SCAPEGOATS. "Scapegoating immigrants is the oldest trick in the book", commented Giles Fraser in *The Guardian* (2014), shortly before the Brexit referendum. Waldron (2014) argues that governments need to regulate hate speech to protect human dignity, facilitate inclusion, and encourage more respect for members of minorities. Experts on language manipulation and persuasion always stress that propaganda should use short and simple (unambiguous) messages and repeat them *ad nauseam*. Brown (1963) observed that, when faced with issues, people prefer simplicity: they want to have their prejudices validated, they crave the sense of belonging and thus they welcome the creation of the *us and them* division. They also need to have someone to blame. Migrants satisfy the need of societies to have a scapegoat to blame for the country's problems and are thus easily perceived as the enemy. People can be easily persuaded that newcomers bring nothing but their foreign and threatening culture with them and require significant financial resources, while not contributing anything to the host country. It is no wonder they are the first to be blamed. As Chichilnisky (2016) states, "Political parties often take advantage of denial and fear in a moment of change. This is a well understood phenomenon that often leads to scapegoatism: blaming outsiders, such as immigrants, or racial and religious minorities. The phenomenon is behind Brexit and the violence in the political cycles in the US and EU".

It is impossible to think that such an increase in xenophobic populism and the discrimination that follows are only a modern phenomenon that was previously unknown. There are multiple examples of such developments throughout history - the Salem witch trials, or the fear of Catholics coming to the US and Canada during the Irish famine, the Armenian genocide or the Spanish Inquisition's persecution of the Jews, for example - and they should serve as a warning to us.

The awareness of the flood of hate speech concerning refugees leads to the conclusion that we are currently witnessing an unprecedented spread of the discourse of contempt. Contempt, as an emotion, is linked to a lack of respect and the consideration of others as inferior, worthless, and incompetent. Contempt then leads to a loss of compassion, a lack of guilt or shame, and sparks feelings of anger and disgust towards the *other*. These feelings of contempt and anger may be key factors in the rise of hate speech because it is built on the specific emotion that blocks empathy and objectivizes (dehumanizes) the other person.

7. IMPLICATIONS OF THE ANALYSIS: WHAT CAN BE DONE? Migrants, seen as the *other*, confront us with the unknown – an unknown culture, unknown expectations - of which some people are

often afraid. As Geert Wilders, the Dutch right-wing politician, stated "Wij worden georganiseerd. Onze bevolking wordt vervangen door mensen met normen die de onze niet ziijn." [We are being colonized. Our population is being replaced by people with standards that are not ours.] .

Fear is one of the strongest emotions and also one that can be easily manipulated for specific reasons and outcomes. As the political strategist, Rick Wilson pointed out "Fear is the simplest emotion to tweak in a campaign ad. You associate your opponent with terror, with fear, with crime, with causing pain and uncertainty" (Ball 2016).

According to the 2017 Annual Report of the European Commission against Racism and Intolerance, "the populist rhetoric has blended into a hatred of non-nationals or minorities; migration and multiculturalism have continued to be presented as a threat to societal cohesion and security." These powerful emotions conveyed in texts and messages influence the less critical part of the audience. These worrisome messages should be monitored and special attention should be paid to prevent online trolls and propaganda from dictating the narrative.

In order to fight cyberhate effectively, governments should reach consensuses on the definition of hate speech and take active measures to stop verbal aggression. Especially in the context of vulnerable groups, such as refugees or asylum seekers, who have already experienced trauma, it is crucial to protect them from verbal attacks.

The detection and removal of cyberhate is being worked on, but it still constitutes a challenge (e.g., MacAvaney et al. 2019). The first step is to arrive at a clear definition of what constitutes a hate speech act. Is it language that is merely offensive or is it also, in line with the Cambridge Online Dictionary definition of hate speech, an act which encourages violence (https://dictionary.cambridge.org/dictionary/english/hate-speech). Improving the AI algorithms that can unerringly detect hate speech is the next challenge. Some websites already use filters to block hate speech, but their effectiveness is still very limited. Working on linguistic tools which would inform these filters is necessary, since, as presented in this paper, hate speech may also take the form of dog whistle words which, when removed from the context, seem completely acceptable.

8. CONCLUSION. Changing the way we talk about a phenomenon has far-reaching consequences. As has been illustrated in this paper, the very usage of the words "migrant" or "crisis" not only reflects the change of attitudes, but may also cause a shift in how people react to this often underprivileged group and their tragedy. The discrimination that follows, as seen in online hate speech found in the comments posted by mostly anonymous users, is already upsetting, but what is more troublesome is that what starts as verbal abuse, may quickly become much more than that. Gordon Allport's Scale of Prejudice and Discrimination (1954) provides an idea of how verbal aggression against the other may escalate. Allport's scale starts with Level 1, defined as using derogatory language that may cause avoidance and make people feel invisible (Level 2), which, in turn, may result in discrimination (Level 3) and physical attacks (Level 4). The last level is the removal of the out-group: ethnic cleansing and murder.

When we started observing the phenomenon of hate speech in the context of Poland after the government change in 2015 (Stroińska & Drzazga 2017), we noticed elements of the first and

second level of Allport's ladder - antilocution and avoidance. What we can observe in Poland now, less than four years later, goes beyond that since we are already witnessing physical attacks on various minority members (Level 4). Level 5 is genocide.

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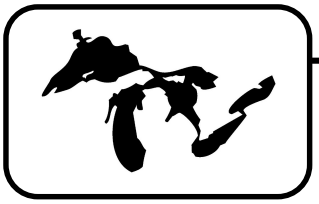

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ARE PERSONAL PRONOUNS DEMONSTRATIVE AS WELL? EVIDENCE FROM DEIXIS

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Abstract: This article aims to analyze the use of person deictics accompanied by gestures. Also explored will be the relationship between personal pronouns and origo, a four-dimensional deictic space. Person deictics shift their reference depending on who is speaking, or is spoken to or about, and help us paint a mental picture of a discourse, follow its logic and structure, while their relationship to origo changes as interlocutors take turns. Gestures, in this regard, temporarily anchor personal pronouns to their referents and their respective origo. We predict that even when the referents are not visually present, the speaker will rely on gesturing to identify the referent of their utterance. Finally, we argue that when used nonreferentially and accompanied by gestures, personal pronouns behave as demonstrative pronouns, in the way that they select referents within the boundaries of the origo.

Keywords: person deixis, personal pronouns, origo, gestures

EACH WORD IN A SENTENCE IS ENCODED WITH CERTAIN CONTENT, that is, the information it is trying to communicate, all contributing to the overall meaning of that sentence. However, there are words whose content shifts depending on who is speaking, or is being spoken to, and whose meaning may depend on extralinguistic facts. These words are referred to as *deictic* expressions or indexicals. They usually announce the place, the time, and the speaker, and their meaning changes with the speaker. The Greek term *deixis* means pointing or indicating, in other words, "the location and identification of persons, objects, events, processes and activities being talked about, or referred to, in relation to the spatiotemporal context created" (Lyons 1977:637). Words that typically fall into this category are pronouns, demonstratives, as well as tense markers and time and place adverbs. They are usually anchored, though not always, to the time and place of the utterance reflecting the speaker's point of view, and they enable both the speaker and the listener to single out the object indicated. The interpretation of indexicals depends on the "time of utterance, and to times before and after the time of utterance" as well as to the "location of the speaker at the time of before and after the time of utterance" and the "identity of the speaker and the intended audience" (Fillmore 1966:220). It is this context-sensitivity that makes such expressions particularly interesting. It is not easy to pinpoint what exactly it is that makes an expression indexical or deictic. Yet, it can be argued there are two different properties related to indexicals that set them apart from other expressions, and that they give rise to two distinct but related concepts. The first property is related to the assignment of truth-conditions to sentences

containing indexicals, while the second is related to the way sentences containing indexicals are processed and understood. With regard to the assignment of truth-conditions being context-sensitive, some meanings of indexicals arise pragmatically from the given context, while others fall outside of its scope, notably those of discourse and social deixis. Consequently, the interpretation of such expressions depends on the particular pragmatic and semantic environments available to the interlocutors at a given time in a given situation. For instance, for the utterance *Mine is over there*, the preceding contextually relevant information is crucial for its interpretation. The personal pronoun *mine*, in one case, can refer to the speaker's car, while in the other, to the speaker's house or any other object the speaker possesses. Based on the shared knowledge between the interlocutors or the contextually given information, the pronoun *mine* gets its truth-conditions assigned. Therefore, numerous contextual factors, such as the identities of the speaker and listener, the time and place of the utterance, the discourse framework preceding the utterance, and the shared knowledge between the interlocutors contribute to the assignment of truth conditions and also to the interpretation of the utterance.

1. DEIXIS. There are at least two ways of referring to objects or individuals, one using proper names, and the other using indexicals. When using proper names their reference is usually fixed to their bearer, while with in dexicals certain parameters need be determined prior to identifying the referent of an indexical. The essential would be the agent, the time, and the place of the utterance. Indexicals are used from a particular point of view, and "when one makes an assertion, a request, a question, etc. using an indexical one is (usually) anchored to the place and time one produces one's utterance" (Corazza 2002:442). Each one of these utterances can be seen as an action, produced by an agent, therefore firmly tied to the agent, as well as the time and the place of the utterance. Therefore, someone's *I* refers to that person's self, while someone else's *I* refers to the self of the other person, and an addressee is usually referred to by *you*. But, from the audience's point of view, the understanding of these expressions, unlike the understanding of proper names, requires the context in which they were uttered. The difference between referents can also be seen in terms of the distinction between content and character, or the distinction between a referent and a linguistic meaning, where a character is represented by a relation from context to content. Thus, the character of *I* is represented by a function of the form "the utterer of this utterance" and is assigned its referent within the given context (Kaplan 1989:489). Likewise, the character of *now* is represented by a function of "the time of the utterance" (Kaplan 1989:489). Even though the understanding of these utterances clearly relies on "perspectival identification", the parameters of the agent, the time and the place are not always sufficient to identify the referent (Kaplan 1989:489). A pointing gesture is usually necessary to accompany these expressions.

When it comes to indexicals, there has been "surprisingly little work of a descriptive nature in the area, with a consequent lack of adequate theories and frameworks of analysis" (Levinson 1983:61). It was Levinson who first tried to marry traditional deictic categories with contemporary approaches to deixis, and he also explained the way that these can be applied. In addition to *person*, *place*, and *time* deixis, which deal with the role of participants, spatial locations, and time points respectively, Levinson also proposes categories of *discourse* (or *text*) and *social* deixis, pointing out that deixis is organized around anchoring points in the speech event which make up the *deictic center* (Levinson 1983:64). Deictic expressions also "enable us

to turn the context itself into an auxiliary means of expression, so that contextual features are made to serve as pointers to the content of the utterance" (Nunberg 1993:20).

2. PERSONAL PRONOUNS AND PERSON DEIXIS. Belonging to a closed linguistic category, personal pronouns provide an interesting example of grammatical units with a manifest overlap between code and message, for their code cannot be interpreted without the message they are part of. As such, they also belong to the category of shifters whose referential values are constituted by the speech event itself (Silverstein 1976:29). A typical means for conveying person deixis are personal pronouns.[1]

Although person deixis is signaled by the grammatical category of person, in order to fully grasp person deixis, "an independent pragmatic framework of possible participant-roles" need be established (Levinson 1983:68). This framework would ensure that "the speaker or *spokesman* can be distinct from the *source* of an utterance, the *recipient* distinct from the *target*, and hearers or *bystanders* distinct from addressees or targets" (Levinson 1983:67). The three basic categories of person deixis are first, second, and third person categories; the first two being associated with the speaker and the addressee while the third excludes both the speaker and the addressee. While this division holds true for Modern English, there are languages that distinguish between formal and familiar second-person singular pronouns (also referred to as T-V distinction) where the choice of personal pronoun reflects the relationship between the speaker and addressee. Various levels of politeness, courtesy, and respect can be conveyed by choosing between the two pronouns, the formal commonly being used when addressing people higher in rank, older in age, or someone the speaker does not know. Once a property of Old and Early Middle English, the T-V distinction is now lost in Modern English, however, its aspect of plurality marking has been preserved in some regional dialects and informal speech in the forms *youse* and *y'all*.[2] This type of deixis "clearly operates on a basic three-part division", represented by the first-, second- and third-person pronouns (Yule 1996:10). In addition, person deixis is "not restricted to an identification of utterers and interpreters," but it also focuses on "foregrounding of properties (such as sex) which position people in a social world" (Verschueren 1999:91). There is a range of linguistic means a speaker can use to refer to their addressee or someone else they want to talk about, but the paradigm case in this category are personal pronouns. Their two major characteristics are that they are inherently referential expressions, hence "they do not occur with modifying and determining elements that are otherwise necessary to form referential noun phrases," and that "the referent of a personal pronoun can be identified only with respect to the actual speech event" (Helmbrecht 2003:189). Unlike proper names, which have constant reference, personal pronouns shift their reference "depending on the change of speech act roles during a conversation" (Helmbrecht 2003:189). What also makes these expressions interesting is the fact that they reveal a relation between the origo, or deictic center, and intended referent. Personal pronouns fall under the category of *shifters*, since their meaning "differs according to

[1]Another way of marking person deixis is by means of vocatives, or noun phrases that "refer to the addressee, but are not syntactically or semantically incorporated as the arguments of the predicate" (Levinson 1983: 71). Vocatives can be divided into two groups: *calls* or *summonses* and *addresses*, the distinction being whether they are used gesturally or symbolically. Summonses are utterance-initial devices and can be regarded as independent speech acts, whereas addresses are parenthetical and can only occur in slots reserved for parenthetical expressions. While all addresses can be used as summonses, only some summonses can be used as addresses. For a detailed account see Levinson (1983).

[2] For a detailed discussion on plurality in English see Hickey (2003).

the situation and can be applied to one thing at one time, and a different thing at another," so that "their referents are not assigned in a fixed fashion, but fluctuate according to the evolving conversational context" (Stawarska 2008:405).As for the semantic properties of deictic expressions, three components can be distinguished: *deictic component* which picks out a referent from its occurrence or "a function from occurrences or utterances of an expression to elements of the context of utterance," *classificatory component* which contributes features of gender and animacy and "may include inflectional features like grammatical and natural gender," and *relational component* which "constrains the correspondence that has to hold between the index and the interpretation" (Nunberg 1993:9). Interpretation of any pronoun is "ordinarily a two-stage process in which the hearer has to first resolve the deictic component to determine the index, then resolve the relational component to determine the interpretation" (Nunberg 1993:9). Finally, the proper interpretation of a pronoun is only possible when the speaker's intentions, the conversational purposes, and the linguistic context are taken into account.

3. ORIGO. The term *origo* was first introduced in 1934 by German psychologist Karl Bühler and it refers to "the coordinate system of subjective orientation," which is used "to organize personal, spatial, and temporal structure of utterances" (Fricke 2002:208). Origo, or a deictic center - as some linguists refer to it, is a four-dimensional space, composed of three spatial dimensions and a time dimension, with a speaker at the center of it. It is also "the place of origin from where all the deictic words get their reference" (Kwan 2007:249). Metaphorically speaking, this center radiates "a number of concentric circles distinguishing different zones of spatial proximity (…) while the discourse to which the speaker contributes unfolds along this same timeline" (Levinson 1983:64).

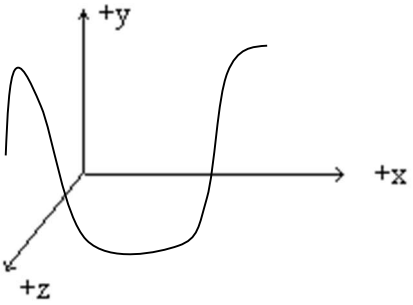

Figure 1. Origo is a three-dimensional coordinate space with a time dimension (represented by the curve) added to it.

Bühler thought the main characteristic of deictic expressions to be their relationship to origo, and the only way of their interpreting in respect to origo. According to Bühler's concept of displacement, origo can be shifted to other, both animate and inanimate, objects. Therefore, itis only logical to assume that more than one origo exist within our spatio-temporal domain of discourse (Bühler 2011:153). This approach is in line with another model of local deixis. According to Herrmann, an object a deictic expression refers to is called the intended object, and it can be located "with respect to a reference object, the *relatum*, and from a viewpoint, the origo," meaning that origo can be assigned either to the addressee, or to the speaker, or someone else(Herrmann 1998:51). Based on this, utterances can be divided into two basic groups, *three-point localizations* and *two-point localizations*, depending on whether there are two or three elements which determine the position of origo, the *relatum* and the intended object. The main

difference between them is in the assignment of origo to the speaker, to the addressee, or to a third party. There needs to be a distinction between primary origo, the one carried out by the speaker, and secondary origo which is allocated by the speaker to the addressee or the third entity. In addition to his speaker role the speaker is also responsible for the allocation of origo. Accordingly, the right to allocate origo changes as interlocutors take turns. In other words, while communicating, "the communicators alternately assume the roles of the speaker and the addressee" where "the primary origo is acquired and, thereby, the possibility to intentionally allocate secondary origos to intrinsically arranged entities" (Fricke 2002:221). Besides the speaker and addressee, such entities, of course, can be any inanimate or animate objects, people, creatures, and pretty much anything else referred to in speech (Fricke 2002:221). Origo is, therefore, not a single entity and cannot be strictly fixed to the speaker. In the case of primary origo, it remains primarily connected to the speaker, whereas secondary origos are created and allocated during a conversation.

4. GESTURES. Speech is often accompanied by spontaneous hand and arm movements, also called gestures, which have a communicative function and sometimes play a crucial part in understanding what is trying to be communicated (McNeill 1985). Some gestures are complementary with the concurrent speech since they both reveal different aspects of the same content and together, they convey the full meaning of the speech event. In terms of their pragmatic function, gestures closely inform us about the aspects of the discourse structure and mechanisms of turn-taking (McNeill 1985). In addition, gestures can also be semantically parallel to the speech they accompany in that "they refer to the same underlying cognitive representation" (Holler & Beattie 2003:81). Finally, they provide a sense of what is next going to happen in a discourse, suggesting "the content of what ought to be said, or the act about to be taken, or the stance that is adopted toward what will follow" (Streeck 2009:177).

Kendon's Continuum (McNeill 1992), or his taxonomy of gestures, offers a classification of gestural movements from those that are not linguistic at all, to those that are fully linguistic. On the left side of this continuum are *spontaneous gesticulations*, which basically bear no meaning. Sometimes referred to as *beats* (McNeill 1992), these arm movements resembling those of an orchestra conductor usually follow the pulse of speech and act only as a rhythmic accompaniment. Following are *language-like gestures*, which are context dependent. A circular finger movement can mean different things, depending on the context in which it is produced and the speech it accompanies. Such gestures are also said to be *iconic*. In their form and manner of execution, they exhibit "a meaning relevant to the simultaneously expressed linguistic meaning" (McNeill 1985:354). In the middle of Kendon's continuum are *pantomimes*. Relaying on shared conventions, semantically complex and improvised, pantomimes adhere to no linguistic rules (Żywiczyński et al. 2018). McNeill describes a pantomime as "a significant gesture without speech, a dumb show" (McNeill 2000:2). *Emblems* belong to a group of gestures that Kendon (1992) refers to as quotable gestures, in the sense that they can be listed and repeated. Used together with speech or replacing it altogether, emblems are not created ad hoc and are well established within a respective culture. Such a gesture would be a circle formed by the thumb and forefinger, which in one culture may represent the OK sign, while in another, a rude gesture. Having developed a fixed-form meaning relationship, emblems "can be shown to be structured systematically out of recombineable elements," and "do indeed refer to meaning units of great generality, as do words" (Kendon 1988:134). As such, emblems are said to have undergone the

process of lexicalization (Müller 2018). Typically, they carry the full meaning and need not be accompanied by speech. Finally, the most complex in this continuum is sign language. It is a visual form of language in which a single manual sign has a fixed form and meaning and is combined with other manual signs following syntactic rules.

A particular type of gestures of concern for this study are pointing gestures. Pointing has often been considered the most primitive form of communication (Mondada 2014). It provides the focus of attention between the interlocutors, and it situates the objects referred to with respect to the spatial environment in which the interlocutors are located. Studies on pointing (Haviland 2000, Kendon & Versante 2003) show that speakers do not always use the same hand shape or trajectory when pointing to something. Pointing gestures also act as indexes "picking out their referents by virtue of a shared spatio-temporal proximity with them" (Haviland 2000:17). Pointing gestures are found to be perfectly synchronized with the timing of conversational turn-taking, the spatial arrangement of interlocutors and objects, and the shared attention during interaction (Mondada 2007). Finally, pointing gestures and speech are "formatted together by taking into consideration the surrounding space, the activity in which participants are engaged, and their mutual orientation" (Mondada 2014:97).

Evidence from second language acquisition suggests the beneficial effects of gestures on verbal memory (Allen 1995, Tellier 2008) claiming that gesturing facilitates lexical acquisition and enhances the word's retrieval. Moreover, there is evidence that points out that gestures whose meaning is semantically tied to the words they accompany help the listener understand the meaning of these words, while non-meaning gestures are of no help (Macedonia et al., 2010).The literature reports cross-linguistic differences in the use of gestures. Some countries, such as Italy, are reported to be high-frequency gesture cultures (Kendon 1995), while others, such as England, are considered to be low-frequency gesture cultures (Graham & Argyle 1975). Cross-linguistic differences are mainly reported in the domain of iconic gesturing, where the language and culture affect the contents of gestures (Kita & Özyürek 2003). Interestingly, in his studies with speakers of Swahili, Mandarin, Georgian, and English, McNeill reports "a high degree of cross-cultural similarity" (McNeill 1992:221).

A single class of linguistic expressions most firmly tied with gestures are demonstrative pronouns. Together with gestural pointing, expressions such as *this* and *that* are used to establish and maintain the focus of attention between interlocutors, but also facilitate the discourse flow. And while they typically encode the relative distance between the origo and objects and locations in the given contextual setting, they are "not sufficient to identify the referent" (Diessel 2013:243). What is also needed in order to successfully single out their referents is "information about the direction or angle between the deictic center and the intended referent" (Diessel 2013:243). This is accomplished by the use of pointing gestures.

The present study is concerned with pointing gestures that accompany personal pronouns. The study will try to determine to what extent the semantic content of pointing gestures accompanying personal pronouns contributes to the listener's selection of referents. The goal of the study is to prove that personal pronouns behave in a similar fashion to demonstratives in that that their referents cannot be singled out based on their verbal content only, and that concurrent pointing gestures are needed for establishing a spatial frame of reference within which their referents could be positioned.

5. JUSTIFICATION FOR THE RESEARCH. What makes this research project worthy of attention is the fact that the available literature does not provide sufficient insight into a) what semantic information is conveyed by pointing gestures that accompany personal pronouns, and b) whether personal pronouns act as demonstrative pronouns when not accompanied by gestures.
6. HYPOTHESIS AND RESEARCH QUESTIONS. The present study examined the use of personal pronouns. The starting hypothesis for this research was that the speaker would be accompanying their use of personal pronouns with pointing gestures even when the referents of these pronouns are not visually present. To that end, we will argue that when used nonreferentially and accompanied by gestures, personal pronouns behave as demonstrative pronouns, in the way that they rely on spatial information to single out referents within the boundaries of the *origo*. The present study will seek to answer the following questions:
1) Does the speaker use pointing gestures together with personal pronouns even when the referents are not visually present?
2) Is the verbal content of the personal pronoun alone enough for the listener to single out the referent, if the referent is not visually present?

7. METHODOLOGY AND RESEARCH DESIGN. To answer the above research questions, an experiment was conducted in which the participants watched two two-minute extracts from the 2014 *Penguins of Madagascar* animated film and were asked to retell the events in their own words. In the selected clips, the characters did not address each other using their names. The author and an informed observer monitored the participants' use of personal pronouns and counted the gestures which accompanied the personal pronouns. The participants' narratives were audio-recorded using a mobile phone. The lack of access to video-recording equipment did not discourage us from proceeding with the project. Prior to the study, the author and observer (both present during the recordings) agreed that instances of hand and finger pointing would count as instances of deictic gesturing, and they both kept track of the number of them (only those used with personal pronouns) throughout the trials. They both subsequently listened to the recordings and counted the number of personal pronouns the participants used in their retelling of the clips, and whether the referents of those pronouns could be selected based on the audio recording only. This part proved to be crucial for supporting the author's hypothesis that the referents of personal pronouns could not be established in audio-only mode, and that accompanying gestures help the listener create a mental spatial framework, or origo, necessary for situating the persons referred to. The observer saw both film extracts several times prior to the experiment. This study expanded on a class assignment the same author had done two months previously as part of a course on interpersonal communication, where three subjects (different than those used in this study) watched two clips from Walt Disney's 1933 *Three Little Pigs* and later gave their own accounts of the stories. The preliminary findings confirmed the author's prediction that people gesture when using personal pronouns even when the referents of these pronouns are not visually present. Since no literature reported a similar study exploring the relationship between the use of personal pronouns and gestures, the author decided to conduct the present pilot and determine whether the results would warrant a larger-scale experiment in order to increase the power of the model and hopefully produce results that are statistically significant. Due to copyrights issues, no stills from the video clips used in this study will be included in the paper. Importantly, the clips were selected based on their high-action content and the fact that in them the characters were not addressing each other using their names. Therefore,

the viewers had no way of distinguishing the penguins from one another, other than relying on their spatial orientation.

7.1. PARTICIPANTS. There were four participants in the experiment, three males and one female, aged between 45 and 55. They were all native speakers of Serbo-Croatian and fluent in English (each having lived in Canada for over 15 years). The stimuli that were presented to them were in English, while their recollections were given in their native tongue. It is important to mention that the fact that the participants saw the stimuli in one language and discussed them in another presented no confounding effects, since a) all the personal pronouns used in Serbo-Croatian have their English translation equivalents (listed in Table 2), and b) no cultural factors would result in different pointing gestures used[3]. The only gestures that were of interest for the author were hand pointing and finger pointing that occurred simultaneously with the use of third-person personal pronouns. The author is aware of no differences in the two cultures in finger pointing used for person and object location. Finally, the stimuli were chosen because of the action and movement that takes place in them, while the speech in them was only minimal. None of the participants had seen the videos prior to the experiment. They all agreed to take part in this study voluntarily and they gave their oral consent to be audio-recorded.

8. DISCUSSION. The present study investigated whether the speaker would use pointing gestures together with personal pronouns when the referents of these pronouns are not visually present, and if the verbal content of the personal pronoun alone would be enough for the listener to identify the referent when the referent is not visually present. To that end, an experiment involving four participants was conducted. The data obtained from one of the participants was significantly different than the rest, and when the participant was debriefed and informed about the nature of the study, she confessed to deliberately avoiding any gesturing. Therefore, the data collected from that participant is not presented here.

Of concern for this study were only deictic pointing hand and arm gestures the participants used, while iconic gestures, emblems or any other nonverbal bodily movements were not taken into account. Deictic gestures are defined as those that are "produced to direct a recipient's attention toward a specific referent in the proximal or distal environment" (Cochet & Vauclair 2014:279). While they are used to "indicate an object or a person, a direction, a location, or more abstract referents such as 'past time', their meaning is "the act of indicating the things pointed" (Chieffi et al. 2009:201). Studies that compared the frequency of deictic gestures in natural speech show that deictic gestures are more likely to accompany words expressing spatial concepts (Alibali 2005). In line with the predictions, the participants relied on pointing while giving their own accounts of the events they saw in the videos. From the Table 1, it can be seen the number of times each participant used a third-person pronoun to refer to one of the characters from the video. Below that number is the number of instances when the personal pronoun was accompanied by a pointing gesture:

[3] The author identifies as a native speaker of Serbo-Croatian, once an official language spoken in Yugoslavia. The two cultures referred to are a mainstream North American culture and mainstream Yugoslav culture before the break-up of the country.

Clip 1+2			
Participant	**1**	**2**	**3**
P. pronouns	22	25	20
Gestures	15	16	17

Table 1. The number of personal pronouns (and gestures) each participant used per clip.

The table illustrates that 67% of times personal pronouns were accompanied by pointing gestures. However, the contrastive examples below show that every time gestural pointing was omitted, a personal pronoun was instead accompanied with a description:

(1) a on je ((pointing gesture of the right hand index finger to the right))[4] ondauzeopriručnik…
and he ((pointing gesture of the right hand index finger to the right)) then took the manual

(2) a njemu je ((pointing gesture of the whole right hand to the right)) rekao
while he said to him ((pointing gesture of the whole right hand to the right))

(3) dok on ((pointing in front of himself with the right hand)) nije bio siguran da možetekovisokoskočiti
he ((pointing in front of himself with the right hand)) was not sure if he could jump that high

(4) nakonštoga je dodaonjemu, ovomprvompingvinu ((no gesture))
after he gave it to him, the first penguin ((no gesture))

(5) ionda je on, taj istipingvin, potrčao ((no gesture))
and then he, the same penguin, started running ((no gesture))

(6) slučajnogaudario, ovogpingvinaispredsebe ((no gesture))
accidentally hit him,the penguin that was sliding before him ((no gesture))

When playing back the audio recordings, both the author and the observer agreed that the narrative was more difficult to follow, as well as the referents to be identified, in the instances where they could not see the accompanying gestures, e.g., sentences (1), (2) and (3). This corresponds with the findings that perception of gestures increases activation in the superior temporal gyrus (Hubbard et al. 2009) – the area that participates in semantic processing (Green et. al. 2009) and that is responsible for matching speech and gestures (Dick et al. 2012).

Table 2 shows the third-person singular and plural pronouns the participants used when referring to the characters they saw in the videos. The table also illustrates that Serbo-Croatian uses distinct dative and accusative singular forms *njemu* and *njega,* and plural forms *njima* and *njih,* respectively, while English uses the singular form *him* for both dative and accusative, and the plural form *them* for both dative and accusative.

[4]The author follows Mondada's (2018) conventions for multimodal description. More accurate would be her model for multimodal transcription, however, in this case this model could not be used since only audio recordings were made.

CASE	Serbo-Croatian 3.sg.M	Serbo-Croatian 3.pl.M	English 3.sg.M	English 3.pl.M
NOM	*on*	*oni*	*he*	*they*
DAT	*njemu*	*njima*	*him*	*them*
ACC	*njega*	*njih*	*him*	*them*

Table 2. Third-person singular and plural personal pronouns the participants used in Serbo-Croatian, and their English equivalents

Finally, when the participants were informed about the true nature of the study, they claimed to be unaware of when they were using gestures. Although their testimonies bear no significance on the results reported here, they do confirm the findings (Iverson & Goldin-Meadow 1998) that people gesture unconsciously. This also confirms the starting prediction that similarly to demonstrative pronouns, the interpretation of nonreferential personal pronouns relies on visual cues (Tanenhaus et al. 1995, Brown-Schmidt et al. 2005). The foremost purpose of pointing is "a structuring of space in terms of a spatial location, regarded from the origo, with everything in a framework that includes the target, the speaker, and the addressee" (McNeill 2003:293). Thus, gestural pointing that accompanied the use of personal pronouns helped place their referents within the conversational coordinate space, which was not possible to do when the audio-recordings were played back and the visual information missing. This is why the author concludes that personal pronouns and demonstrative pronouns exhibit the identical properties when it comes to the selection of their referents and that they both rely on spatio-visual domain for picking out their referents.

9. LIMITATIONS. This project was intended as a pilot to give the author an insight needed for designing a larger-scale study which would produce the greater power of the model and results that are statistically significant. This pilot also helped identify the shortcomings of the current design, such as the small sample size and lack of control group. The lack of access to video-recording equipment made the coding of gestures more difficult and thorough analysis of all the non-verbal cues impossible. Of particular interest to the author would be eye-gazes, which, according to some authors, constitute pointing gestures (Crais et al. 2004, Brône & Bert 2018). Thanks to the results of this study, a large-scale project on the relationship between person deixis and gestural pointing has been approved by the McMaster Research Ethics Board, and this time the experiment will involve a greater number of participants and will be video recorded. The participants will be recruited from the student body through the SONA system, which provides a readily accessible pool of participants and awards course credits in return. Finally, the author wishes to extend his gratitude to all the participants as well as the observer.

10. CONCLUSION. The present study was concerned with pointing gestures that accompany personal pronouns. The author predicted that speakers would be using pointing gestures with personal pronouns even when the referents of these pronouns are not visually present. Another prediction was that, similarly to demonstrative pronouns, the interpretation of nonreferential personal pronouns would be dependent on visual cues. To tests these predictions, an experiment involving four participants was conducted. The data obtained confirmed the initial predictions. The participants indeed relied on pointing gestures while retelling the stories they had seen in

video extracts even when the referents of these gestures were not visually present. The author concludes that personal pronouns behave in a similar fashion to demonstratives in that that their referents cannot be singled out based on their verbal content only, and that concurrent pointing gestures are most commonly the means relied upon for establishing a spatial frame of reference within which their referents could be positioned.

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A CONTRASTIVE STUDY OF BASIC TERMS OF TEMPORALITY AND SEMANTIC CHANGE: TOWARDS A LEXICAL TYPOLOGY OF TIME

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Abstract: This article aims to study cross-linguistic characteristics of time expressions, especially temporal nouns related to 'day' and 'year'. We distinguish between three types of time expressions via morpho-grammatical properties and then, among those, isolate lexical items as our target of research. Then, in section 2, we propose a framework for cross-linguistic contrastive studies of time expressions which differentiates temporal nouns in terms of reference time and time scales. In section 3, temporal lexical nouns in English, Japanese, Russian, and Ewen (Tungusic) are examined. We point out that the basic temporal nouns of the four languages fall into common temporal categories. Deictic expressions for 'day' show similar morphosyntactic patterns among the four languages. The similarity of 'morning' and 'tomorrow' in Tungusic languages is shown in section 4. In section 5, an analysis of corpus data reveals a semantic change in *ashita* ('morning' > 'tomorrow') in Japanese which also shows an intimate relation between morning and tomorrow.

Languages: Old Japanese, Modern Japanese, English, Russian, Ewen, Germanic, Slavic, Indo-European, Tungusic

Keywords: temporality, temporal nominals, semantic change, lexical typology, Japanese, English, Russian, Tungusic

WE USE LANGUAGE TO DESCRIBE MANY DIFFERENT SITUATIONS. Linguistic expressions isolate the situations they describe in the flow of time; they indicate the event time of situations. Focusing on lexical items of time, this article examines cross-linguistic characteristics of time categories which can be derived from their lexicons.

1. LINGUISTIC EXPRESSIONS OF TIME. Linguistic expressions include components which locate an event in the flow of time. The degree of granularity of time they express varies depending on the expression. For example, the past tense in English has coarse granularity and refers to any occurrence time preceding the speech time. Clausal and phrasal expressions (*just after he left his*

office, *at 3:30pm on October 7, 2019,* etc.) have finer granularity. Expressions for locating situations in time can be divided into the following three classes (Comrie 1985:8).

(1) lexically composite expression (*five minutes after John left*)
(2) lexical items (*today, now, yesterday*)
(3) grammatical categories

Lexically composite expressions include clausal and phrasal expressions. They are productive and describe detailed temporal information of the event. The boundary between the classes (1) and (2) differs from language to language. For example, English 'the day before yesterday' is a lexically composite expression, but Japanese *asatte* ('the day before yesterday') is a single lexical item.

Grammatical categories include tense and aspect. Generally, the temporal distinction made by grammatical categories is rougher than lexical items and lexically composite expressions. The distinctions made by temporal grammatical categories differ from language to language. For example, the Japanese system distinguishes the past tense from the non-past tense while the Ewen system distinguishes the future tense from the non-future tense.

Comrie (1985) mainly investigated grammatical categories and revealed variation in tense systems. Offering a different contribution to the typological study of time expressions, the present article examines the cross-linguistic similarity of temporal lexical items. The study of lexical items will provide foundations to investigate lexically composite expressions. Temporal expressions whose meaning cannot be analyzed are treated as single lexical items regardless of their morphologically complex origin. For example, the English words 'yesterday', 'tomorrow', and 'tonight' are not treated as lexically composite expressions, but as lexical items.

1.1. LEXICAL ITEMS OF TIME. This article deals with temporal lexical items, especially those which address particular spans in the flow of time. For example, the lexical item 'today' addresses 'the day including the speech time', and 'morning' addresses 'a beginning part or period of an arbitrary day'.

Aside from nominals, temporal lexical items also include adverbs (*formerly*, *soon*, etc.) and prepositions (*before, after*, etc.) expressing temporal relations. Nevertheless, the main focus of this article is the characteristics of temporal nominals and the contrast of basic temporal nouns among different languages.

1.2. THE FUNCTION OF TEMPORAL ADVERBIALS. Lexical items and lexically composite expressions are often used as adverbs to locate situations in the flow of time. Klein (1994:149) explains the function of temporal adverbials as "specify[ing] time spans *in relation to other time spans*, which are given in context" [1] (italicized by the present authors). Temporal nominals address time spans

[1] Klein (1994) defines this function of temporal adverbials as "positional". The others are temporal adverbials of frequency, duration, inherent temporal property of a situation, the position of a situation in a series of situations, and none of these classes (pp.149-150).

of determined or undetermined lengths. The time spans are positioned in the time flow by being related to other time spans (i.e., to a reference point of time). This positioning process can be achieved by the temporal noun itself (*today*), or with the assistance of adjectives (*last year, next summer*) and prepositions (*on Monday*, *before five o'clock*). Some temporal nouns have inherent temporal reference points in their lexical meaning (see 2.3). In other cases, reference points are given by the context.

1.3. STRUCTURES OF TEMPORAL ADVERBIALS DERIVED FROM NOUNS. Temporal nominals can become temporal adverbials, sometimes with and sometimes without an overt grammatical element. In English, some temporal nominals can be used as adverbials in their bare nominal form (4) and (5), while others can be used as temporal adverbials only with prepositions (6):

(4) It will snow *tonight*.
(5) It snowed *this morning*.
(6) It snowed *in the morning.*

Tonight and *this morning* function as temporal adverbials by themselves, as in (4) and (5). On the other hand, *morning* functions as a temporal adverbial when combined with the preposition *in*, as in (6). In the following discussion, we will focus on nominals, differentiating between lexical items and lexical composite expressions. Although some lexical items are most often used in combination with prepositions, we will not take them as a means to differentiate lexical and lexically composite expressions in our analysis. Thus, *tonight*, which can be used as an adverbial by itself, and *morning*, which often requires a preposition, are both treated as lexical items. Meanwhile, lexically composite expressions are comprised of phrasal expressions such as *this morning*.

Strategies for deriving adverbials from temporal nominals differ from language to language. Lexical temporal nouns and derived adverbial forms in four languages are investigated in section 3.

2. FRAMEWORK FOR CONTRASTIVE STUDY. For the purpose of the contrastive study of different languages, we need to establish common temporal categories which are independent of language and culture. We assume two standards of categorization: categorization in terms of time scale, and categorization in terms of temporal reference point.

2.1. TIME SCALES. Time can be recognized and segmented according to perceivable repeated rhythms. There are two recurring cycles caused by the astronomical movement of the earth. One is a daily cycle. This is observed as the repeated rhythm of sunrise and sunset. The other is an annual cycle, which is observed as a repeated change of season and various celestial phenomena. These are available for use to construct scales of time in all languages and cultures. Therefore, 'day' and 'year' are regarded as universal temporal categories.

Clock-based time scales ('second', 'minute', and 'hour') and calendar-based time scales ('week', and 'month') are excluded from the discussion, because those categories are culturally dependent, and not considered to be universal[2].

2.2. TYPES OF TIME EXPRESSIONS. Time flow can be interpreted as a sequence of recurring cycles. Some temporal expressions denote a whole cycle as a unit in a time sequence, and others denote a segment of a cycle.

Expressions like *morning* and *evening* refer to a segment of a daily cycle. Expressions such as *today* refer to a daily cycle as a unit in a time sequence. As examples of annual cycle expressions, expressions such as *spring* and *summer* refer to segments of an annual cycle, and expressions such as *this year* and *last year* refer to a cycle as a unit in a time sequence. Meanwhile, time scale is irrelevant to the semantic import of some temporal expressions, such as *past, now,* and *future*.

2.3. TEMPORAL REFERENCE POINT. As mentioned in section 1.2., time spans are placed in the time flow in relation to other time spans. Temporal expressions can be classified into three types based on what they select as their temporal reference point.

<table>
<tr><th></th><th></th><th>I. Segment of a cycle</th><th>II. Cycle as a unit in a sequence</th><th>III. No account of cycle</th></tr>
<tr><td rowspan="2">a. Deictic</td><td>Daily cycle</td><td>tonight
last night,
tomorrow morning</td><td>yesterday, today, tomorrow, the day before yesterday</td><td rowspan="2">past, now, future, then</td></tr>
<tr><td>Annual cycle</td><td>last summer, next winter</td><td>last year, this year, next year</td></tr>
<tr><td rowspan="2">b. Relative</td><td>Daily cycle</td><td>next morning</td><td>the prior day, the previous day, the next day</td><td rowspan="2">after John left, before it starts</td></tr>
<tr><td>Annual cycle</td><td>next spring</td><td>the prior year, the previous year, the next year, the following year</td></tr>
<tr><td rowspan="2">c. No reference point</td><td>Daily cycle</td><td>morning, afternoon, evening, night, midnight</td><td>the 25th of July</td><td rowspan="2">when we were students</td></tr>
<tr><td>Annual cycle</td><td>spring, summer, autumn, winter</td><td>2019</td></tr>
</table>

Table 1. Classifications of English time expressions.

The first type is a temporal deictic expression. Expressions of this type (*today, tonight, yesterday*, etc.) have speech time as their inherent temporal reference point. The second type of

[2] Clock-based time scales are likely to be introduced from one culture to another together along with the linguistic expressions. In Japanese, these expressions are Sino-Japanese terms (*jikan* 'hour', *hun* 'minute', *byoo* 'second'). In Ewen, they are loan words from Russian (*čaas* 'hour', *minuut* 'minute', *sekunda*: 'second').

expressions also have semantically inherent reference points. The reference points for this type (*the next day, the previous year,* etc.) are not restricted to speech time and instead are relative and specified by discourse. The third type (*the 25th of July, morning, winter*, etc.) does not have an inherent reference point.

Table 1 shows some examples of English time expressions. This table includes not only lexical items but also lexically composite expressions (phrasal and clausal expressions). The expressions are classified from two points of view: time scale and temporal reference point.

3. FOUR LANGUAGES IN CONTRAST. In this section, temporal nominals in English, Japanese, Russian, and Ewen[3] (also known as Even or Lamut) are examined. These languages belong to genetically different groups (Germanic, Japonic, Slavic, and Tungusic), which is why we chose to compare them. Temporal nominals are defined in terms of the 'basic terms of temporality'. This is conducted with respect to morphological and semantic status, and the basic terms of each language are examined. Basic temporal terms are classified according to the form of derived temporal adverbials.

3.1. CRITERIA FOR DEFINING BASIC TERMS. Berlin & Kay (1999 [1969]) conducted a typological study of color terms and found implicational hierarchy which are universal in systems of 'basic color terms'. A certain aspect of study of color terms can be adopted, because both color terms and temporal terms reflect the speaker's cognition and categorization to a certain degree. Our eyes may be more sensitive to color than linguistic expressions, so no system of color terms fully reflects all of the humanly possible distinctions in color perception. Although the physiological basis cannot entirely explain the particular ordering in the implicational hierarchy (Berlin & Kay 1999 [1969]:109), the hierarchy shows that some kinds of distinction in color perception are more likely to be reflected in linguistic expressions. It can be inferred that some kind of temporal categories are more likely to be lexicalized and they can be revealed through a procedure similar to that taken to investigate basic color terms[4].

Berlin & Kay created the criteria below to distinguish basic color terms. They are also helpful for the study of temporal nominals:

i. It is monolexemic; that is, its meaning is not predictable from the meaning of its parts.
ii. Its signification is not included in that of any other color term.
iii. Its application must not be restricted to narrow class of objects.
iv. It must be psychologically salient for informants.
v. The doubtful form should have the same distributional potential as the previously established basic color terms.

[3] All Ewen data cited without sources in the following sections are from the present authors' fieldwork (Indigirka dialect).
[4] Kitazawa (2017) argues for the importance of plecneus and the regions adjacent to it in representing temporal order.

vi. Color terms that are also the name of an object characteristically having that color are suspect, for example, gold, silver, and ash.
vii. Recent foreign loan words may be suspect.
viii. In case where lexemic status is difficult to assess, morphological complexity is given some weight as a secondary criterion.

(Berlin & Kay 1999:6-7)

Some of these cannot be adopted to temporal terms due to the data collecting procedure. Color terms are elicited from speakers by using color chips as stimuli, but temporal terms cannot be elicited in an interview using extralinguistic stimuli. The morphological criteria (i and viii) and the loan word criteria (vii), however, can be applied for terms of temporality.

This present article focuses on the time expressions of the daily cycle and the annual cycles of the four languages and examines their morphological complexity. Loan words are excluded as per criterion (vii).

3.2. BASIC TERMS OF TEMPORALITY IN ENGLISH. Table 2 shows the basic temporal terms in English. These are monolexemic terms.

		I. Segment of a cycle	**II. Cycle as a unit in a sequence**
a. Deictic	Daily	*tonight*	*yesterday, today, tomorrow*
	Annual		
b. Relative	Daily		
	Annual		
c. No reference point	Daily	*morning, evening, night,*	
	Annual	*spring, summer, autumn, winter*	

Table 2. Basic terms of temporality in English.

The English expressions *today, tonight, yesterday,* and *tomorrow* are morphologically compound in diachronic terms, as they consist of two morphemes. In the following argument, these items are not regarded as monomorphemic but treated as monolexemic in terms of Berlin & Kay (1969) and Conklin (1977[1968]). An expression whose meaning is not predictable from the meaning of its parts is considered to be monolexemic[5]. For example, the word *today* is morphologically analyzable into *to* and *day*, but the meaning of *today* is not considered to be a simple composition of the meanings of *to* and the meaning of *day*. Similarly, the Ewen expression *erew ineŋu* 'today' is monolexemic, bur not monomorphemic. It consists of the two words *ere-w* ('this-ACC') and *ineŋ-u* ('day-ACC'), but the meaning of *erew ineŋu* is not 'this day' (See Section 3.5).

[5] "[W]hat is essential is that its meaning cannot be deduced from its grammatical structure. Single morphemes are necessarily lexemes, but for polymorphemic constructions the decision depends on meaning and use." (Conklin 1977[1968]:416)

On the other hand, *afternoon* and *midnight* are excluded from the basic terms because their meanings are the composition of the meaning of their constituents. More complex expressions (*last year, this morning*, etc.) are also excluded.

The basic terms above belong to two categories: deictic expressions of the daily cycle, and cycle segment expressions which do not have an inherent temporal reference point. In English, the other categories can be expressed only by morphologically or syntactically complex expressions.

As mentioned in 1.3, temporal nominals can be used as adverbials in various forms. Basic temporal terms which can be used as adverbs in bare noun form are *tonight*, *yesterday*, *today*, and *tomorrow*. The other terms require prepositions to serve as adverbials.

3.3. BASIC TERMS OF TEMPORALITY IN JAPANESE. Table 3 shows the basic terms of temporality in Japanese. Japanese temporal terms include many Sino-Japanese compounds such as, *kon'ya* ('tonight'), *sakuya* ('last night'), *myoochoo* ('tomorrow morning'), *kyonen* ('last year'), *rainen* ('next year'), etc. They are excluded from basic terms because of their complex compositionality.

		I. Segment of a cycle	**II. Cycle as a unit in a sequence**
a. Deictic	Daily	*kesa* ('this morning')	*ototoi* ('day before yesterday'), *kinoo* ('yesterday'), *kyoo* ('today'), *ashita* (tomorrow), *asatte* ('day after tomorrow')
	Annual		
b. Relative	Daily		
	Annual		
c. No reference point	Daily	*asa* ('morning'), *hiru* ('day'), *yoru* ('night')	
	Annual	*haru* ('spring'), *natsu* ('summer'), *aki* ('autumn'), *fuyu* ('winter')	

Table 3. Basic terms of temporality in Japanese.

Temporal terms function as adverbials in either bare noun form or dative case form (*ni*). Deictic expressions cannot be used with a dative case particle as adverbials. Other terms can be used in both bare noun form and dative case (Nakamura 2001:158)[6].

(7) *{Kyoo/ *Kyoo ni}* *sensei* *to* *ai-mashi-ta.*
today teacher COM meet-POL-PST[7]
'I met the teacher today'.

[6] Calendrical expressions cannot be used in bare noun form.
*{*San ji / San ji ni }* *sensei* *to* *ai-mashi-ta.*
three o'clock teacher COM meet-POL-PST
'I met the teacher at three'.

[7] COM: comitative, POL: polite, PST: past

(8) *{Yoru/Yoru ni}* *sensei* *to* *ai-mashi-ta.*
night teacher COM meet-POL-PST
'I met the teacher at night'.

3.4. BASIC TERMS OF TEMPORALITY IN RUSSIAN. Table 4 shows the basic terms of temporality in Russian. Morphological compounds such as *poslezavtra* ('day after tomorrow'), and *pozavchera* ('day before yesterday') are excluded.

		I. Segment of a cycle	II. Cycle as a unit in a sequence
a. Deictic	Daily		*vchera* ('yesterday'), *segodnja* ('today'), *zavtra* ('tomorrow')
	Annual		
b. Relative	Daily		
	Annual		
c. No reference point	Daily	*utro* ('morning'), *den'* ('day'), *vecher* ('evening'), *noch'* ('night')	
	Annual	*vesna* ('spring'), *leto* ('summer'), *osen'* ('autumn'), *zima* ('winter')	

Table 4. Basic terms of temporality in Russian.

The deictic expressions in Table 4 (*vchera*, *segodnja, zavtra*) function as adverbs in bare NP form. On the other hand, the non-deictic expressions (*utro*, *den'*, *vecher*, *noch'*, *vesna*, *leto*, *osen'*, *zima*) function as adverbs in oblique case form (*utrom*, *dnjem*, *vecherom*, *noch'ju*, *vesnoj*, *letom*, *osen'ju*, *zimoj*). *Segodnja* ('today') originates from the genitive form of *sej den'* ('this day').

3.5. BASIC TERMS OF TEMPORALITY IN EWEN. Table 5 shows the basic terms of temporality in Ewen.

The deictic expressions in Table 5, except *erew ineŋu* ('today'), can function as an adverbial in bare NP form, as in (9) and (10). The expression *ere-w ineŋ-u* ('today') is attached with an accusative case suffix[8] and literally means 'this-ACC day-ACC', as in (11). Other terms can function as adverbials when attached with an oblique case suffix, as in (12).

[8] Ewen temporal nominals with an accusative case or a dative case have a function of temporal adverbial phrase as in (i) and (ii).

(i) dəwənŋit-u [*hie-ri-n* *inəŋi-w*] ɒmɪw-mɪ aj.
mushroom-ACC grow-PRS.PTCP-3SG day-ACC gather-C.COND good
'It is good to gather mushrooms on the day when they grow'. (Novikova 1980:107)

(ii) *tugeni-du* ɪakutskaj-la hooɪa ɪmanra.
winter-DAT PN-LOC many snow
'It snows heavily in Yakutsk in winter'. (Kim 2011:86)

		I. Segment of a cycle	II. Cycle as a unit in a sequence
a. Deictic	Daily		*tiiniw* (‘yesterday’), *erew ineŋu* (‘today’), *timina* (‘tomorrow’)
	Annual		
b. Relative	Daily		
	Annual		
c. No reference point	Daily	*baǰikal* (‘morning’), *ineŋi* (‘day’), *hisaačin* (‘evening’), *dolba* (‘night’)	
	Annual	*nelke* (‘early spring’), *negni* (‘spring’), *ǰʊganı* (‘summer’), *mʊntelse* (‘autumn’), *bolanı* (‘early winter’), *tugeni* (‘winter’)	

Table 5. Ewen basic terms of temporality.

(9) Bii *tımına* škola-tki hʊr-ǰı-m.[9]
I tomorrow school-DIR go-FUT-1SG
‘I will go to school tomorrow’. (Kim 2011:82)[10]

(10) *Tiiniw* ʊdan-ǰıd-dı-n.[11]
yesterday rain-PROG-PRS.PTCP-3SG
‘It was raining yesterday’. (Kim 2011:78)

(11) *Ere-w ineŋ-u* aw-gič huunŋe-n?
this-ACC day-ACC where-ELA wind-PRS.3SG
‘From where is the wind blowing today?’ (Kim 2011:56)

(12) *Tugeni-du* ıakutskaj-la hooıa ımanra.
winter-DAT PN-LOC many snow
‘It snows heavily in Yakutsk in winter’. (Kim 2011:86)

3.6. SIMILARITIES AMONG THE FOUR LANGUAGES.

	English	Japanese	Russian	Ewen
‘day’	*day*	*hi*	*den’*	*ineŋi*
‘daytime’	*day*	*hiru*	*den’*	*ineŋi*
‘sun’	*sun*	*hi*	*solnce*	*nʊʊlten*
‘year’	*year*	*toshi*	*god*	*anŋanı*

Table 6. Terms for ‘year’ and ‘day’.

[9] 1: first person, 3: third person, ACC: accusative, C. COND: conditional converb, DAT: dative, DIR: directive, ELA: elative, FUT: future, LOC: locative, PN: proper noun, PROG: progressive, PRS: present, PTCP: participle, SG: singular

[10] Transliteration and glosses are partially modified by the present authors.

[11] A present participle（PRS.PTCP）in a main clause describes the past.

3.6.1. BASIC TERMS FOR 'YEAR' AND 'DAY'. The terms for 'year' and 'day' are basic in all four languages. In English, Russian, and Ewen, the same terms can be used to mean day '24-hour period' (the cycle itself) or 'daytime' (a segment of the cycle). The Japanese term for 'day' cannot be used to mean 'daytime' but has the meaning of 'sun'.

3.6.2. DEICTIC EXPRESSIONS CONCERNING 'DAY'. The deictic expressions for daily cycles, such as 'yesterday', 'today', and 'tomorrow' are basic. In addition, these expressions can function as adverbs in bare noun form ('today' is exceptional in Russian and Ewen). Nakamura (2001) points out that, in Japanese, deictic expressions of time are used as adverbs without case particles. This characteristic also applies to deictic expressions in English, Russian and Ewen, at least within the scope of basic terms.

3.6.3. SEGMENTS OF DAILY AND ANNUAL CYCLES. The expressions for a segment of daily and annual cycles such as 'morning' and 'spring' are commonly found to be basic terms of temporality in the four languages. These terms do not have an inherent reference point of time and require syntactic or morphological support, such as prepositions, case particles, and case suffixes, in order to serve as temporal adverbials.

	'Morning'	**'Tomorrow'**
Ew[12]	*bajɨkar*	*tɨmɨnaak*
S	*əddə*	*tɨmaasɨn*
N	*bajɨk*	*tɨmanna*
Ek1	***timaačina***	***timii***
Ek2	*təgəltənə*	*timi*
Na k	*ərdə*	*timaki*
U	*timadila*	*timaana*
Oc	***timai***	***timia***
Hz	***tumaki***	***tumaki***
Na	***čimii***	***čimana***
Ul	***tɨmaɨ***	***tɨmana***
Ut	***čimai***	***čimanaa***
J	*ərtə*	--
Ma	*ərdə*	*čimari*
Si	*ərdə*	*čimarə*

Table 7. 'Morning' and 'tomorrow' in Tungusic languages (Kazama 2003).

[12] Ew: Ewen, S: Solon, Ne: Negidal, Ek1: Ewenki (Khamnigan dialect), Ek2: Ewenki (Oluguya dialect), Ud: Udehe, Oc: Orochi, Hz: Hezhen, Na: Nanay, Nak: Nanay Kar-Urmi dialect, Ul: Ulich, Ut: Uilta, J: Jurchen, Ma: Manchu, Si: Sibe.

4. ‘MORNING/TOMORROW’ IN TUNGUSIC LANGUAGES. Within some Tungusic languages (Ek1, Oc, Hz, Na, Ul, Ut), the terms for ‘morning’ and ‘tomorrow’ are considered cognates and have similar forms, as shown in Table 7.

Although the diachronic development of ‘morning’ and ‘tomorrow’ in these languages is outside the scope of this paper, it is noteworthy that this correspondence between ‘morning’ and ‘tomorrow’ is found in other languages as well (e.g., German, Spanish, Portuguese, and Old Japanese). Unlike Tungusic languages, Japanese has corpora from which we can investigate the diachronic development of ‘morning/tomorrow’. The following section examines semantic change in Japanese temporal lexicon according to the universal framework proposed in Section 2. This investigation provides useful information for inquiring as to the relation of ‘morning’ and ‘tomorrow’ in other languages, such as those in Table 7.

5. SEMANTIC CHANGE IN JAPANESE TEMPORAL LEXICON. In the preceding sections, we discussed the common framework underlying time expressions in English, Japanese, Russian and Ewen. Type of temporal reference point was a central criterion. In this section, we corroborate the validity of the framework through an investigation of the Japanese temporal term *ashita* ‘morning/tomorrow.’

5.1. CHANGE OF THE MEANING OF THE JAPANESE *ASHITA* ‘MORNING/TOMORROW’. We have pointed out that the terms for ‘morning’ and ‘tomorrow’ are considered cognates and have similar forms in Tungusic languages, as shown in Table 7. Similarly, the word *ashita* means ‘tomorrow’ in Modern Japanese, but it meant ‘morning’ in the Old Japanese of the eighth century. The aim of this section is to observe aspects of the shift in lexical meaning from ‘morning’ to ‘tomorrow’ and to explore how this shift was caused.

In European languages as well, a close relation between ‘morning’ and ‘tomorrow’ is found. In Modern German, *Morgen* means ‘morning’ and ‘tomorrow’. *Mañana* of Modern Spanish also means ‘morning’ and ‘tomorrow’. In Portuguese, *Manhã* means ‘morning’ and *Amanhã* means ‘tomorrow’. Furthermore, while in Modern English, *morning* and *tomorrow* are two separate words, in Middle English *morrow* carries both meanings, ‘morning’ and ‘tomorrow’.

Rather than being an accidental occurrence, there must be a common reason for one word having both meanings, ‘morning’ and ‘tomorrow’. Japanese has the advantage of having a rich text corpus with data from over 1000 years, allowing us to discuss the change in meaning with empirical evidence. We collected examples of *ashita* through the *Corpus of Historical Japanese* (CHJ)[13] and tagged every example.

5.2. TOKENS OF JAPANESE *ASHITA* IN CHJ. As labeled in Table 8 below, different tokens of Japanese *ashita* represent distinct usages according to our framework, labeled as [a] ‘deictic’ (‘tomorrow

[13] CHJ is a unique diachronic corpus of Japanese developed by the National Institute for Japanese Language and Linguistics

morning/ tomorrow'), [b] 'relative' ('next morning'), and [c] 'no reference point' ('morning'). A more detailed observation of the examples further reveals that [a] 'deictic' can be classified into two subclasses, namely [a-I] 'deictic / segment of a cycle' ('tomorrow morning') and [a-II] 'deictic / cycle as a unit in a sequence' ('tomorrow')[14]. The arrows in Table 8 show the direction of the semantic shift.

	I. Segment of a daily cycle	**II. Daily cycle as unit in a sequence**
a. Deictic	[a-I] *ashita* ('tomorrow morning') ↑	→[a-II] *ashita* ('tomorrow')
b. Relative	[b] *ashita* ('next morning') ↑	
c. No reference point	[c] *ashita* ('morning')	

Table 8. Semantic shift of *ashita.*

Examples of each meaning are shown in chronological order as follows:
examples of [c] 'morning' in (13)-(14), examples of [b] 'next morning' in (15)-(16), examples of 'tomorrow morning' in (17)-(18), and an example of [a-II] 'tomorrow' in (19).

'Morning':

(13) Hototogisu imada kinakazu naku kowewo kikamakuhorito ***ashita***niha kadoni idetachi (8c Man'yooshuu)
'I stand by the gate every ***morning***, because I want to hear the voice of the bird'.

(14) Mata haruno ***ashita***ni hanano chiruwo mi, akino yufugureni konohano otsuruwo kiki (905 Kokinwakashuu)
'We watch blossoms falling spring ***morning*** and hear leaves falling autumn evening'.

'Next morning':

[14] To be more precise, 'b. relative' is referred to as 'b I. relative / segment of a cycle' and 'c. nonrelative' is 'c-I. no reference point / segment of a cycle'

(15) Hitono iheni makarite kaheriteno ***ashita***ni kashikonaru hitoni tsukahashikeru, (955 Gosenshuu)
'I sent this poem to someone ***morning*** after I returned from the person,'
(16) Butsumiyauno ***ashita***ni yukino furikereba, (1205 Shinkokinwakashuu)
'It snowed the ***next morning*** after the Buddhist service, and ...'

'Tomorrow morning':

(17) Afuha koyohi wakareha ***ashita***. (1642 Toraakirabon Kyoogen)
'I meet you tonight and leave you ***tomorrow morning***'.
(18) Aa konaini kamiwo sokonoote ***ashita*** indara warahikusaro. (1758 Sharebon)
'Wow your hairstyle is collapsed and you will be laughed at ***tomorrow morning***'.

'Tomorrow':

(19) Nande ***ashita***no banni. Omohimo tsukanee kotowo ifuze. (1833 Ninjoobon)
'Why ***tomorrow*** evening? You say the unexpected!'[15]

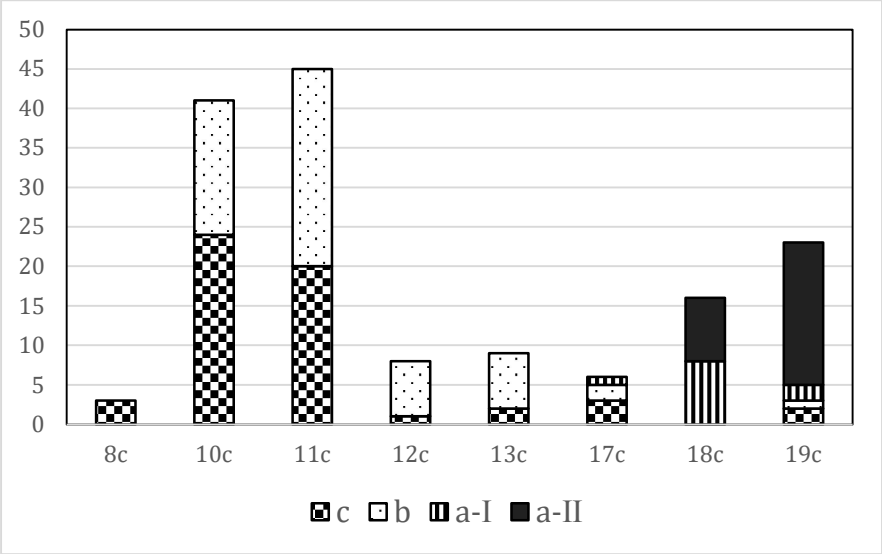

Figure 1. Semantic transition of *ashita* (actual number of examples).

5.3. THE SEMANTIC SHIFT OF *ASHITA*. We verified 164 examples of *ashita* from the eighth century to the nineteenth century through CHJ. We classified the examples into [a-I] 'tomorrow morning',

[15] The meaning of 'evening' is expressed by *banni*.

[a-II] tomorrow, [b] ‘next morning’, and [c] ‘morning’, according to the meanings in each usage. The number and the ratio of examples of each meaning are represented in Figures 1 and 2.

As shown in Figures 1 and 2, in the eighth century, *ashita* had meaning [c] (‘morning’) only. In the tenth century, it gained meaning [b] (‘next morning’), which actually showed a higher frequency than meaning [c]. In the seventeenth century, examples of the meaning [a-I] (‘tomorrow morning’) appeared, and, finally, in the eighteenth century, the meaning [a-II] (‘tomorrow’) emerged. In the nineteenth century, examples of meaning [a-II] (‘tomorrow’) were most frequent.

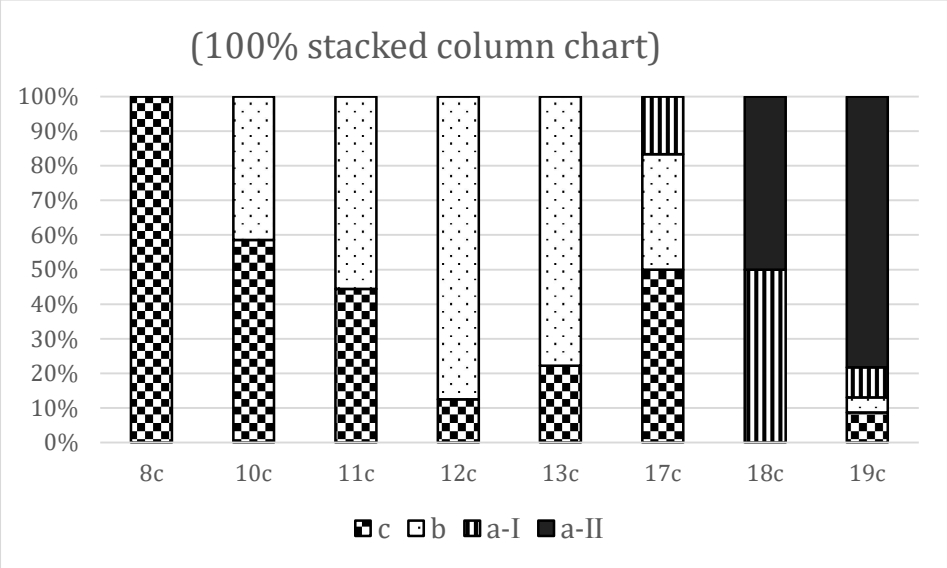

Figure 2. Semantic transition of *ashita* (ratio of examples).

6. CONCLUSION. We have proposed a framework for the categorization of temporal expressions. Language-independent categories, the time length (e.g., daily, annually), and the relation to the reference point are used for said framework.

The four languages (English, Japanese, Russian, and Ewen) have several characteristics in common. First, the basic temporal terms include both expressions of segments of daily and annual cycles, and deictic expressions of a daily cycle. Second, deictic expressions for annual cycles do not include monolexemic basic terms. Third, deictic expressions for daily cycles can serve as nominals or adverbials under the same word form, with a few exceptions (‘today’ in Russian and Ewen). Thus, classification according to the framework suggested in section 2 seems to be reflected in the lexicon of temporal nouns in all four languages.

The semantic change of *ashita* in Japanese consists of two major processes. The first process is a shift from ‘morning’ via ‘next morning’ to ‘tomorrow morning’. In this process, temporal relation and reference time were integrated into the lexical meaning of the word. The second is a shift from ‘tomorrow morning’ to ‘tomorrow’. In this second process, the time span referred to by the word expanded from a part of a day to a whole day. If the framework indeed holds cross-

linguistic validity, it is likely that the close relation between 'morning' and 'tomorrow' can be explained in a similar way.

Ohno (1966:195-200) points out that the meaning of *ashita* changed from 'morning' to 'next morning', to 'tomorrow morning', and then to 'tomorrow'. However, there have been no articles which provide enough tokens to reveal the process of change. This present article discussed difference between deictic expression and non-deictic semantic change with respect to change of temporal reference point[16].

The framework proposed in this paper is still under development. We would like to further corroborate the framework with more varieties of languages for a lexical typology of time.

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[16] Ohno explains that the original meaning of *ashita* is 'light time just after the night', and morning after some events turned to mean 'next morning' and 'next day'. Takemitsu (1998:26) argues that the meaning of *ashita* changed from 'dawn' to 'next morning' and then to 'next day'. Deictic meaning and non-deictic meaning do not seem to be clearly distinguished in those descriptions. Traugott & Dasher (2002:56) explain the change from 'next morning' to 'tomorrow' as the result of generalization, for it expanded from a part of a day to an entire day.

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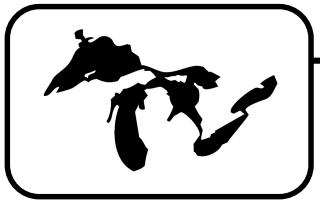

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LINGUISTIC MECHANISMS OF SOCIAL STIGMATIZATION: THE CASE OF HERPES

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Abstract: Goffman's (2009) work on stigma has been the point of departure for a large body of research on branding people with characteristics that make them less desirable. This study focuses on stigma related to Herpes Simplex Virus (HSV). The authors sought to unpack herpes stigma, its manifestation across a variety of texts and how it is used as a means of social branding. An analysis of data from online texts, as well as two focus groups with Canadian university students, elucidates the ways in which particular forms of discourse give rise to and reinforce herpes stigma. This study uncovers the ways that stigma can be used to harm people through linguistic choices including participant role assignment, deixis and metaphor. We show that the historical context of herpes discourse and the framing of herpes transmission, served to uphold and reinforce a "herpes-phobic" discourse that represented the virus and its carriers as something to be feared and avoided, thus allowing herpes itself to be used to stigmatize and cause harm.

Keywords: Stigma, stereotype, labeling, medical discourse, herpes

THE WORD *STIGMA* IS DERIVED FROM THE LATIN AND GREEK TERMS meaning, respectively, "marks made on skin by burning with a hot iron," and "mark of a pointed instrument, puncture, tattoo-mark, brand" (Harper n.d.). Figurative use of the word to denote "a mark of disgrace" is a meaning which emerged in the 1610s (Etymonline 2018). The modern definition of *stigma* provided in the Merriam-Webster dictionary describes it as a "mark of shame or discredit; synonymous with *stain* (Stigma 2018) ; an identifying mark or characteristic, specifically a diagnostic sign of a disease", while the best-known definition of stigma as an object of sociological study is that of Goffman (2009) who referred to stigma as "an attribute that is deeply discrediting". Imogen Tyler, in her 2020 book *Stigma: The Machinery of Inequality*, expands on the above definitions, making connections between the etymology of *stigma* and the history of chattel slavery. Tyler (2020) also makes the important assertion that while the etymological definition of *stigma* is important to trace, the way the word is used today is bound to the damaging effects of experiencing stigma "in ways

that occlude an understanding of stigma as a material force, a structural and structuring form of power" (p. 18).

Many scholars across different fields (social psychology, sociology) have carried out work to better understand stigma and its effects rendering its modern conception a complex one. As stigma is a primarily social phenomenon, it can be difficult to identify, directly, its causes and effects. Coleman-Brown (2006) posits that stigma is the result of social comparison with what is considered desirable in a given context. In a word, Coleman-Brown (2006) conceives of stigma as *relative*; it cannot exist outside of society that places value on certain attributes and not others, nor can it exist outside of power structures that reinforce those values. Tyler (2020) expands on this and highlights the link between stigma and systemic inequalities based on race and class, particularly salient issues today.

While the research on stigma is plentiful, there still exists debate regarding the most useful definition of the concept for research purposes. Since Goffman's work in the 1960's, attempts to elucidate the concept of stigma have been limited by a vague definition of the concept (Parker & Aggleton 2003). Stigma has been described as anything from 'a discrediting attribute' to an 'undesirable difference,' all of which conceptualize stigma as 'a kind of thing' (Parker & Aggleton 2003). This, however, leads to an approach to stigma research that fails to take into account the intersection of many factors that lead to stigmatization of an individual. There is an emphasis on teaching "tolerance" of stigmatized conditions and reducing "fear and anxiety" in those who are not themselves impacted by stigmatized conditions (Parker & Aggleton 2003). This results in little attention paid to the stigmatized person in terms of advocacy and policy making. Parker & Aggleton (2003) put forward that "stigma and stigmatization function, quite literally, at the point of intersection between culture, power and difference" and that stigma not only functions within hegemonic power structures but is a key element in maintaining those structures. Some scholars use frameworks that analyze stigma through co-occurrence of component parts: labeling, stereotyping, separation, status loss, and discrimination (Link & Phelan 2001). Typically, attributes that are labelled and subsequently stigmatized are those that are particularly salient in a society and represent a locus of power imbalance between members of groups that are labelled as divergent – sexuality or gender identity, for example (Link & Phelan 2001).

1. DEFINITION OF STIGMA TO BE USED FOR ANALYSIS. Deacon (2006) focuses on stigma as it relates to HIV/AIDS and challenges the views of Link & Phelan (2001) and Parker & Aggleton (2003) to say that a more utilitarian definition of stigma should exclude discrimination as an inherent component. While there is agreement regarding the distancing function of stigmatization (blaming contraction of an illness on characteristics of an out-group labelled as deviant or "other" allows for a distancing of one's in-group from the same risks), Deacon (2006) asserts that, while blaming and shaming are always components of stigma, its effects may be more subtle than or go beyond discrimination. This allows space to view the consequences of stigma, both negative (discrimination, disadvantage) and positive (building resistance, triggering activism) (Deacon 2006). Here, we adopt Deacon's (2006) approach as it provides a framework for identifying the stages of stigma which lends itself to a linguistic investigation of stigma by providing a way to

effectively label pieces of discourse according to the role they may play in the development of an overarching stigmatizing discourse.

2. STIGMA AND POWER. The conceptions of stigma described herein all share in the assertion that stigma is dependent upon social and cultural contexts in which there is power exerted by those who belong to the "in-group" (Coleman-Brown 2006, Deacon 2006, Link & Phelan 2001, Parker & Aggleton 2003). Bourdieu asserts that the vehicle of "symbolic power" in society is language and the authority vested in those who use certain types of language; authority which does not depend upon the language itself necessarily but on the "social conditions" which facilitate its being considered authoritative (Bourdieu 1991). The power behind language can be examined along many dimensions, including gender, ethnicity, age and social class, with each of these dimensions containing its own spectrum of power available to language users (Mooney et al. 2011). Intersections between these dimensions are influenced by hegemonic ideologies through language choices and play a role in determining who wields power in any given social context. These language choices may include the choice of sentence structure (transitivity and passive versus active voice), word choice (e.g. *eat* vs. *devour*) and the use of metaphor (Mooney et al. 2011). With these elements of symbolic power ascribed to language, we can see what role language and linguistic choices may play in the stigmatization process (Deacon 2006).

3. WHY HERPES? Herpes simplex virus (HSV) is an incurable, sexually transmitted disease that is characterized by recurrent outbreaks of painful blisters, typically on the lips or genitals. HSV is a highly stigmatized condition despite its high prevalence. According to a meta-analysis of world health reports from 2012 by Looker et al. (2015), an estimated 67% of people aged 0-49 worldwide were infected with Herpes Simplex Virus type 1 (HSV-1). HSV-1 is typically the cause of sores on the lips (usually referred to as cold sores) but is increasingly becoming the cause of sores on the genitals (Looker et al. 2015). While the characteristics of the virus are the same regardless of the location on the body, there is far more stigma attached to having it manifest on the genitals (Bickford et al. 2007, Mark et al. 2009). As an object of linguistic inquiry, herpes discourse provides a rich source of data that exemplifies the stages leading to stigma laid out by Deacon (2006), as well as the related linguistic mechanisms that contribute to the reinforcement of stigma (framing, participant role assignment, deixis, metaphor). The following body of literature demonstrates the necessity to better understand herpes stigma and answer the question: What conditions facilitate the stigmatization of herpes and herpes positive individuals in today's society?

4.1. HERPES STIGMA AND ITS DAMAGING EFFECTS. Stigma related to herpes should be addressed in the interest of understanding and countering its mechanisms and consequences. The damaging effects of STD stigma, and particularly stigma associated with genital herpes, is well documented in social psychology literature (Bennett et al. 2018, Nack 2000, Newton & McCabe 2005, Mark et al. 2009). According to this body of literature, a herpes diagnosis is often linked to a number of psychosocial consequences ranging from negative self-image and loss of confidence (Nack 2000) to anxiety and depression (Mark et al. 2009). Due to the nature of the virus and its capability of spreading, it is considered an ethical imperative for individuals with herpes to disclose their

diagnosis to partners which, as a result of the associated stigma, can be deeply troubling. A common theme in the findings of these studies is the impact of the shame associated with herpes. Studies show that fear and anxiety related to a herpes diagnosis may result in non-disclosure of one's herpes status (Bickford et al. 2007), damage to health related quality of life (Bennett et al. 2018), negative impact on intimate relationships (Newton & McCabe 2005) and reluctance to seek out STI testing (Barth et al. 2002). This shame stems from and is reinforced by the salient discourse that frames herpes as something to fear.

4.2. "HERPES-PHOBIC" DISCOURSE**.** While there is extensive research on stigma associated with herpes and its effects on herpes-positive individuals, there is minimal work carried out to date on discourse about herpes and herpes positive people. In the 1960s, early on in the scientific understanding of herpes, the virus was understood to be "no big deal"; something that was an inevitability for sexually active humans and not to be given much attention (Anderson 2019, Knaus 1976). In the early 1970s journalists began covering the "herpes epidemic" using language that became the basis for what the authors will describe as the "herpes-phobic" discourse. Articles with sensationalist titles, descriptions of herpes infections laden with moral judgement and visual metaphors depicting the turmoil experienced by "sufferers" of herpes pervaded the public consciousness. Using images of ashamed or embarrassed looking men or women being scolded by a spouse, the media framed a herpes diagnosis as a fail-safe indicator of infidelity. On the cover of *Time* magazine, herpes was referred to as "the new scarlet letter", in an article that contained the following excerpt:

> Those remarkable numbers are altering sexual rites in America, changing courtship patterns, sending thousands of sufferers [of herpes] spinning into months of depression and self-exile and delivering a numbing blow to the one-night stand. The herpes counterrevolution may be ushering a reluctant, grudging chastity back into fashion. (Leo 1982)

This small excerpt demonstrates the strong linguistic framing of herpes as an "attacker" and a "harbinger of consequences." Allan Brandt, writing in 1987, highlighted the way that media discourse around herpes at the time ascribed a moral judgement to the herpes positive person (p. 181). Brandt noted the underlying message that was present in many media publications that "herpes victims have got what they ultimately deserve" (p. 181). Herpes was framed as a mark of an amoral lifestyle that the herpes positive person should be ashamed of by associating the virus with "swingers" and "prostitutes" (Leo 1982).

Present day, denigrating jokes in film, television and online have effectively continued to associate herpes with "sexual misconduct and moral failing" (Holliday et al. 2014). In a skit by comedian Amy Schumer entitled "Herpes Scare", she pleads with God to not have herpes ("oh my god please God let me not have herpes please") (Comedy Central Latinoamerica 2015); the film *Pineapple Express* features a scene with a character who has a cold sore being the object of disgust

from friends ("Cold sore? Does that mean fucking herpes? *Yeah. Yes, it does*. Fucking sick, man. You know how many joints we've shared? *I know. I'm a disgusting person*") (Apatow & Green 2009); an entire episode of the popular television show *The Office* centers on the main character being terrified that he has herpes ("This is what you get when you treat your body like an outhouse") (Lieberstein 2010). This small sample, in addition to the countless occurrences of the familiar "herpes is forever" joke for example in *The Hangover* ("Remember, what happens in Vegas stays in Vegas. [...] Except for herpes. That shit'll come back with you") (Bender & Phillips 2009), and *The Mindy Project* ("I'll tell you one thing that always lasts forever...friendship? [no] Herpes. It's gross, and it is horrible") (Barinholtz & Stassen 2012), demonstrates that the depiction of herpes in popular culture is inarguably negative; that herpes is something one should not want to happen to them, something to be afraid of. The way that comedy uses fear of herpes for comedic effect draws on ideas about herpes that were first put forward by the media in the 1970s. While it can be argued that the current social climate is one that is more sex-positive than ever before, there are still elements of sex-negative and herpes-phobic discourse that persist; the power of the stigmatizing discourse around herpes is still palpable.

5. Theoretical Framework: Framing and Metaphor in the Construction of Stigma. Framing, as a departure point for research, is defined as making some aspect of a [text] more salient in order to promote a "particular problem definition, causal interpretation, moral evaluation, and/or treatment recommendation" (Entman 1993). Goffman (1974) describes frames as "guided doings" which "subject the doer to standards and social appraisal of [their] actions." Entman (1993) builds on this notion and directs our attention to the concept of framing as a means to understand "just how a communicated text exerts its power". Entman (1993) goes as far as to say that we can define "culture" as "the empirically demonstrable set of common frames exhibited in the discourse and thinking of most people in a social grouping." Frames, often enacted unconsciously, are a primarily linguistic phenomenon whether they are in written or spoken language and can be applied to almost every aspect of daily life, including the representation of illness (Bury 1982). Different linguistic strategies can be employed to make frames more effective.

Metaphor is one powerful mechanism that is used to frame our experience. Susan Sontag, in her foundational work *Illness as Metaphor*, thoroughly describes the metaphorical language that surrounds diseases like cancer and how those metaphors serve to shape both public consciousness of and response to the condition and its diagnosis (1978). Sontag (1978) also makes the poignant observation that such diseases can become metaphors themselves. For example, cancer is widely used as a metaphor to describe a range of societal ills. Lakoff & Johnson (1980) put forth a compelling conception of metaphor as a language device playing a fundamental role in our understanding of daily experience that is not only linguistic in nature but has roots in thought and action. Metaphors "allow us to understand one domain of experience in terms of another" and these "domains" are often organized in terms of natural experience or those that arise as "products of human nature" (through our bodies, interactions with the environment and others). These types of metaphors ascribe human motivations, characteristics, and activities to non-human entities (Lakoff & Johnson 1980). Building on this conception of metaphor, researchers have delved into the way metaphor is used in the public domain to discuss illness and what impact it has

(Fleischman 1999). In the context of the current research, the analysis will draw on instances of metaphor being used to discuss herpes as well as herpes itself being co-opted as a metaphor.

What follows is a preliminary investigation into today's herpes-phobic discourse with the goal of contributing to an understanding of the social conditions which permit and reinforce the disproportionate stigmatization of herpes positive individuals and the linguistic operationalization of shame in general.

6. METHODOLOGY. The approach to data collection for this work was to develop a cross-sectional view of the herpes-phobic discourse. Texts were collected from sources that were chosen to demonstrate a continuum of communicative contexts. These sources included medical research articles about herpes, self-help medical articles (top five articles that appear with a Google search for "herpes"), pseudo-medical sources (e.g. websites that sell medicinal products purported to "cure" herpes), forum posts from the r/Herpes subreddit and two focus groups carried out with Canadian university students. With the exception of the medical research texts, this data set provides a snapshot of many different platforms in which the herpes-phobic discourse is evident, developed or exploited.

Medical Professional	Research article format, complex language, impersonal style, heavily nominalized, no introductory level backgrounding of HSV, discussion of risk factors. HSV+ people referred to as "source partner", HSV- referred to as "susceptible partner."
Medical Popular	Self-help format, introduction to HSV (where it manifests, cure, treatment options), list symptoms, causes, treatments, transmission and prevention information. Text is addressed to the reader.
Popular	Expository format, focus on celebrities, juxtaposition of desirable attributes with the negative effects of the herpes diagnosis.
Pseudo-medical	"Infomercial" format, expository, juxtaposing depictions of "healthy, happy" young people with "horrors" of HSV diagnosis.
Forums (Reddit)	Top 10 posts "of all time" in r/Herpes, recount positive disclosures, acknowledge the damaging impact of "advice seeking" posts.
Focus Groups	General discussion about sexual health with young women, university students, proximization playing a big role, discussion of HSV in "contrast" to cold sores.

Table 1: Data sources used for analysis.

Deacon's (2006) five parts to the social process of stigmatization were used to structure the analysis. The following statements were used to label excerpts in relation to the part they play in the social construction of herpes stigma overall. They are:

1) illness is constructed as preventable or controllable,
2) 'immoral' behaviours causing the illness are identified,
3) these behaviours are associated with 'carriers' of the illness, drawing on existing social constructions of the 'other',
4) people who contract the illness are thus blamed for their own infection, and
5) status loss is projected onto them through the process of 'othering' which may or may not result in disadvantage to them.

6.1. GENERAL DESCRIPTION OF EACH DATA SOURCE. Table 1 (above) summarizes the types of discourse exhibited in the six sources used for the analysis.

6.2 ANALYSIS OF THE COLLECTED DATA.

6.2.1. HOW IS TRANSMISSION DISCUSSED? In order to identify the ways in which the herpes-phobic discourse is reinforced in more nuanced ways, we must first look at the sentence structure. An important locus for the shaping of the herpes-phobic discourse is the way that transmission of the virus is discussed across the data. Medical research articles focus almost exclusively on reporting transmission rates in discordant couples (defined as "a pair of long-term sexual partners in which one has a sexually transmitted infection and the other does not") (MedicineNet.com, n.d.) and use language that is heavily nominalized:

(1) "[...]were associated with reduction in HSV-2 *acquisition* over time"
(2) "[...]the ability of condoms to reduce *transmission of* HSV-2"

Transmission or acquisition are described as if they were things that exist outside of the individuals engaging with one another. Scientific language is known to be impersonal and heavily nominalized because this type of language seems objective and thus has a particular value in our society: that of being more credible and free of bias (Mintz 1992). It was initially hypothesized by the authors that perhaps scientific texts would contain constructions that "trickled down" into texts created for a lay audience (medical popular texts). This, however, was not observed to be the case.

Popular medical texts, created in order to introduce the reader to the symptoms and prognosis of herpes, discuss transmission under the presupposition that the reader would like to know if they have transmitted or contracted herpes. In these texts there are fewer instances of nominalization in describing the transmission of HSV and, where it is discussed, the texts use transitive verbs such as: *spread*, *infect*, *pass*, *pass on*, *get, transmit*.

6.2.2. POPULAR MEDICAL DISCOURSE.

(3) "[Herpes] can be passed to someone else[...]"
(4) "HSV can be transmitted to another person[...]"

Forum posts, as well as texts used in the focus group discussions contained similar verbs, as well as verbs like *transfer, contract, catch, transmit, expose*, etc.

6.2.3. REDDIT. This type of discourse used mostly active sentences with transitive verbs, often with an element of blame for the person who was the source of HSV transmission.

(5) "[...] she exposed me to risk of contracting the virus"
(6) "[...] you can still contract/transmit/transfer herpes"

6.2.4. FOCUS GROUP. Even though the focus groups were conducted in person and used active sentences with transitive verbs, the use of the second person pronoun 'you' was a form of making statements impersonal, with 'you' equivalent to 'one'.

(7) "[...] there's always that chance that you could transmit it to people"
(8) "[...] you can get it in the genital area"

While this article will not analyze the semantic variations between text types in depth, we can look to the participants within the constructions in which these verbs appear for evidence of their influence on the herpes-phobic discourse.

7. AGENCY AND DEIXIS. Participant role assignment plays a crucial role in the shaping of discourse by providing the reader with clues for how to interpret the context of an event (van Dijk 1999). We have shown that medical research texts do not assign the participant role of agent in constructions that discuss transmission. Other texts in this data set, however, ascribe agency in ways that facilitate interpretations of judgements of the individuals involved in the act of transmission. The data for this study demonstrated the use of the participant roles of agent, destination, location, patient, recipient, and source.

Popular medical texts are written for a lay audience and use informal language. Many of these texts avoid assigning an active participant role to the bearer of potential herpes infection, sometimes replacing them with location. As seen in (9), these texts also generally use third person pronouns that imply that the reader is not a member of the group labelled "people who have herpes".

(9) "People with genital herpes should avoid sexual contact when they are having an outbreak, […]"

Some texts of this category use deictic expression in the form of second person pronouns when addressing the reader as seen in (10):

(10) "You can get herpes from a sex partner who does not have a visible sore or who may not know he or she is infected. It is also possible to get genital herpes if you receive oral sex from a sex partner who has oral herpes"

Again, in these cases the reader is not implicated in the group of people who have herpes, as the second person pronoun could be replaced by "one" or "anyone". Another way that texts exclude the reader from the "outgroup" is by placing *herpes* in subject position. This is seen in the popular medical texts as well as in the Reddit forum posts:

(11) "Herpes is only transferred via direct skin to skin contact and not via fluids."

Without acting human participants *herpes* can be viewed as an entity in its own right, the transmission of which does not require action from an autonomous subject or recipient.

Focus group data contained instances of participants using deictic expression of proximity to describe ideas about herpes. One participant, in a discussion about cold sores, used quotative *like* to express what they thought might be a negative reaction to someone having a visible cold sore:

(12) "yeah and it doesn't mean you need to be like 'oh my god she's got a cold sore like stay back!'"

The participant also made a "stay back" gesture with both hands at the time of the utterance. The participant said this not as a statement of their own reaction but as a statement of what they believed would be a disproportionate but plausible reaction to someone having a cold sore. This being a plausible reaction reveals an underlying understanding of the existence of the herpes-phobic discourse on the part of this participant.

8. DISCUSSION. It is the authors' hope that this entry level analysis can provide some insight into the ways that modern discourse about herpes reinforces the damaging beliefs that allow herpes to remain one of the most heavily stigmatized STD's. We can see, through the discussion of HSV transmission, that the heavily nominalized way of writing about herpes in medical research texts contrasts quite starkly with the more lay approach to the discussion in the other data sources. While there is no assignment of blame or moral judgement present in medical research texts, nominalization of transmission serves to distance the reader from the action and puts emphasis on the recipient of the infection. This emphasis, in turn, facilitates a separation between two groups: people with herpes and people who are victims of herpes infection.

The examples provided in the analysis can be mapped onto Deacon's stages leading to stigma in a way that makes the impact of the herpes-phobic discourse clear. In the examples where a reference to herpes is in subject position, there is a sense of depersonalization of the infection that maps to Deacon's first stage; illness is framed as preventable or controllable. Without any action

needed on the part of a human subject, herpes is constructed as *avoidable if you do not engage in the activities/behaviours/circumstances mentioned herein.* Often, these activities, behaviours and circumstances that are described as "high risk" for contracting herpes have a well-established cultural value that is associated with taboo, a-moral or undesirable (read: sexual) behaviour. By leaving the reader out of the group of people who have herpes, these texts (medical-popular) are carrying out the third of Deacon's proposed stages (these behaviours are associated with 'carriers' of the illness, drawing on existing social constructions of the 'other') by labelling, implicitly, people who have herpes as *other* and allowing the reader to retain their status as a member of the out group.

Stigma stems, in part, from distancing one group from another based on a "defect" of some sort. This is upheld in the data we collected. In those texts that allow the reader to implicitly disengage themselves from the group of "people who have herpes", there is a facilitation of the herpes-phobic discourse via the route described by Deacon. By maintaining an "us/them" distinction within the texts that are looked to for education about herpes, using language that constructs herpes as preventable, and associating it with behaviour deemed negative by society at large, herpes, and people who are herpes positive are framed as something to be feared, avoided and criticized.

9. LIMITATIONS. While this body of work attempted to analyze texts across many sources to get a broad picture of the herpes-phobic discourse in action, the issue is simply too complex to be covered in one study. The fact that this discourse is so widespread and far reaching and yet so under studied is a strong rationale for this work to continue. Future work may focus on a quantitative analysis of verbs across different texts, a diachronic analysis of herpes discourse over time or a critical discourse analysis of herpes versus cold sore discourse.

10. CONCLUSIONS. This paper posed the question: What conditions facilitate the stigmatization of herpes and herpes positive individuals in today's society? Through a brief exploration of the historical context of herpes discourse and analysis of current herpes related discourse, it can be seen that, through subtle contextual clues provided to the audience via participant role assignment in relation to transmission, metaphorical framing and the historical context of herpes discourse, there is a reinforcement of the conditions required for stigma to arise. Our overarching goal was to contribute to an understanding of the social conditions which permit and reinforce the disproportionate stigmatization of herpes positive individuals and the linguistic operationalization of shame in general. The current study is a starting point for a more in-depth exploration of this topic.

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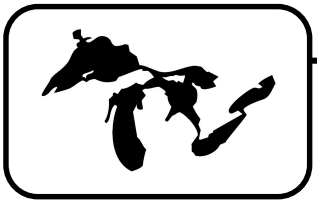

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CATEGORIZATION BY NOMINAL CLASSIFICATION IN MANDARIN

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Abstract: Nominal classification is quite common, if not universal, in world languages. Two classificatory systems, the noun-class system, and the noun-classifier system, have been well documented in literature. The Mandarin noun-classifier system is explored in this article in order to gain insight into the nature of nominal classification by classifiers. The observations presented here show that Mandarin nominal classes are formed on the basis of how humans perceive and interact with their physical and social environments. The cognitive strategies that speakers use in classifying nouns are found to be those that humans use in categorization in general, suggesting that the process involved in nominal classification may provide a window into the relationship between language and human cognition.

Languages: Mandarin, English, Spanish
Keywords: nominal classification, classifiers, categorization

NOMINAL CLASSIFICATION HAS BEEN FOUND in a vast number of typologically diverse languages (see Greenberg 1972; Denny 1986; Craig 1986; Croft 1994, 2017; Aikhenvald 2000; McGregor 2008), making it remarkable that classificatory systems fall into only two types: the noun-class type and the noun-classifier type, although some languages have been discovered to use both systems (Fedden & Corbett 2017). In noun-class languages, nominal classification is manifested through grammatical agreement. According to Corbett's 2008 estimate, half of the world's languages are of this type. Spanish, for example, divides nouns into gender-based classes. As shown in (1), determiners and adjectives always agree in gender with the nouns they modify.

(1)	a.	un-a	oveja/tarjeta/pintura/cama/silla	bonit-a
		DET-F	sheep/card/painting/bed/chair (F)	nice-F
	b.	un	perro/plato/cuadro/sello/escritorio	bonit-o
		DET-M	dog/plate/picture/stamp/desk (M)	nice-M

In noun-classifier languages, nominal classes are indicated with independent morphemes known as classifiers. In modern Mandarin, a classifier (CL) is obligatory when a noun phrase contains a numeral, as in (2), a demonstrative or indefinite determiner, as in (3), or an interrogative, as in (4a). In (4b), we can see that while the head of a noun phrase is normally omitted if its referentiality can be determined from the context, the presence of the CL is never optional. The noun phrases in (2)-(4) would be ungrammatical without the CLs *bǎ*, *zhāng,* and *běn*. (PFV stands for perfective aspect).

(2) liǎng bǎ (hǎo) dāo/chuí/hú/sǎn/yǐzi
two CL (good) knife/hammer/kettle/umbrella/chair
(The CL *bǎ* collocates with nouns denoting objects that have a handle.)

(3) zhè /měi zhāng dìtú/kǎpiàn/yóupiào/chuáng/shūzhuō
this/every CL map/card/postage stamp/bed/desk
(The CL *zhāng* collocates with nouns denoting objects that have a flat surface.)

(4) a. Nǐ mǎi-le jǐ běn shū?
you buy-PFV how many CL book?
'How many books have you bought?'

b. Sān běn.
three CL
'Three.'
(The CL *běn* collocates with nouns denoting objects that are sheets bound together.)

Another point to note is that the CL has a fixed position within a noun phrase. It is immediately after the numeral or determiner and is immediately before the noun it classifies, unless the noun is modified by an adjectival phrase, as (2) illustrates.

By probing into the Mandarin classificatory system, I intend to extrapolate answers to three questions: How are nominal classes formed? How do classifiers classify? And what are the cognitive processes involved in nominal classification? Before these questions are taken up in Sections 2, 3, and 4, respectively, the concept of CL and that of measure terms (MT) will be differentiated. Influential work in this area tends to draw on the similarities between CLs and MTs. However, as will become evident in the subsequent discussion, the two concepts differ in significant ways, and a study of a CL system would not be meaningful unless the two concepts are clearly defined and separated. It is for this reason that the following section is devoted to teasing apart the two concepts.

1.1. CLASSIFIER VERSUS MEASURE TERMS. MTs, which are used in all languages, are words that denote units by which noun referents are quantified, words which Allan (1977:293) refers to as "unit counters." Typical MTs are words that denote highly conventionalized units of length, area, volume, weight, and time (e.g., *meter, square inch, liter, kilogram, and millisecond*). Other MTs

are words that denote units based on how noun referents happen to be aggregated in specific contexts. The Mandarin *duī* and *xiāng* and their English counterparts 'heap' and 'box', as used in (5), are examples of this kind of MT.

(5) a. liǎng duī táng/xuě/pínguǒ/shū
two heap (MT) sugar/snow/apple/book
'two heaps of sugar/snow/apples/books'

b. liǎng xiāng shū/pínguǒ/yīfu/yán
two box (MT) book/apple/clothes/salt
'two boxes of books/apples/clothes/salt'

On the surface, the noun phrases in (5) are not unlike those in (2)-(4). Firstly, the CL and MT in these noun phrases occur in exactly the same position – after the numeral and before the noun. Secondly, both CL and MT are obligatory in the presence of the numeral or determiner. These surface similarities are likely the reason why a distinction between MTs and CLs is usually considered impossible or unnecessary. Thus, Chao (1968) refers to CLs as "individual measures." Likewise, Li & Thompson (1981:106) state that "any measure word can be a classifier." Interestingly, scholars working in China (Wang 1980, Liu 1965, among others) tend to use the term *liàngcí* 'measure word' for both CLs and MTs, while scholars outside China tend to use the blanket term "classifier" for both. Confusing one concept with the other is also common among researchers studying nominal classification. For example, Allan (1977) treats MTs as one of his seven types of CLs. Similarly, Seifart (2010:722) uses the terms "mensural classifier" for MT and "sortal classifier" for CL but argues that these two subcategories of CLs "form a single morphosyntactic category" as they have the same structural position and "[t]heir main function is that of individuating (or unitizing) grammatically uncountable nouns." These researchers are correct about the surface level similarities between CLs and MTs. They are also correct to not imply that CL and MT are absolute equivalents, for if they did, they would not make the effort to compare one with the other. Recognizing the surface similarities between CLs and MTs, my inquiry begins by uncovering the underlying differences between the two concepts and proceeds to explain why these differences matter.

Granted, Mandarin does not have grammatical means (such as inflection) to differentiate between CLs and MTs. Labeling *bǎ*, *zhāng,* and *běn* in (2)-(4) as CLs and *duī* and *xiāng* in (5) as MTs may seem arbitrary; however, the CL-MT contrast can be established on several grounds. Firstly, the CL category exists in classifier languages such as Mandarin but not in non-classifier languages such as English. Thus, while the MTs in (5) have English equivalents, the CLs in (2)-(4) do not. Furthermore, the English translation of a Mandarin noun phrase containing an MT necessarily involves an *of*-construction, while that of a Mandarin noun phrase containing a CL does not.

The second and more important difference is semantic in nature. Each CL in (2)-(4) denotes an intrinsic property of the referents of the co-occurring nouns (see notes in parentheses), but the MTs in (5) do not hold such semantic relationship with the co-occurring nouns. Take the noun

phrase in (4a) for example. The CL *běn*, which is derived from the noun meaning a volume made up of sheets bound together, singles out a defining feature of 'book'. In the *běn* class are also *dictionary*, *diary*, *magazine*, *atlas*, *ledger*, *photo album*, and the like, all of which share the feature characterized by *běn*. By contrast, *xiāng* 'box' in (5b) does not reveal any intrinsic property of 'book', or any property shared by this and the other nouns. The same analysis applies to the relationship, or lack thereof, between *duī* 'heap' and the nouns in (5a).

Incidentally, (5) also demonstrates that the differential uses of MTs and CLs do not follow from the contrast between count and non-count nouns; MTs (such as *duī* and *xiāng*) can co-occur with both non-count and count nouns. However, an MT is required if a non-count noun is to be quantified; it is only necessary for a count noun to be quantified if the referent of that count noun is to be measured by some kind of aggregation (e.g., books are to be measured by the heap they are in). CLs, on the other hand, co-occur with only count nouns, not to individuate them in order for them to be quantified, as Seifart (2010) has argued, since their referents are inherently discrete. While the functions of CLs will be explored in later sections, suffice it to point out here that non-count nouns can provide a litmus test: that which can co-occur with them is an MT; that which cannot is a CL.

1.2. THE RISE OF A CLASSIFIER SYSTEM. It is not known when MTs were first used in Mandarin, however, given the role units of measurement play in everyday life, it is not unreasonable to assume that MTs emerged as a grammatical category to meet the need to count, distribute, and exchange material objects. Examining texts inscribed on animal bones and metal pieces from as early as four thousand years ago, historical linguists (Liu 1965, Wang 1980, Peyraube 1991, Li 2000) found noun phrases containing numerals as well as MTs, as in (6), and noun phrases containing numerals only, as in (7).

(6) chàng yī yǒu
wine one vessel (MT)
'one vessel of wine' (for sacrificial ceremonies in ancient times)

(7) a. hǔ yī
tiger one
'one tiger'

b. sān jī
three disease
'three diseases'

The first point to note in these examples is that Chinese was not yet a CL language then, or at least, CLs were not regularly used. The second point is that Chinese was as analytic then as modern Mandarin is now. This point is significant because in an analytic language, much of the grammatical information is conveyed through structural positions and, therefore, word order cannot be free. Yet, free word order in noun phrases is what (7a) and (7b) show. When (7) is examined against (6), it seems that the key issue was with the position behind the numeral. All three of the noun phrases contain numerals; yet, the position behind the numeral is occupied only in (6). That position in (7b) may look filled, but the constituent there has a different grammatical status than the MT in (6). At the time, this might have been perceived to be a structural disparity,

and a preference for all noun phrases containing a numeral to have the same structural pattern might have led to a grammatical change. Given that an MT was required to accompany the numeral quantifying a non-count noun, the only way to achieve structural uniformity would be to have a morpheme stand in the position of the MT. Thus arose the earliest forms of CLs in the language. This is a speculation, but it is a reasonable one, because attaining grammatical regularity is always a strong motivation for language change.

1.3. FORMS OF CLASSIFIERS. The hypothesis entertained here is that CLs were initially motivated to achieve structural uniformity by "filling" the position behind the numeral if that position was not occupied by an MT. The earliest filler morphemes were copies of the nouns being quantified. As illustrated in (8), the first occurrence of *yáng* 'sheep' is the original noun, while the second is the filler morpheme. This is the case because only a filler morpheme could stand in the position of the MT and that position was behind the numeral, as (9) confirms. The prototype of the CL turned out to be a cost-free way not only to achieve structural uniformity but also to give the noun more coverage. As the CL category evolves, these two effects of CLs remain.

(8) yáng èrshibā yáng
sheep twenty-eight sheep (CL)
'twenty-eight sheep'

(9) bèi shí péng
shell ten string (MT)
'twenty strings of shells' (Ancient currency: two strings of five shells each as one *péng*)

CLs that are exact copies of the nouns they classify are elsewhere referred to as "repeaters" (Hla Pe 1965, cited in Allan 1977) and are taken as an indication that "classification is usually of greater grammatical than communication significance" (Allan 1977:293). Repeaters still exist in some modern languages such as Thai and Burmese. In earlier (prehistoric) Chinese, however, the repeater type of CLs gradually disappeared thanks to word order changes taking place from the second century BCE to approximately the fifth century CE. With respect to the word order within noun phrases, the change was from Noun-Numeral-MT to Numeral-MT-Noun. When noun phrases containing MTs changed, those containing CLs followed suit. This time, however, a serious problem would have arisen had CLs remained repeaters because a CL and the noun it was to classify would have been next to each other in the new structure, as (10) illustrates.

(10) *èrshibā yáng yáng
twenty-eight sheep (CL) sheep (N)

A noun phrase with the head noun immediately preceded by its CL would have been awkward to say and would have made it extremely hard to justify the existence of CLs in the language. It may have been against this background that CLs differing in form from the nouns they were to

classify came into being. It thus, conceivably, took a word order change for the CL category to eventually establish itself in the grammar of the language.

A rapid expansion of the lexicon between the second century BCE and the third century CE, as a result of tremendous advancements in almost all aspects of Chinese society, accelerated the development of the Mandarin CL system. With more words entering the lexicon, more cases of homophony appeared, which was to be expected because the language was essentially monosyllabic. The homophony situation was exacerbated by the repeater type of CLs and eventually propelled the process for CLs to assume forms different from the nouns they were collocating with. When a CL was no longer a copy of a single noun, it stopped being a mere placeholder and became a CL in the true sense of the term – it became capable of grouping a number of nouns into a class.

The new forms of CLs were the result of grammaticalization, "whereby lexical items and constructions come in certain linguistic contexts to serve grammatical functions" (Hopper & Traugott 2003:xv). For example, the CL *bǎ*, which classifies nouns denoting objects that have a handle, was grammaticalized from the noun *bà* 'handle'. Similarly, the CL *fēng*, which groups nouns denoting objects that are normally kept in an envelope, was grammaticalized from the verb *fēng* 'seal'. Of all the Mandarin classifiers in use today, most CLs were grammaticalized from nouns, some from verbs, and others from adjectives.

It is easy to recognize an affix being the result of grammaticalization (e.g., the Modern English suffix *-ship* from the Middle English full word *scipe* 'condition' akin to *shape*). It is not so easy to see that a CL could be the result of grammaticalization for there is no change in form to show it. The lack of morphological marking notwithstanding, a function word or morpheme is a grammaticalized form if it can be traced back to a content word. CLs in Mandarin, like CLs in other languages (see Allan 1977, Denny 1986), all have content word origins. Moreover, as Hopper & Traugott (2003:102) point out, a grammaticalized item typically comes "to be used in more and more contexts." This certainly characterizes most of Mandarin CLs, for each classifies more and more as new nouns enter the lexicon. For example, when *xiǎo tíqín* 'violin' and *dà tíqín* 'cello' made their way into the lexicon, they were placed in the *bǎ* class because of the hand-held section in their referents. Unlike a noun, which denotes the whole of a noun referent, a CL picks out only a certain property of noun referents. It is its relatively narrow semantic that allows a CL to collocate with a large number of nouns.

To recapitulate, Mandarin CLs and MTs take the same structural position within noun phrases. Despite this surface similarity, they are fundamentally different. First, the two categories emerged in the language at different times and for different purposes. Secondly, MTs form a lexical category; whereas CLs form a functional category and are grammaticalized from content words. Finally, the function of MTs is to provide units of measurement, whereas the function of CLs, which will be explored next, is to organize entities into types. Teasing the concepts of MT and CL apart is necessary for a study of one to not be confounded with the other.

2. BASES OF NOMINAL CLASSES. Based on his examination of over fifty CL languages, Allan (1977:285) defines CLs as morphemes that "have meaning, in the sense that a classifier denotes some salient perceived or imputed characteristic of the entity to which an associated noun refers

(or may refer).” For the most part, this definition captures the formation of Mandarin nominal classes. Almost all Mandarin CLs have denotative function, and most of the nominal classes are indeed formed on the basis of human perception. Lying outside Allan’s definition, though, are some nominal classes that are better understood to be based on human interaction with the objects in their physical and social environment and others that are clearly informed by cultural values and practices. Those cases will be presented in subsections 2.2 and 2.3.

2.1. NOMINAL CLASSES BASED ON PERCEPTUAL EXPERIENCES. The most significant implication of Allan’s definition is that an aspect of a noun referent is not inherently salient; it is only salient because humans judge it to be so. Another implication is that there need not be objective criteria in selecting an aspect of a noun referent for classification purposes. It further follows from the second implication that different individuals could choose infinitely different aspects of the same noun referent, which would make noun classification meaningless. Needless to say, such a theoretical possibility has not materialized and will likely never happen. This is because humans’ perceptual experiences are remarkably similar (Croft 1994, 2017; Lakoff 1987, Craig 1986), especially in similar physical and sociocultural environments. From among the CL languages in his database, Allan (1977) has identified only seven types of nominal classes based on perceptual categories of material, shape, size, consistency, location, arrangement, and quantity. In the context of this study, arrangement and quantity are not relevant as they deal with MTs. Location does not apply to Mandarin, which is not a locative CL language. There are no Mandarin examples in Allan’s (1977) work, but the nominal classes described below will show that Mandarin speakers do tend to perceive and classify the objects in their environment by shape, size, and consistency, though not so much in terms of material.

Mandarin has more than a dozen nominal classes that are clearly formed on the basis of the shape of the noun referents. An example of a shape-based class is the *tiáo* class whose members, such as *rope, tie, chain, leg, pants, fish*, *worm, snake, trail, road, river*, etc., are characteristically long, slender, and flexible. The CL *tiáo* was grammaticalized from the noun *tiáo* ‘(bendable) tree branch’ or ‘willow branch’. Thus, the referent of a typical member of the *tiáo* class is readily perceived to have the shape of a willow branch. Another shape-based class is the *zhāng* class, with members such as *painting*, *photograph*, *table, sofa*, etc., in addition to those cited in (3). Grammaticalized from the verb *zhāng* ‘to open’ or ‘to spread’, the CL *zhāng* singles out flat surface as the salient feature of the referents denoted by nouns belonging to this class. A third example of a shape-based class is the *kē* class, with members such as *pearl*, *diamond, pebble, seed*, *grape, bullet*, *star,* etc. The CL *kē,* grammaticalized from the noun *kē* ‘pellet’, collocates with nouns denoting objects that are easily perceived to be small and roundish. Shapes depicted by *tiáo*, *zhāng*, and *kē*, which highlight the slenderness, flatness, and roundness of objects, respectively, are said to be “saliently one-dimensional, two-dimensional, and three-dimensional” (Allan 1976:300).

Nouns can be assigned to classes based on the size of their referents. For example, nouns for *mountain*, *bridge*, *building*, *reservoir, statue*, etc., belong to the *zuò* class. The CL *zuò* came from the noun *zuò* ‘seat’ and has since been grammaticalized to classify entities commonly perceived to be large and stationary. In comparison, nouns for *rice, corn kernel, salt, pill, hail,*

etc., belong to the *lì* class because their referents are generally perceived to be small. The CL *lì* was derived from the noun *lì* 'grain'.

Mandarin also has consistency-based classes. Nouns for *rock, brick, soap bar, wristwatch*, etc., whose referents are generally perceived to be compact or solid, are classified by *kuài*, which was grammaticalized from the noun *kuài* 'lump'. By contrast, the CL *piàn*, which came from the noun *piàn* 'flake', classifies nouns for *leaf, fish scale, feather, cloud*, etc., whose referents are perceived to be thin, flexible, and soft.

A noun class may have more than one perceptual base. As a case in point, the *gēn*-class includes nouns for *stick, needle, cucumber, candle, bamboo*, etc., whose referents are long and slender in shape and rigid or hard in consistency. The *gēn* class thus contrasts with the *tiáo* class whose members are long and slender in shape but are flexible or soft in consistency.

Unlike shape, size, and consistency, Allan's material category applies to Mandarin nominal classes only marginally. Of his three subcategories – animate, inanimate, and abstract nouns (Allan 1977:299-300), only animacy is somewhat relevant, and only to one Mandarin class. This is the *zhī* class for non-human animate nouns referring to *bird*, *butterfly*, *cat*, *duck*, *frog*, *monkey*, *panda*, *sheep*, *tiger*, *elephant*, etc. However, the *zhī* class cannot accommodate all non-human animates. Thus, *fish*, *worm*, and *snake*, meeting the criteria slenderness and flexibility, are members of the *tiáo* class, indicating that shape has primacy over animacy in classification. Also, outside the *zhī* class are *horse* and *ox*. Yet, *eye*, *ear*, *nose*, *hand*, *foot*, etc., are found in the *zhī* class. Clearly, there are competing motivations for nominal class assignment, two of which are discussed in the following section.

2.2. NOMINAL CLASSES BASED ON HUMAN-WORLD INTERACTION. A large number of Mandarin nominal classes do not seem to be based on the noun referents' observable characteristics alone. Rather, they are better analyzed as being based on how humans interact with the noun referents in specific sociocultural environments. The three nominal classes described next should illustrate such interactions.

The *pǐ* class. The only member in this class is *mǎ* 'horse' (with *luózi* 'mule', which is a hybrid between a horse and a donkey, being the only associate member). Horses were probably domesticated the earliest and played a uniquely significant role in the lives of the Chinese people. For thousands of years until quite recently, horses were essential on farms, in battlefields, and as a means of transportation. For every task that one needed a horse to help with, one had to work in partnership with the horse. In other words, there must be complete trust and full cooperation between the horse and its handler. Such a relationship would be established when a horse and its handler matched well, and matching well is one of the senses of the verb *pǐ*. The semantic origin of the CL *pǐ* may not be immediately apparent to many Mandarin speakers nowadays; it is nevertheless unequivocal that the special human-horse relationship has given the noun *mǎ* a special place in the language, a noun class created for it specifically.

The *tóu* class. *Niú* 'ox' is the only animal that must be classified by *tóu*. Oxen were among the first animals to be domesticated. They were used as beasts of burden in China for thousands of years. To prepare an ox to pull a plow or a cart, a farmer must put a harness over its head, an activity in which the farmer would have closer contact with the head of that ox than with any

other part if its body. The *tóu* class may therefore have arisen from such a human-ox interaction. The CL *tóu* was grammaticalized from the noun *tóu* 'head', which might suggest that ox is in the *tóu* class because the head of an ox is the most prominent part of its body. This, however, does not explain why *lion* and *elephant* are only occasional members of the *tóu* class even though their heads are more impressive than any other parts of their bodies. It is thus more plausible that the *tóu* class formed on the basis of how humans interact with the animals, not so much on the basis of how humans perceive them.

The *bǎ* class. As indicated in (2), *bǎ* classifies nouns denoting objects that have a handle and can be held or manipulated by hand. Members of the *bǎ* class include *toothbrush*, *spoon*, *shovel*, *broom*, *sword*, *lock*, *key*, etc., in addition to those included in (2). Obviously, the handles on these objects are not the same in form or in shape and so cannot be described in perceptual terms of shape, size, or consistency. However, these objects do share a common property, one that can only be described in terms of utility: humans use these objects by maneuvering their handles. Nominal classes based on utility are not unique to Mandarin. Denny (1986) notes that, cross-linguistically, nominal classes can arise from human-world interaction, including physical interaction, such as handling, and functional interaction, such as using an object as a vehicle.

2.3. NOMINAL CLASSES BASED ON CULTURAL CONVENTIONS AND SOCIAL VALUES. Nominal classes that are based on human perceptual experiences are relatively "culture-free", to use Allan's words (1977:290). Those that are based on human-world interactions, on the other hand, may be "culture-bound" to varying degrees. This is because different geophysical environments may warrant different human responses to them. Then there are also nominal classes that are grounded squarely in cultural conventions and social values.

The Chinese society makes a difference between *rén* 'person' as a member of a family and *rén* in other contexts. As a member of a family, *rén* is in the *kǒu* class*;* otherwise, it is in the *gè* class. Thus, to say 'there are three people (persons) in his family', the CL to use is *kǒu*; but to say 'there are three people in his house', the CL to use is *gè*. With the meaning 'individual', *gè* is capable of collocating with a larger number of nouns than any other classifier in the Mandarin classifier inventory. By contrast, the CL *kǒu,* which came from the noun *kǒu* 'mouth (to be fed)', collocates with *rén* predominantly and a couple of other nouns optionally. The significance of the *kǒu* class can be appreciated against the background of China's agriculture-based civilization. For thousands of years until recent decades, land cultivation was a family endeavor and family was the basic unit of the Chinese society for tax purposes and other civic assignments. Such a socioeconomic environment required that the welfare of the family members be taken care of within the family, and no aspect of a person's welfare was more important than having food to eat, which is what the CL *kǒu* 'mouth' connotes. As the factors giving rise to the *kǒu* class are disappearing, it remains to be seen whether or not the language will keep the *kǒu* class.

The *wèi* class exemplifies how cultural values are reflected in noun classification. Grammaticalized from nouns *dìwèi* 'social status' and *zhíwèi* 'official position', *wèi* classifies nouns denoting socially valued professionals (e.g., *teacher, doctor, scientist, artist, judge*), officials (e.g., *director, mayor, premier, general*), and individuals with cherished qualities (e.g., *mother, colleague, neighbor, guest*). The *wèi* class does not have a fixed membership. Whether

or not a noun is assigned to the *wèi* class depends on the speaker's assessment of its appropriateness in a specific context. Any noun that can collocate with *wèi* can collocate with *gè*, but not vice versa. It is never appropriate to assign nouns for *troublemaker, thief, swindler, terrorist, enemy* to the *wèi* class.

In sum, nominal classes by CLs are not uniform in the way they came to be. While most classes are based on human perceptual experience, some are based on human interaction with their physical and social environments, and still others are formed on the basis of their cultural conventions and social values.

3. FUNCTIONS OF CLASSIFIERS. The denotative function of CLs, as outlined by Allan (1977), was discussed in the previous section regarding nominal classes; the syntactic function was discussed before that in the introductory section. Examined in this section are other roles that CLs regularly play on the discourse level and the lexical-semantic level.

3.1. DISCOURSE FUNCTIONS. On the discourse level, CLs are most often used for reference-tracking and highlighting purposes. With respect to reference-tracking, given their origin and semantic relationship with the nouns they classify, it is not a surprise that CLs are referential, not unlike pronouns. A CL, once introduced with a noun within a discourse, can refer back to that noun later in the discourse. The anaphoric use of CLs is illustrated in the three-sentence discourse in (11), where NOM stands for nominalizer.

(11) a. Wǒ mǎi-le sān běn shū.
I buy-PFV three CL book.

b. Yī běn shì tā xiě-de,
one CL is he write-NOM.

c. liǎng běn shì xiě-tā-de.
two CL are write-him-NOM
'(a) I bought three books. (b) One is by him, (c) two are about him.'

The semantic relationship between the CL *běn* and the noun *shū* 'book' is established with their co-occurrence in the first sentence (11a). This relationship licenses the CL to be anaphoric in the subsequent discourse, allowing it to refer back to that relationship without the noun being present. Indeed, the integrity of the discourse would be damaged by the presence of the noun *shū* in (11b) and (11c). However, the sentences would be ungrammatical if the CL were not included. Once established, the CL-Noun relationship holds in the upcoming discourse for as long as that relationship is intended to be held.

In (12), the CL-Noun relationship established in the question still holds in the first sentence of the answer. Thus, *zhī* refers back to the relationship between the CL *zhī* and *cǒngwù* 'pet'. That relationship no longer holds in the next two sentences of the answer, as the CL *zhī* now forms a new relationship with *māo* 'cat' and another one with *gǒu* 'dog'.

(12) a. Nǐ yǒu jǐ zhī cǒngwù?
you own how many CL pet
'How many pets do you own?'

b. Sān zhī. Yī zhī māo, liǎng zhī gǒu.
three CL one CL cat, two CL dog
'Three (pets). One cat, two dogs.'

Highlighting is another discourse function. By definition, a CL denotes a salient feature of the entity referred to by the noun. Of course, a characteristic of an entity is only salient because it is perceived or imputed to be so by the speaker. By another speaker, or by the same speaker in a different context, a different characteristic may be perceived or imputed to be salient. It follows from this reasoning that a noun can be associated with more than one CL, each signaling the saliency of a different feature of that noun referent. Take *luòtuo* 'camel', for example. A camel's contoured back could be perceived as a salient feature, in which case *luòtuo* would be collocated with the CL *fēng*, which is grammaticalized from the noun *shānfēng* 'mountain ridge'. If animacy is chosen as the salient feature, *luòtuo* would be a member of the *zhī* class. Likewise, the noun *qiáng* 'wall' can be in the *miàn* class or the *dǔ* class. In the former class, the characteristic of *wall* that is receiving a special prominence is broad side or surface, which is the meaning of the noun *miàn* from which the CL *miàn* was derived. In the latter class, the property of *wall* being underlined is its function as a barrier, which is the meaning of the verb *dǔ*, from which the CL *dǔ* was grammaticalized. Capable of being classified by either *miàn* or *dǔ* are compounds formed with *qiáng* (e.g., *chéngqiáng* 'rampart', *wéiqiáng* 'fence', etc.) as well as nouns for wall-like objects (e.g., *zhàobì* 'screen', *qiàobì* 'cliff', etc.).

In Mandarin, it is not rare for a noun to have more than one noun-class membership. Such flexibility allows the speaker to highlight different aspects of a noun referent to convey different subtle messages to the hearer. By choosing a particular CL over a linguistically possible alternative, the speaker can direct the hearer's attention to a specific feature of the noun referent in order to achieve the intended discourse effect.

3.2. LEXICAL-SEMANTIC FUNCTIONS. In addition to denoting some perceived or imputed salient characteristic of the entity to which an associated noun refers, Mandarin CLs perform functions that seem to be lexical-semantic in nature: some CLs disambiguate or clarify the meaning of the nouns they classify.

A CL often sharpens the basic meaning of a noun by adding semantic nuances to it. Take the noun *yǔmáo* 'feather' for example. It can collocate with either the CL *gēn* (classifying nouns that refer to stick-like objects) or the CL *piàn* (classifying nouns that refer to flake-like objects). Marked by *gēn*, *yǔmáo* is distinctly 'flight feather'; but it is 'down feather' when marked by *piàn*. Another example is the noun *yuèliang* 'moon' which can be put into the *lún* class or the *wān* class. In the *lún* class, the precise meaning of *yuèliang* is 'full moon'. In the *wān* class, in comparison, the exact meaning of *yuèliang* is 'crescent moon'. A CL may also disambiguate.

The noun *kè* can mean 'course' (a series of lectures about a subject) or 'class' (a period in which a group of students meets for instruction). However, *kè* is unequivocally 'course' when it is accompanied by the CL *mén* (e.g., *liǎng mén kè* 'two courses'), but it is unmistakably 'class' when accompanied by the CL *táng* (e.g., *liǎng táng kè* 'two classes').

CLs play indispensable syntactic roles because their presence is obligatory in a noun phrase containing a numeral or determiner. The CL does more than simply hold a structural position, though, as it also serves as a unit of quantification. In other words, it assumes a secondary duty which is comparable with that of an MT. The position behind the numeral or determiner cannot be left empty. It can be held by either an MT or a CL, but not by both at the same time. When it is held by a CL, the noun referent is understood to be non-aggregated.

To recapitulate, besides denoting a characteristic of the entity to which an associated noun refers, a CL performs various functions at different levels of grammar. Syntactically, a CL is required to fill the position between the numeral and the count noun for the noun phrase to be grammatical, unless that position is held by an MT. On the semantic level, a CL may add clarity and specificity to the meaning of the noun with which it collocates. Even when the exact meaning of a noun is not an issue, a specific CL is often chosen from among possible alternatives for a certain nuance of meaning that is of social or cultural significance. On the discourse level, a CL is in a referential relationship with the head noun with which it co-occurred earlier in the discourse. CLs are also used to highlight specific features of noun referents for desired discourse effects. Of course, the most fundamental function of CLs is to provide a linguistic means for speakers to organize their world and their experiences in it. This function is the focus of the following section.

4. NOMINAL CLASSIFICATION AND HUMAN CATEGORIZATION. As observed in the previous two sections, Mandarin CLs emerged and evolved to perform specific syntactic, semantic and discourse services. More fundamental than the grammatical services is their cognitive function. This section presents analysis to argue that the nominal classes formalized in Mandarin are likely some of the linguistic expressions of human categorization. The analysis is based on the observation that nominal classification uses the same general categorization mechanism.

4.1. NATURE OF CLASSIFICATION. The nominal classes of the Mandarin CL system outlined above may seem to consist of equally qualified members. It may seem that nouns just fall into natural classes and that Mandarin simply gives names to these classes. The reason for this is that, for ease of discussion, only members that best represent the salient characteristic denoted by a given CL were used. However, when the full membership of a class is examined, it is immediately apparent that the salient characteristic is not shared to the same extent by all the members. On what grounds were the less typical and atypical members of a class let in? In search of an answer to this question, the *tiáo* class and the *zhāng* class are re-examined below.

Recall that the CL *tiáo* collocates with nouns whose referents are long and slender, and that typical members of the *tiáo* class include *rope*, *belt, leg*, *pants*, *scarf*, *tie*, *road*, *river, worm*, etc. However, *duǎnkù* 'shorts', *xīnwén* 'news', and *rénmìng* 'human life' are equally well recognized members of this class. The class membership of *duǎnkù* is queried first. *Shorts* are not long, nor

are they slender; but they are legwear, just as *pants* are. In other words, *shorts* resemble *pants* in function and hence are part of the legwear family (in the sense of Lakoff 1987). It is this family resemblance that makes *shorts* qualify as a member of the *tiáo* class. Family resemblance is also responsible for nouns referring to *skirt* and *underpants* being members of the *tiáo* class.

There is a historical reason for *xīnwén* 'news' to be granted membership to the *tiáo* class. In China, as elsewhere in the world, news was regularly issued in newspapers before the time of radio. Until about sixty years ago, newspapers in China were typeset so that a news item would appear in a vertical column, which looked long and slender and matched the shape characterized by *tiáo*. The conventional mental image of a newspaper column thus licensed the membership for *xīnwén*, which has been in the *tiáo* class ever since, even though news items now appear in other media that do not allow the same conventional image to form. Interestingly, the *tiáo* class membership has been extended to nouns for *suggestion*, *opinion*, *advice*, and *warning*, likely because of their semantic affinity with *xīnwén*.

Mental imagery is also responsible for *rénmìng* 'human life' being a member of the *tiáo* class. Human life is an abstract concept and cannot be perceived as long and slender in the usual senses of the adjectives. A human body, on the other hand, is a physical entity and is, relatively speaking, long and slender. If human life is thought of as embodied, it is not hard to see how the mental image of a human body can be mapped onto human life. The same mental image explains why *tiáo* is the CL for *hǎo hàn* 'man of principle' or 'man of strong character'.

Another example to flesh out the nature of classification is the *zhāng* class. As illustrated in (3), the CL *zhāng* collocates with nouns including *desk*, *bed*, *map*, *card*, *photograph*, *postage stamp,* etc., which refer to objects with flat surface as their shared characteristic. Also collocated with *zhāng,* are nouns for *mouth, net*, *hide,* and *(human) face*. The referents of all these nouns are actually rather different in shape from the very original member the *zhāng* class: *gōng* 'bow'.

The CL *zhāng* was grammaticalized from the verb *zhāng*, which originally meant to pull the string on a bow in order to propel an arrow. In the beginning, the CL *zhāng* collocated with only *gōng* 'bow.' The other nouns that now collocate with the CL entered the *zhāng* class for various reasons. To appreciate the reasons, it is helpful to understand the process of shooting an arrow with a bow. To shoot an arrow, one pulls the string mounted on the bow and, as a result, opens up the space between the bow and the string. Thus, opening is the central sense of *zhāng*. In this sense, *net* and *mouth* can be linked to *bow*, as both can be opened.

Map and *painting* can also be linked to *bow* because both were customarily mounted on and rolled onto scrolls for safekeeping. When they were unrolled for presentation, they opened up to be sheets and their flat surfaces became an obvious feature. The flatness of a surface was thus derived as a less central sense of *zhāng*. Having a flat surface, *table* and *bed* are linked to *map* and *painting*, which are in turn linked to *bow*. *Pí* 'hide' is also linked to *map* and *painting*, perhaps not so much by the flatness of its surface but by the forms it can assume – rolled up and unrolled. A hide is the outer layer of an animal body, and this provides the base for an even less central sense of *zhāng*. Representing the outer layer of the human skin, the human *face* is linked to *hide*, which is in turn linked to *painting*, which is in turn linked to *bow*, the original member of the *zhāng* class. Thus, despite the fact that the entities denoted by the nouns in the *zhāng* class do not have the same characteristics, they are chained into the class through links such as these.

The membership disparities found in the *tiáo* and *zhāng* classes substantiate Rosch's (1973) prototype theory. Within a given nominal class, some members are typical to the class; others are less typical to varying degrees but are always connected to the typical ones, directly or indirectly. The examination of the members in the *tiáo* and *zhāng* classes shows that every use of a CL outside its central sense is motivated, and the motivation is traceable to human cognitive propensity to employ mental imagery, family resemblance and conceptual links to classify and organize nominal referents. It is not always predictable when and how the non-central sense of the CL will be used, but every such use is well-reasoned and is logical to the speaker.

4.2. HUMAN PROPENSITY TO CATEGORIZE. The examination of the *tiáo* and *zhāng* classes has revealed that the mechanisms triggered automatically in speakers to classify nouns are essentially the same as the mechanisms by which humans categorize entities and experiences of all kinds. (A thorough discussion of these mechanisms can be found in Lakoff 1987). Noun classification, it seems, is simply a special case of categorization that humans do almost instinctively. It is "an overt categorization in language" (Craig 1986:2).

To categorize is a human propensity. Our everyday life can be characterized as constant interactions with stimulus input from our environment, which can be physical, social, emotional, etc., in nature. If we attended to every aspect of every stimulus in every situation, our brain would be overloaded. The limitations of our biology thus compel us to process and respond to the stimuli from our environment, not as unique stimuli but as instances of some kinds. The stimuli, however, do not come divided up into kinds, and so we must sort them into kinds, i.e., categorize them. We categorize when we speak and act, when we infer and reason, when we try to forget and to memorize things. In Lakoff's words,

> Every time we see something as a *kind* of thing, for example, a tree, we are categorizing. Whenever we reason about *kinds* of things – chairs, nations, illnesses, emotions, any *kind* of thing at all – we are employing categories. Whenever we intentionally perform any *kind* of action, say something as mundane as writing with a pencil, hammering with a hammer, or ironing clothes, we are using categories. The particular action we perform on that occasion is a *kind* of motor activity. (e.g., writing, hammering, ironing), that is, it is in a particular category of motor actions. They are never done in exactly the same way, yet despite the differences in particular movements, they are all movements of a kind, and we know how to make movements of that kind (1987:5).

Categorization is so fundamental to our perception, inferences, thoughts, actions, memory, and, indeed, to almost all aspects of our lives that it would be inconceivable that our language did not respond to this cognitive demand. The fact that nominal classification is so commonly practiced in languages is no surprise. It is only logical that we routinely use the nominal classes, which we have already established or conventionalized, when we categorize overtly.

4.3. HUMAN CAPACITY TO CATEGORIZE. Categorization seems to be natural to humans. We categorize so spontaneously and effortlessly that we are usually unaware of this cognitive process unless we make a mistake, such as assigning an entity to a wrong class, resulting in an unintended consequence. Similarly, we normally do not appreciate the power of our brain to which we owe our capacity to categorize. We categorize the world the way we do thanks to our brain that seems to be able to suppress some information by filtering out certain stimuli so that we can focus on certain other information and process it, not as a completely unique entity, event, or experience, but as an instance of a certain kind of entity, event, or experience.

Human categorization, as Lakoff puts it, "is essentially a matter of both human experience and imagination – of perception, motor activity and culture on the one hand, and of metaphor, metonymy, and mental imagery on the other" (1987:8). Conceivably, such experience and imagination not only help the human brain manage its limitations but also increase its capacity to categorize. Seen in this light, it is no wonder that our brain is so remarkably efficient at categorizing.

5. CONCLUSION. I hope the above discussion of the relationship between nominal classification and human categorization in general, as well as the examination of the Mandarin CL system before that, have answered the three investigative questions (posed in the first section) about the formation of Mandarin noun classes, the functions of CLs, and human categorization as reflected by nominal classification. The answers to these questions would not have been possible without a clear distinction drawn between the concepts CL and MT. CLs, not MTs, mark noun classes that are grounded in human experiences within given sets of physical and cultural environments.

Initially motivated to fill a perceived structural void, Mandarin CLs eventually developed into a well-defined grammatical mechanism. They serve unique syntactic, semantic, and discourse functions, in addition to coding categories which are routinely recognized and communicated by Mandarin speakers. From the evidence presented here, the saliency of a characteristic by which a nominal class is formed may be based on the human perception of, or interaction with, the referents of pertinent nouns; it may also be based on social values or cultural conventions. Further analysis reveals that some of the cognitive processes employed in categorization are also found in nominal classification, indicating that nominal classification is a special case of general categorization.

The Mandarin CL system is investigated here to gain an insight into the nature of nominal classification. Presumably, nominal classification by CLs and nominal classification by grammatical agreement are fundamentally the same, even though each system uses a different linguistic mechanism. Analyses published in recent decades demonstrate that which noun classes are overtly coded and how they are coded must be studied on a language-by-language basis. Regardless of the operational specifics, the pervasiveness of nominal classification in world languages is indicative of a universal linguistic response to the cognitive propensity for categorization.

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ANOMALOUS PAUSES IN ENGLISH L2 SPEECH

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Abstract: Although irregular pauses in oral production is a common problem in the speech of language learners, it is unclear what factors cause the pauses and to what extent learners' native language affects the speaking fluency of their target language. This study investigated the anomalous pauses made by English learners who speak Mandarin Chinese as their mother tongue, in the attempt of finding out why these pauses occur in the articulation process of their speech productions. 36 learners and 36 native English speakers participated in a read-aloud task, which was recorded for further analysis. The results demonstrated that the learners made significantly more anomalous pauses when reading aloud English texts and they had difficulty articulating the phonemes /b/, /d/, /g/, /dʒ/, /z/, and /ð/. The reasons why these pronunciation problems cause irregular pauses and related pedagogical implications are discussed.

Keywords: Anomalous pauses, phonological differences, articulatory problems
Languages: English, Chinese

ANOMALOUS PAUSES CHARACTERIZED AS DISFLUENCY. The attainment of high-level oral fluency is many second language (L2) students' learning target and many language courses' teaching objective (Tavakoli 2011). However, L2 speaking has been considered to be a very difficult skill that is affected by a series of factors, including (but not limited to): learning curriculum, language and socio-cultural background, as well as interpersonal and institutional contexts in which L2 students find themselves (Gan 2012:3). Given that the aim of the present study is to investigate linguistic influences on articulatory problems, the factors that are not related to linguistic considerations are beyond the scope of this study.

While the L2 oral fluency has been operationalized in different aspects based on specific research purposes (Ellis 2009), this study adopts a 'narrow' definition of fluency that learners are able to speak with fewer pauses at a regular speech rate (Fillmore 1979). That is, the frequency of speech pauses serves as a strong indicator of learners' speaking proficiency levels. The frequent pauses in learners' speech normally suggest their oral disfluency. However, the anomalous pauses that hinder the speaking process should be differentiated from the naturally occurring pauses, as the latter usually appear even in native speakers' extemporaneous speech. To distinguish between

natural and anomalous pauses, it is rational to start from the well-known filled and unfilled pauses as shown in the following examples (1) and (2), respectively:

(1) This paper focuses on, um, you know, the anomalous pauses in L2 speech.

(2) This paper focuses on... (short silence) ...the anomalous pauses in L2 speech.

Unlike writing, oral production is a continuous process that normally requires speakers to rapidly conceptualize what to say, formulate their ideas by choosing proper words, encode the words based on the phonological and grammatical rules, and articulate each word of the message in a phonetically acceptable way (Levelt 1995). In this ephemeral process, both native speakers and L2 learners tend to have fillers, false starts, repetitions, and self-corrections in their speech. As illustrated in example (1), both 'um' and 'you know' are filled pauses with the latter being called lexical filler. Since the filled pause normally reflects the authentic and natural features of speaking (Gilmore 2004), it is not reasonable to consider a filled pause as a strong indicator of oral disfluency particularly when they occur infrequently in the speech.

The current study centers on the unfilled pauses made by L2 learners in the articulation process (Levelt 1995) of speech production. According to Riggenbach (1991), the unfilled pause or silent interval serves as a very strong indicator of disfluency. However, it is noteworthy that not all silent intervals necessarily count as anomalous pauses. While some short unfilled pauses, as shown in the above example (2), are simply juncture pauses by which speakers highlight the importance of information following the pauses, being silent for a long time without junctures is normally unacceptable. As such, the duration, function, and place of occurrence for the silent pauses should be taken into account to judge whether or not some unfilled pauses are anomalous. Many minimum cut-off points for the pause duration are used to distinguish between naturally occurring and anomalous pauses. While there is no clear consensus on the appropriate cut-off point, many researchers argue that silent intervals that are over 400 milliseconds (ms) count as irregular unfilled pauses (Derwing, Rossiter, Munro, & Thomson 2004). More recently, Yuan, Xu, Lai and Liberman (2016) classified the silent pause into three categories: short pause (0-200 ms), intermediate pause (200-1000 ms), and long pause ($>$1000 ms). To make sure the identification of unfilled pauses as anomalous is consistent, we adopt 1000 ms (one second) as the cut-off point in this study, and those longer than this duration count as irregular pauses.

Another characteristic of anomalous pauses can be found in the production of formulaic sequences. Because empirical studies have shown that multiword units are processed as a whole rather than word by word (Jiang 2018), L2 learners are less likely to pause when speaking formulaic sequences (Tavakoli 2011). Thus, if the pauses occur in the formulaic expressions, they count as anomalous pauses. According to Grant & Nation (2006), the formulaic language is classified into collocation, figurative expression, and core idiom. Collocations are those frequently used expressions where the meaning of the component clearly makes up the meaning of the whole:

(3) You *are supposed to* write your exam, so *go to school* now.

The figurative expressions, in this narrow sense, are items with fixed patterns that combine literal meanings with figurative meanings:

(4) *Everything comes to him who waits*: I finally finished my work after a *white night*!

Most figurative expressions from this category (Grant & Nation 2006) could be found in the idiom dictionaries. Typically, the figurative meaning is to some degree related to the literal meaning in the multiword unit. The core idioms, on the other hand, are items where the meaning cannot be inferred by the components within them:

(5) I don't understand the lecture *as well as* the slides. Don't *take the piss out of* me.

Finally, the L2 anomalous pauses are more likely to occur in a single sentence rather than between sentences (Tavakoli 2011). Although the example (2) illustrates a deliberate pause in the sentence for the purpose of emphasis, more natural pauses occur between two sentences and function as a syntactic boundary in a similar way as punctuation does in the writing. As such, long pauses in a sentence might count as irregular pauses.

Taken together, the anomalous pause in this study is operationalized to have a long duration (over 1s) and to occur in formulaic sequences or in a single sentence. To ensure that no irregular pauses are missed for data analyses, any pauses that conform to both long silent intervals in formulaic sequence and long silent intervals in a sentence where there is no formulaic sequence, count as anomalous pauses in this study.

1. REVIEW OF RELEVANT LITERATURE. Although this study centers on the articulatory pauses, it is necessary to review the research on general oral fluency to gain more insights. Many studies on this subject matter investigated the comprehensibility of L2 speech (Suzuki & Kormos 2020). By using either native or L2 speakers' judgement on L2 speech in terms of accent, accuracy, fluency, and linguistic complexity, these studies demonstrate that the L2 oral fluency is strongly related to comprehensibility - with fewer unfilled pauses indicating higher comprehensibility (Derwing, Rossiter, Munro, & Thomson 2004). In addition, comprehensibility varies across different speech activities or learning tasks, with dialogues and monologues including fewer unfilled pauses and narratives involving more silent intervals, suggesting that the comprehensibility of narratives is normally lower than that of other speech activities. Finally, learners with higher language proficiency produce fewer unfilled pauses. Isaacs & Trofimovich (2012) found that advanced L2 learners' oral expressions were more fluent as they made fewer silent pauses than intermediate L2 learners. Consequently, the comprehensibility of proficient learners' speech is at a higher level.

Although these studies demonstrate the relationships among unfilled pauses, comprehensibility and language proficiency, it is unclear whether there are differences in the general pausing pattern of L2 learners and native speakers. To fill this research gap, Tavakoli (2011) employed four narrative tasks to elicit the oral performance of both L2 learners and native speakers of English. After reading the picture stories in the tasks, two groups of participants were given three minutes for memorization, conceptualization, and formulation. Then, they were instructed to narrate the

stories. In consistence with previous comprehensibility studies, narratives are more difficult for L2 learners such that it is easier to find out the different pausing patterns between learners and native speakers by using narrative tasks. The results showed that L2 learners paused more frequently and had a longer duration of silence than native speakers did. More importantly, learners tended to pause in a sentence rather than between sentences. This research finding echoes what has been discussed earlier: that natural pauses normally occur between sentences, and L2 learners are more likely to have anomalous pauses that occur in a single sentence. Finally, both L2 and native speakers have very few pauses in formulaic sequences in which every word is intimately connected to another. While this study provided the first attempt to compare the pausing patterns between L1 and L2 speech as well as shed light on the studies on unfilled pauses in oral production, the participants in this study were all intermediate L2 English learners and therefore it is unclear whether these research findings could be generalized to other L2 learners with different proficiency levels.

Given that the focus of the current study is on the articulation process of speech production, it is reasonable to review the studies on L2 learners' speech pauses in read-aloud tasks that do not involve speakers' conceptualization and formulation processes. Kowal, O'Connell, O'Brien, & Bryant (1975) conducted three experiments to examine the pausing patterns of both read-aloud and story-telling tasks. The results demonstrated that participants were less likely to pause in the reading task, which is not surprising given that reading aloud allows speakers to skip the conceptualization and formulation processes of speech production (Levelt 1995). In consistence with the research findings in Tavakoli (2011), which is that L2 learners paused in the middle of a sentence of their narratives, learners in this study had significantly more unfilled pauses in a sentence in the read-aloud tasks than native speakers did, although not as many as those in story-telling tasks. Excluding the factors of conceptualization and formulation, only articulatory reasons could explain this research finding. More recently, Hirano, Kawai, Hirose, & Minematsu (2006) investigated the location of L2 Japanese learners' unfilled pauses in read-aloud tasks. The results demonstrated that while native speakers normally paused between the sentences with an awareness of syntactic boundaries, L2 learners' unfilled pauses were spread over different locations. Authors attributed this phenomenon to L2 learners' lack of syntactic planning.

2. LITERATURE GAPS AND RESEARCH QUESTIONS. So far, the existing literature has demonstrated that less proficient learners are more likely to have unfilled pauses in a sentence rather than between sentences, regardless of whether they are reading aloud the texts word by word or narrating the stories (Tavakoli 2011). However, whether advanced L2 learners also suffer from the same problem, and what reasons cause the occurrence of anomalous pauses in the articulatory process of speech production remains unclear. In addition, previous research in this domain mainly focuses on the relationship between anomalous pauses and L2 speech comprehensibility; few studies have explained the anomalously occurring pauses from a phonological viewpoint. Finally, more corpus-based studies are called for to gain a more comprehensive and clearer picture of where the L2 learners pause, why they pause, and how to solve this problem. As such, the current study attempts to fill in these research gaps by answering the following questions:

a. Do L2 English learners across different language proficiency levels have more anomalous pauses than native speakers?
b. Where do anomalous pauses normally occur in L2 English speech?
c. What are the phonological features of the words that L2 learners have difficulty pronouncing?

3. THE METHODOLOGY OF CURRENT STUDY. Two groups of participants took part in this study. The first group included 36 native speakers of English, all second-year students of Traditional Chinese and Chinese Literature in a university in Shandong Province of China. 19 of them were females and 17 were males, aged between 19 and 20, and they all spoke English as their first language. The second group included 36 L2 English speakers. They were from a six-semester academic English course specifically designed to prepare them for a four-year degree program at a university in an English-speaking country. Their English language proficiency was differentiated using an independent *t*-test based on their TOEFL scores ($X^2 = 7.662$, $p \leq 0.01$). According to the Common European Framework of Reference, 18 of them were intermediate English learners (B1-B2) while the other 18 were advanced learners (C2). There were 25 females and 11 males, and they were aged between 17 and 18. They spoke Chinese as their first language.

All participants' oral performances were elicited using the read-aloud task. Since this task is reading in nature, it does not require speakers' conceptualization and formulation processes because they do not need to plan what to say and encode the related information into specific words. Reading aloud is regarded as an effective pedagogic activity and is frequently used across different educational settings in China for English language teaching and assessment. All the reading materials in this study were selected from L2 learners' textbooks by a team of L2 English teachers and researchers, and in doing so, a range of different learner and task factors including familiarity, clarity, and cultural issues were considered. As the materials are all scripted texts that L2 learners had learned before, the problems of word frequency and semantic unfamiliarity were avoided. These texts were selected from *Cambridge English Series*, *The Integrated English Textbook*, *Academic Writing Skills*, *Cambridge Academic English*, *Intermediate English Textbook*, and *New Concept English* (*Level 3 and 4*). There were 124 different texts altogether (26081 words) for each participant to read. All of the participants were reading the same texts as the study was progressing.

All of the participants read aloud 7-8 texts every two days, and their reading was recorded for further analysis. All of the L2 learners in this study had previously learned the grammar and vocabulary that appeared in the texts (from one year to two days before the read-aloud task). To ensure that they were familiar with the vocabulary of each text, all participants were required to revise the word list of each text before reading it out loud. In this way, any anomalous pauses would be attributed to the articulatory factors rather than searching for unfamiliar words. In the progress of the read-aloud task, their recordings were collected and analyzed by two native English-speaking language instructors every two days to find the silent intervals based on the operationalization of anomalous pauses discussed earlier.

After the read-aloud task was completed, Praat (5.7.08) was used first to measure the unfilled pauses greater than one second occurring in and between sentence boundaries. The duration of

each anomalous pause and the total amount of times that each participant paused were also calculated. The data set was then transcribed into SPSS for statistical analyses, followed by an interpretive analysis to investigate the reasons for these pauses.

4. RESULTS AND DISCUSSIONS. As shown in Table 1 below, it is clear that L2 learners made significantly more anomalous pauses (t = 6.68, p = 0.001) and they were more likely to pause within a sentence (t = 8.72, p = 0.001) than native speakers, which is in line with previous studies (Kowal, O' Connell, O'Brien, & Bryant 1975; Hirano, Kawai, Hirose, & Minematsu 2006).

Read-aloud task	**L2 learners**	**Native Speakers**	***t***	***p***
Pauses in a single sentence	141. 67	38. 05	8.72	0.001
Pauses between sentences	367. 31	339. 65	1.60	0.11
Pauses in formulaic sequences	68.93	17.32	13.17	0.001
Pauses in a single word	72.74	20.73	9.62	0.001
Total pauses	508.98	377.70	6.68	0.001
Mean duration of pauses (s)	1.37	1.28	0.73	0.48

Table 1. The mean number and duration of anomalous pauses.

This finding answers the first question of this research. This result is unsurprising because L2 learners are not able to articulate many words as fluently as native speakers. More importantly, L2 learners paused in the formulaic sequences, which contradicts previous findings in Tavakoli (2011) that formulaic sequences 'contain very few pauses and therefore facilitate the learners' fluency' (71). Because the word components within formulaic language are normally processed as an integrated unit (Jiang 2018), and L2 speakers in this study had learned all of the formulaic sequences in the texts before, they should not have too many pauses when producing these collocations, figurative expressions, and core idioms.

One of the potential explanations for this finding is that the learners forgot the meaning of many multiword units because some texts were learned one year before the read-aloud task. Revising the word list might not guarantee that they could retrieve the meaning of all formulaic sequences. According to Webb (2007) and Nation & Meara (2010), vocabulary is usually retained with repetitive encounters of the same word in different contexts. Compared with single words, core idioms and figurative expressions are not frequently learned and used by the L2 speakers in this study, given that the learning objective of their course is to improve their academic English ability for studying abroad.

Of greater interest are the similarities and differences in anomalously occurring pauses between advanced and intermediate learners, as presented in Table 2.

A number of *t*-tests were conducted to find out whether there were any statistical differences between the intermediate and the advanced learners' performance with respect to the number of pauses in various conditions. Remarkably, no significant differences were found between advanced and intermediate learners' anomalous pauses (t = 0.52, p = 0.285) except for the pauses

in a single word ($t = 4.52$, $p = 0.001$). This result contradicts previous research findings in Kowal and her colleagues (1975) as well as Suzuki & Kormos (2020) showing that higher language proficiency indicates more fluent L2 speech production. The reason for this phenomenon might be associated with the participants' different language backgrounds. While previous studies recruited English-speaking learners of German (Kowal, O'Connell, O'Brien, & Bryant 1975) and Japanese-speaking learners of English (Suzuki & Kormos 2020) to participate in the read-aloud and story-telling tasks, the participants in the current study were Chinese learners of English. As such, it is important that learners of different second languages be further studied, especially languages that are not cognate to their first languages.

Read-aloud task	**Intermediate**	**Advanced**	***t***	***p***
Pauses in a single sentence	79.29	62.38	0.87	0.61
Pauses between sentences	173.28	194.03	0.76	0.70
Pauses in formulaic sequences	29.37	39.56	1.90	0.58
Pauses in a single word	24.52	48.22	4.52	0.001
Total pauses	252.57	256.41	0.52	0.285
Mean duration of pauses (s)	1.47	1.27	0.90	0.38

Table 2. The anomalous pauses made by learners across different levels.

In order to answer the remaining two research questions, the words that caused L2 learners to frequently pause were selected and analyzed in terms of the phonological properties of learners' first and second language, as illustrated in Table 3.

Problematic phonemes	**Features**	**Examples**	**Reasons**
/d/	voiced, alveolar	difficult	different voice onset time
/b/	voiced, bilabial	suburb	different voice onset time
/g/	voiced, velar	glove	different voice onset time
/dʒ/	voiced, palatal	generous	different places of articulation
/z/	voiced, alveolar	zebra	lack of L1 transfer
/ð/	voiced, dental	that	lack of L1 transfer

Table 3. Phonological features of paused words.

Although the voiced stops /d/, /b/, and /g/ exist in both Chinese and English, the voice of onset time (VOT, the length of time between the release of air and onset of voicing) of these phonemes is different between the two languages and might be causing difficulties in speech production. This study then used the Wavesurfer software to investigate the VOT of these phonemes, and the result is shown in Figure 1 below. Six horizontal lines in this figure represent the voicing length of /d/, /b/, and /g/ when they are articulated in two languages. Since these phonemes are voiced stops,

their VOT varied from –25 ms (voicing occurred 25 ms before release) to 0 ms (release of air). The independent *t*-tests showed that the VOT for all three voiced stops in Mandarin is significantly shorter than that in English, (/d/: X^2 (1, N = 72) = 3.228, $p \leq 0.05$; /b/: X^2 (1, N = 72) = 5.782, $p \leq 0.05$; /g/: X^2 (1, N = 72) = 2.674, $p \leq 0.05$).

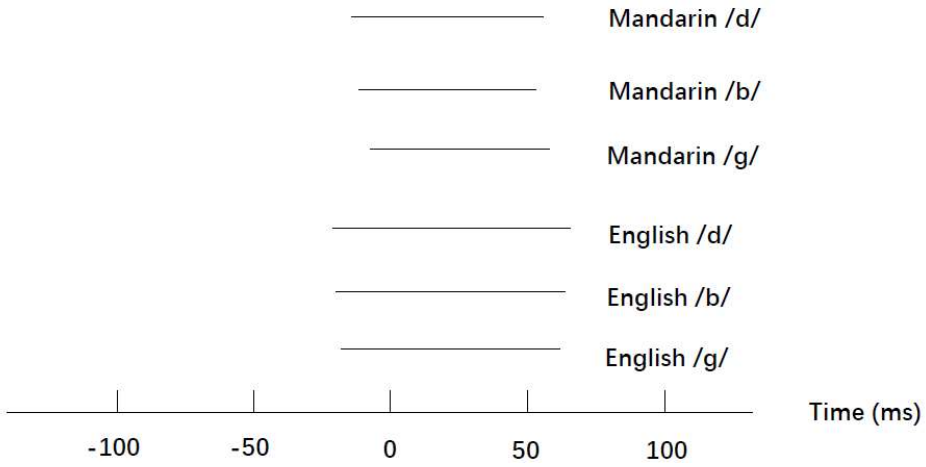

Figure 1. The distribution of VOT for the voiced stops in Mandarin and English

This result indicates that the different VOT of these phonemes in Mandarin and English might be causing anomalous pauses in L2 English speech. According to Flege & Eefting (1987), the VOT of /d/, /b/, and /g/ in Spanish is also significantly shorter than that in English, causing many problems for Spanish learners of English, such as the wrong pronunciation of words where /d/, /b/, and /g/ were embedded. The current study somewhat complements the research findings in Flege & Eefting (1987) by showing that the different VOT may also lead to anomalous pauses. One of the potential reasons is that the learners tried to have correct and standard pronunciation in the read-aloud task, leading to hesitations before articulating the phonemes /d/, /b/, and /g/. As such, it is reasonable to assume that the shorter VOT in the first language may result in anomalous pauses in the target language, at least in this case (Mandarin-English). Further research needs to examine whether longer VOT causes the same problem. In addition, the English phoneme /dʒ/ in the fourth line of Table 3 sounds similar to Chinese phoneme /zh/, but /zh/ is palatal retroflex (the tip of tongue is curled back against the palate when articulating these sounds) and is voiceless. Thus, the different places of articulation may also lead to anomalous pauses in learners' L2. Regarding the last two phonemes /z/ and /ð/ which do not exist in the Chinese phonetic system, learners cannot transfer their L1 phonological representation to the articulation of these phonemes. As for the suprasegmental features of English (i.e., stress pattern, prosodic timing, peak alignment, intonation, etc.), no evidence was found that these factors cause Chinese EFL learners' irregular pauses.

As previously discussed, the formulaic sequences should have facilitated L2 learners' speech production (Tavakoli 2011). Nevertheless, such evidence was not observed in this study. In addition, none of the L2 learners in this study have any speech problems in their native language

(Mandarin Chinese), which indicates that it can be hypothesized that their L2 pauses are attributed to different phonological properties between English and Chinese. Drawing on Levelt' s speech production model (1995) this indicates that the processes of phonological encoding and phonetic plan are the main factors that cause Chinese EFL learners' speech pauses, regardless of their L2 proficiency levels. This might be due to the lack of English listening curriculums in China (Rost 2014).

5. PEDAGOGICAL IMPLICATIONS. Based on the findings of this research, instructors who teach English to native Chinese speakers need to implement more phonemic discrimination tasks (e.g., minimal pairs) to strengthen students' understanding of the problematic phonemes in English. After students become aware of the different VOT of these phonemes and of the different places of articulation between Chinese and English, teachers should implement more speaking activities (e.g., making sentences by using more words where the problematic phonemes are embedded) to help Chinese learners practice the articulation of specific phonemes:

(6) I'm *reading* a *difficult book* / I'm *busy reading* a *book because* it is so *difficult* to *understand*.

Additionally, the teachers can ask students to listen to and read aloud sentences where the problematic phonemes are embedded (as shown in the example below). It is self-evident that listening serves as the initial step of speaking, but the lack of English listening curriculums in China caused many learners' speaking problems (Rost 2014).

(7) I live in the su**b**ur**b** of Leth**b**ri**dg**e, which is not far from your **d**epartment.

Finally, students need to know some compensatory strategies to replace problematic words with other words (e.g., replace *difficult* with *not easy*). Although this method is not strongly recommended because different words can refer to different subtle meanings, it can avoid learners' stresses and strains caused by anomalous pauses when they need to read something out aloud in serious contexts, such as reading academic reports in a conference.

6. CONCLUSION. This study examined what anomalous unfilled pauses are usually associated with L2 English learners who speak Mandarin as their L1, providing explanations for the occurrence of these pauses from a phonological perspective. These research findings indicate that proficient L2 learners do not necessarily have fewer anomalous pauses, and therefore the speaking activities for learners should be spread over all levels of English language courses. In addition, formulaic sequence does not necessarily facilitate learners' oral fluency, despite being processed as an integrated unit. Finally, English instructors should assign further emphasis on improving students' articulatory ability. As this study suggests, anomalous pauses occur even if learners skip the conceptualization and formulation of speech production. It should be noted that the participants in this study were engaged only in the read-aloud task, meaning that the results of this study do not necessarily apply to speaking contexts that are spontaneous and interactional in nature. Further

research needs to investigate L2 learners' anomalous pauses during other speech acts such as the extemporaneous speech and everyday conversation.

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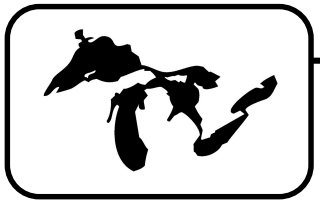

LACUS Forum **46:4.12-22 (2022)**

VOT OF FRENCH IN CONTACT WITH ENGLISH: A COMPARATIVE STUDY OF BILINGUAL SPEAKERS IN SOUTHWESTERN ONTARIO

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Abstract: Previous studies show that bilingual speakers who have acquired two languages subsequently will produce voice onset time (VOT) values proper to their native language when speaking their second language. Contrarily, other studies show that bilingual speakers are manifesting bidirectional VOT patterns that correspond to both their L1 and L2. The following study takes place in southwestern Ontario where French is spoken by a small population of individuals. We examine the production of the French voiceless [p, t, k] and voiced [b, d, g] stop consonants in two groups of French-English bilingual speakers. We assess whether the dominant language, English, has an effect on the oral production of the minority language, French. Results indicate that the production of stop consonants in the French L1 group is not affected by English, with the exception of the youngest speaker. However, the French L2 group is entirely English dominant and unable to produce VOT values corresponding to those of French. The contact between the two languages, as well as the study of bilingualism, remain understudied in this region. Therefore, by assessing phonetic and sociolinguistic factors, we gain a better understanding of the impact of language contact and its effects on pronunciation.

Keywords: VOT, bilingualism, language contact, minority French
Languages: French, English

BILINGUAL SPEECH PRODUCTION PROVIDES UNIQUE LINGUISTIC PHENOMENA that cannot be observed in monolingual speakers. The study of bilingualism is complex and studied across many domains (i.e., linguistics, psychology, cognitive science, speech-language pathology). Bilingual communities, such as the ones in Canada, are seen as big research fields for scientists interested in the study of bilingualism. In Canada, where 17,9% of the population speaks both official languages (Statistics Canada 2016), bilingual communities provide rich research fields for work in this area. A topic that has preoccupied linguists studying bilingualism is the sound system. Do bilinguals have separate phonological systems or one merged system? Is there an inter-systemic influence of the two spoken languages? The following case-study seeks to explore these questions by

focusing on four participants living in southwestern Ontario, a region where French is the minority language and the majority of societal contexts are dominated by English.

Previous studies on language contact in Ontario have dealt primarily with morpho-syntax (Mougeon 2004, Mougeon & Béniak 1991, Mougeon, Nadasdi, & Rehner 2005, Nadasdi 2005), lexicon (Mougeon 1993, Mougeon & Nadasdi 1998, Poplack & Levey 2011), and prosody (Cichocki & Lepetit 1986, Kaminskaïa 2015, Kaminskaïa & Poiré 2012, Kaminskaïa, Tennant, & Russell 2016, Tremblay 2007). However, few have focused on the phonetic aspects of language contact, an important parameter in the study of bilingualism. One phonetic measure used to study bilingual speech production is voice-onset time (VOT). This acoustic cue specifically targets the six stop consonants, voiceless [p, t, k], and voiced [b, d, g], and measures the time elapsed between the release (burst) of the consonant and the onset of the following vowel. Table 1 indicates the differences in VOT values for both French and English.

Previous studies using VOT have shown that English has an anglicising effect on French pronunciation (Turner et al. 2014), and VOT values of French in contact with English are situated in a grey area between both languages (Fowler et al. 2008, Netelenbos et al. 2016). Furthermore, geographical location has been shown to have an effect on pronunciation (Kupisch et al. 2014, Lein et al. 2016).

The present study served to explore the production of French by bilinguals living in a language contact situation. Using VOT, all six stop consonants, [p, t, k, b, d, g], were analyzed in order to assess whether English has an effect on French spoken in southwestern Ontario.

	French	**English**
Voiceless [p, t, k]	• Short-lag voicing • Values between 0 and 40 milliseconds	• Long-lag voicing • Values between 65 and 120 milliseconds
Voiced [b, d, g]	• Pre-voicing • Negative values between -120 and -50 milliseconds	• Short-lag voicing • Values between 0 and 20 milliseconds

Table 1. VOT characteristics and values (French and English).

1. CORPUS AND METHODOLOGY. Data was split into two separate corpora. Corpus 1 contains recordings of four Franco-Ontarians from Windsor, Ontario, collected by François Poiré and

Stephanie Kelly. It is part of a larger database called *Phonologie du français contemporain* (Durand et al. 2002, 2009). Corpus 2 contains recordings of two second-language learners from Waterloo, Ontario, collected by Svetlana Kaminskaïa. Table 2 displays participant information from both corpora. Participants in Corpus 1 differ by sex and age; there are two males and two females of differing age groups (younger speakers and older speakers). Corpus 2 contains one young male and one young female and is used as a control to compare VOT values with the two young speakers of the first corpus. In both cases, participants are living in an English dominant environment where French is considered the minority language.

Both groups of speakers were recorded reading a French text entitled "Le Premier Ministre ira-t-il à Beaulieu?" (see Appendix 1). The text contains 182 analyzable tokens: 22 [p], 43 [t], 38 [k], 15 [b], 62 [d], and 2 [g]. However, several tokens were not analyzed due to absence of burst, affrication, or assibilation. Recordings were analyzed in Praat (Boersma & Weenink 2018) to permit extraction of VOT for acoustic analysis. VOT was measured by first identifying the burst, followed by the onset of the vowel.

Corpus 1 (Franco-Ontarians)	**Sex**	**Age**
Rachelle[1]	Female	17
Maxime	Male	21
Henriette	Female	65
Roger	Male	66
Corpus 2 (Second-language learners)		
Joel	Male	21
Mary	Female	21

Table 2. Participant information from both corpora.

2. RESULTS (CORPUS 1). In order to determine whether there exists a difference across speakers in Corpus 1, a repeated measures ANOVAs was conducted with VOT values produced by the speakers as the dependent variable. There was a significant main effect of speaker ($F(3, 468) = 25.06$, $p < .001$). Follow up pairwise comparisons indicated a significant difference between the VOT values of all speakers ($p < .05$), with the exception of Maxime and Henriette ($p = .346$). Table 3 displays all means and standard deviations for all four speakers. Initial observation of the means

[1] All participants were given pseudonyms to retain anonymity.

indicates that the VOT production falls within the norm for French, with the voiceless consonants falling between 0-50 ms (short-lag), and the voiced consonants being pre-voiced (negative values). Moreover, results from non-parametric tests indicate a significant difference between voiced and voiceless consonants for all speakers ($p < .05$).

	Voiceless			**Voiced**		
	[p]	[t]	[k]	[b]	[d]	[g]
Occur-rences	86	163	160	56	232	5
Mean (s)	.02	.04	.05	-.03	-.02	-.01
Standard deviation	.03	.02	.02	.03	.03	.03

Table 3. Mean and standard deviation of VOT for all four speakers.

A one-way ANOVA was conducted in order to see which place of articulation (bilabial, dental, or velar) differed between the individual speakers. The dependent variable was VOT values and the independent variable was place of articulation. There was a significant main effect of place of articulation for Rachelle, Maxime, and Henriette ($p < .001$), but not for Roger ($p = .077$). Follow up post-hoc tests revealed significant differences between all places of articulation ($p < .05$). Figures 1, 2 and 3 show graphical depictions of VOT values per place of articulation for all four speakers.

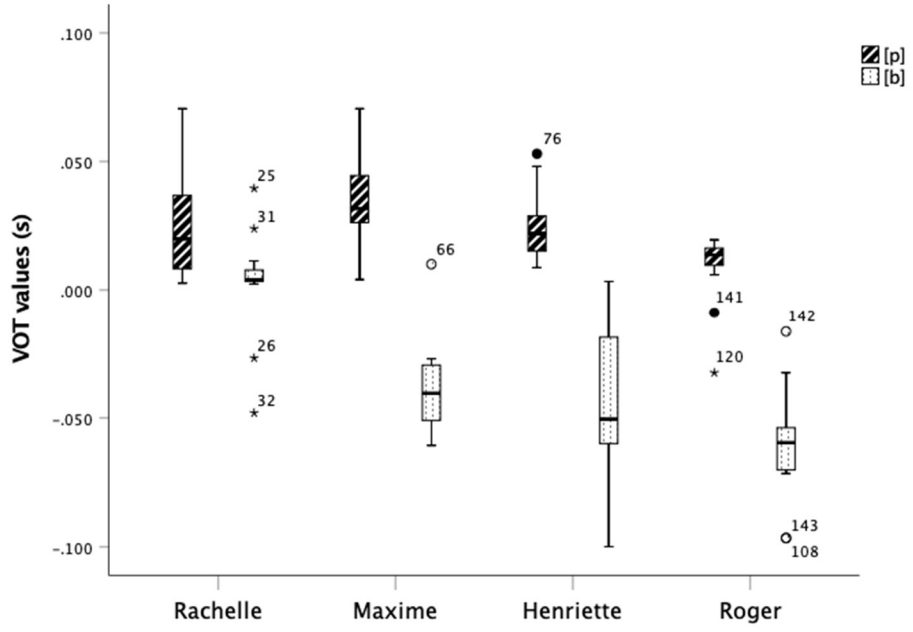

Figure 1. VOT values (s) for bilabial consonants [p-b] of all four speakers.

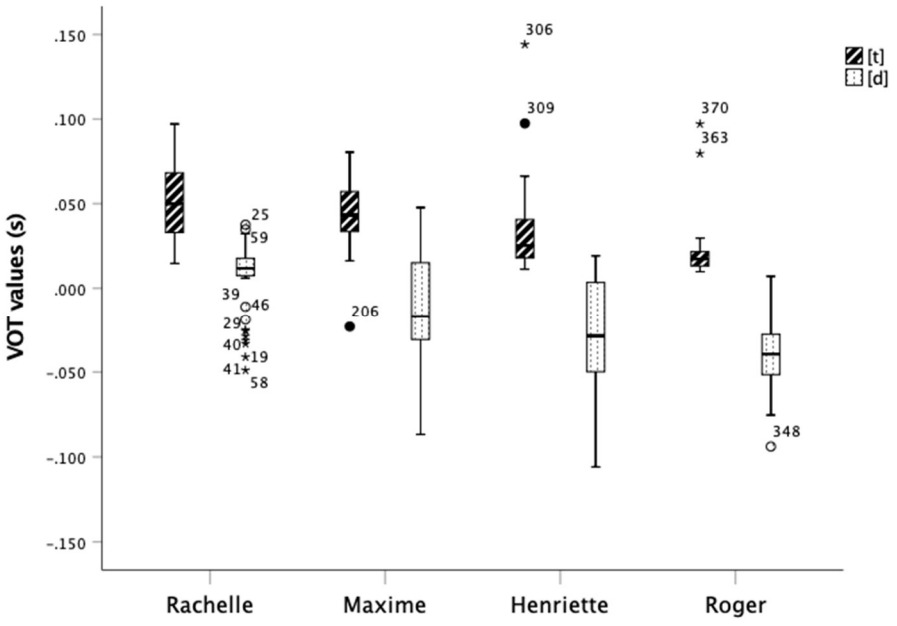

Figure 2. VOT values (s) for dental consonants [t-d] of all four speakers.

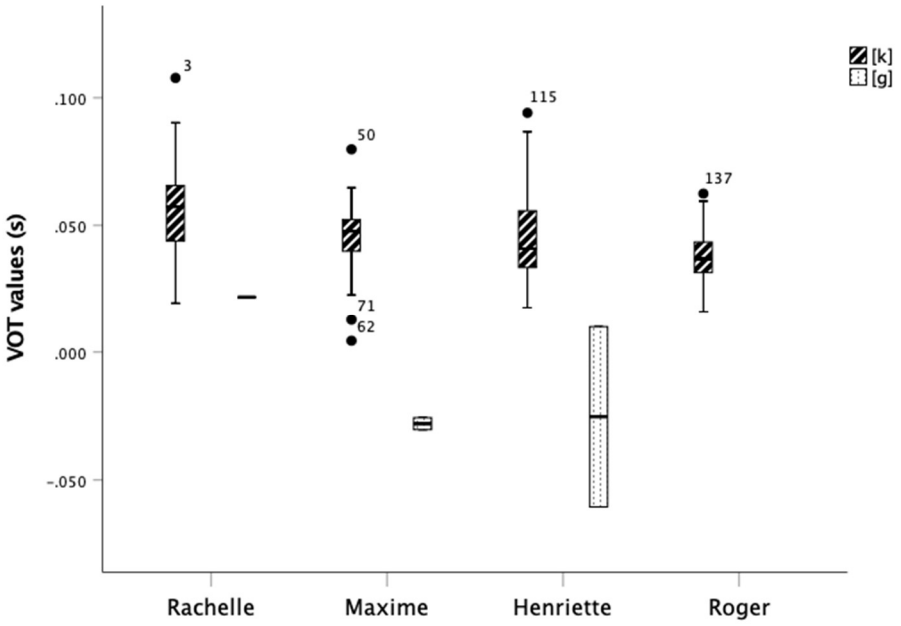

Figure 3. VOT values (s) for velar consonants [k-g] of all four speakers.

2.1. RESULTS (CORPUS 2). In order to determine if there is a significant difference across speakers, a repeated measures ANOVA was conducted with VOT values as the dependent variable. No significant differences were revealed in VOT production between the two speakers ($F(1, 47) = .10$, $p = .324$). Table 4 displays means and standard deviations for both speakers. Results from non-parametric tests indicate no significant difference in voiced and voiceless consonants for both speakers ($p = .295$).

	Voiceless			**Voiced**		
	[p]	[t]	[k]	[b]	[d]	[g]
Occurrences	9	21	20	13	35	0
Mean (s)	.03	.05	.05	.01	.02	N/A
Standard deviation	.02	.02	.02	.04	.07	N/A

Table 4. Mean and standard deviation of VOT for both speakers.

Observation of the means and standard deviations demonstrates English-like VOT values for the French production, with means falling between 30-50 ms for voiceless tokens and 10-20 ms for voiced tokens (no-prevoicing).

A one-way ANOVA was conducted in order to see which place of articulation (bilabial, dental, or velar) differed between the speakers. The dependent variable was VOT values and the independent variable was place of articulation. There was a significant main effect of place of articulation for both speakers ($p < .05$). Follow-up post-hoc tests revealed significant differences between all places of articulation ($p < .05$). Figures 4 and 5 show graphical depictions of VOT values per place of articulation for both speakers.

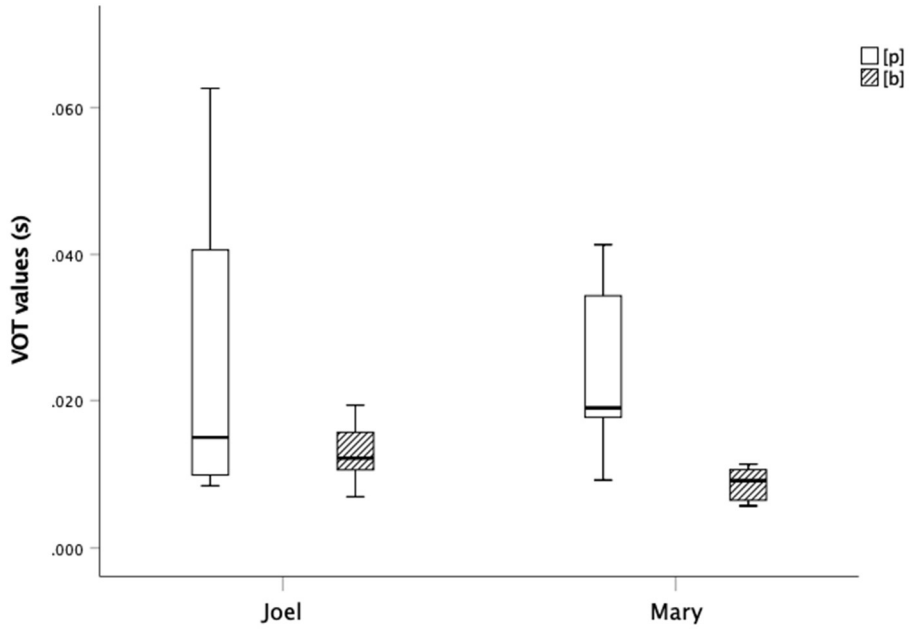

Figure 4. VOT values (s) for bilabial consonants [p-b] of both speakers.

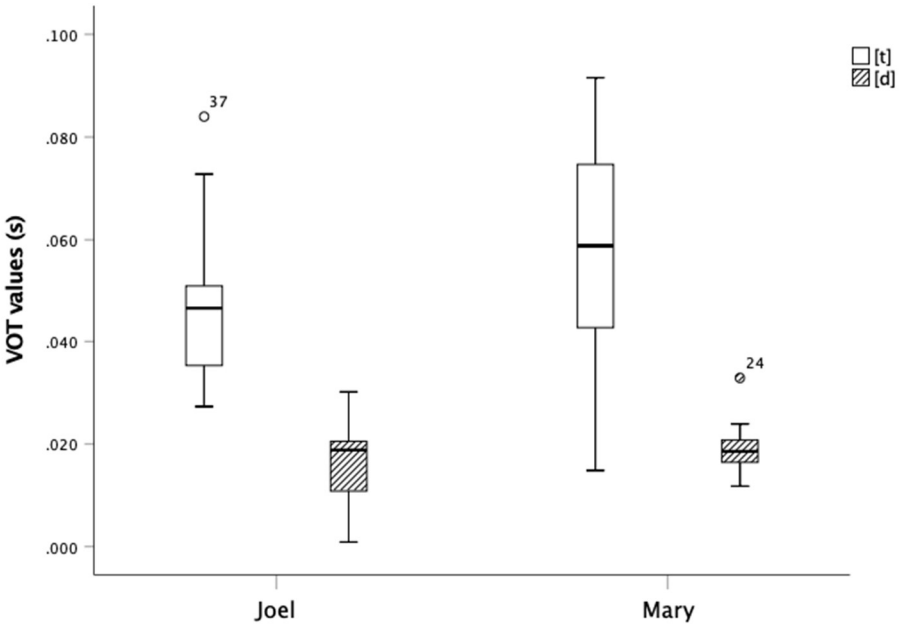

Figure 5. VOT values (s) for dental consonants [t-d] of both speakers.

3. DISCUSSION AND CONCLUSION. The objectives set forth in the present case study were to analyze the effects of language contact on the production of French in two corpora of bilingual speakers (French L1 and French L2). By evaluating VOT values in their bilabial, dental, and velar productions, it was possible to address whether the contact with English had an effect on their French.

The findings indicated that VOT values in Corpus 1 (French L1) were significantly different across all four speakers. However, when examining the overall productions of VOT values for voiced and voiceless stops, values were produced following the standard pattern of French with the exception of the voiced consonants of the youngest speaker, Rachelle. This finding suggests that she is experiencing a stronger effect of language contact. This result is consistent with another study of French in contact (Turner et al. 2014). We speculate that one important factor contributing to the lack of native-like VOTs in Rachelle's voiced production is the minority status of French in Ontario. Although Rachelle's exposure to French mirrors that of the other French L1 participants, she is younger and we could therefore infer that she has more exposure to the English language through various outlets (i.e., her peers, media, and technology).

With respect to Corpus 2 (French L2), results indicated that VOT values were not different across both speakers. Additionally, results of overall VOT production showed no significant difference in voiced and voiceless productions. The lack of difference in voicing suggests that speakers who learn French as a second language have difficulty separating their phonological systems. Examination of overall VOT productions of the French L2 group showed they were not prevoicing voiced stops, which is what is to be expected in French. Furthermore, their voiceless stops fell within the range of English stops. When comparing results of the French L1 and L2 groups, the

former is producing more native-like VOTs in French, with the exception of the youngest speaker, suggesting that age might be a possible factor in VOT production rather than the contact between languages.

Taken together, the findings of the present case study suggest that different groups of bilinguals are producing different VOT values. Bilinguals whose native language is French are producing more native-like VOT values for both voiced and voiceless stops, with the exception of the youngest speaker. Younger bilinguals who speak French as a second language are producing English-like VOT values for both sets of stops. The current study suggests that additional factors, such as age, may be influencing speech production, thus amplifying the contact factor experienced by the youngest speakers. Investigating the VOT production in older L2 speakers will also be an important direction for future research. Additionally, further analyses are required in order to properly examine all socio-phonetic factors involved.

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APPENDIX 1

Le Premier Ministre ira-t-il à Beaulieu?

Le village de Beaulieu est en grand émoi. Le Premier Ministre a en effet décidé de faire étape dans cette commune au cours de sa tournée de la région en fin d'année. Jusqu'ici les seuls titres de gloire de Beaulieu étaient son vin blanc sec, ses chemises en soie, un champion local de course à pied (Louis Garret), quatrième aux jeux olympiques de Berlin en 1936, et plus récemment, son usine de pâtes italiennes. Qu'est-ce qui a donc valu à Beaulieu ce grand honneur ? Le hasard, tout bêtement, car le Premier Ministre, lassé des circuits habituels7 qui tournaient toujours autour des mêmes villes, veut découvrir ce qu'il appelle "la campagne profonde". Le maire de Beaulieu - Marc Blanc- est en revanche très inquiet. La cote du Premier Ministre ne cesse de baisser depuis les élections. Comment, en plus, éviter les manifestations qui ont eu tendance à se multiplier lors des visites officielles ? La côte escarpée du Mont Saint-Pierre qui mène au village connaît des barrages chaque fois que les opposants de tous les bords manifestent leur colère. D'un autre côté, à chaque voyage du Premier Ministre, le gouvernement prend contact avec la préfecture la plus proche et s'assure que tout est fait pour le protéger. Or, un gros détachement de police, comme on en a vu à Jonquière, et des vérifications d'identité risquent de provoquer une explosion. Un jeune membre de l'opposition aurait déclaré : "Dans le coin, on est jaloux de notre liberté. S'il faut montrer patte blanche pour circuler, nous ne répondons pas de la réaction des gens du pays. Nous avons le soutien du village entier." De plus, quelques articles parus dans La Dépêche du Centre, L'Express, Ouest Liberté et Le Nouvel Observateur indiqueraient que des activistes des communes voisines préparent une journée chaude au Premier Ministre. Quelques fanatiques auraient même entamé un jeûne prolongé dans l'église de Saint Martinville. Le sympathique maire de Beaulieu ne sait plus à quel saint se vouer. Il a le sentiment de se trouver dans une impasse stupide. Il s'est, en désespoir de cause, décidé à écrire au Premier Ministre pour vérifier si son village était vraiment une étape nécessaire dans la tournée prévue. Beaulieu préfère être inconnue et tranquille plutôt que de se trouver au centre d'une bataille politique dont, par la télévision, seraient témoins des millions d'électeurs.

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TWO CASES OF SUBJECTIVITY IN ACTION: DRAMA SO AND THE ENGLISH PROGRESSIVE REVISITED

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Abstract: In this paper we propose that Drama SO (Irwin 2014) as in *This is SO Iceland* and the English progressive are reified instances of subjectivity. *Subjectivity* as we define it here covers the fact that a particular element or construction requires reference to the speaker in its interpretation. Support of our argument comes from the common core feature of these two constructions: each has a speaker-involved epistemic relationship to the proposition it expresses. The speaker's stance in each construction is in relation to certainty, to reality, of the proposition, or to the source of the speaker's knowledge. Besides, we discuss how both Drama SO and the progressive have been developing their own epistemic senses despite the difference in their grammatical category.

Keywords: Subjectivity, Drama SO, the progressive, interpersonal component, Cognitive Grammar
Languages: English

OUR STUDY, SUBSTANTIATED BY SAMPLES DRAWN FROM LARGE CORPORA including COCA, questions why a formal analysis like Irwin's (2014) is untenable, which assumes a degree word *totally*, be it implicit and not at the surface, to be the head of a DegP in syntax. Instead, following a distinction made by De Smet & Verstraete (2006), etc., we argue that one type of subjectivity functions in the *ideational* component of the utterance, and another type in the *interpersonal* component. Drama SO realises the latter, therefore is an instance of the pragmatic subjective *so*.[1] The same *so* expresses a speaker-involved relationship in the speech act as well as a non-speaker-involved relationship in the (propositional) content of the utterance. These scalar modifiers ferret out a pragmatic attitude that relates the speaker to the propositional content, as opposed to a gradable property within the propositional content itself.

[1] As suggested by Irwin (2014), throughout this paper Drama SO is represented as Drama SO with caplitalised SO simply because the *so* in this usage must be always pronounced with phrasal stress.

Also salient to the discussion is the claim that the semantics of the English progressive is associated with the *interpersonal* (epistemic) as well as *ideational* (aspectual) component of an utterance. Contra the conventional temporal analysis of this construction, this paper proposes, building on De Wit & Brisard (2014) among others, that the progressive, like Drama SO, codes a speaker's subjective evaluation of a given situation, implying that a given proposition does not conform to his/her pre-established world knowledge. Our epistemic analysis will plausibly explain the open questions why the progressive allows some idiosyncratic usages explicated in what follows and bears the meaning of *emotional colouring* and *politeness*.

1. A WORKING DEFINITION OF SUBJECTIVITY IN THIS STUDY. The notion of subjectivity is highly deployed in the recent linguistics for the last few decades. In spite of the growing popularity of the notion and of the pervasiveness of subjectification phenomena within or across languages, such notions remain relatively vague and elusive, still lacking agreed-upon definitions. While the array of definitions being available in the current literature from Halliday through Langacker to Tarugott, Traugott defines subjective expressions as those "the prime semantic or pragmatic meaning of which is to index speaker attitude or viewpoint" (cf. Traugott 2010: 32). In this paper subjectivity is understood and used in Traugott's sense simply because it seems to well describe the related phenomena. For instance, the distinction is made between semantically subjective adjectives (e.g. *happy*, *fascinating*, *generous*) and semantically more objective adjectives (e.g. *red*, *round*, *empty*). Importantly, subjectivity, as defined by Traugott, is considered to constitute a scale rather than a dichotomy. To give another example, the statement *She wrote a poem* is a statement of (presumed) fact. The statement *She wrote a* beautiful/terrible *poem* mixes a statement of fact with a speaker's value judgment. We can see how, according to Traugotts's definition, the latter statement, which requires a value judgment of the speaker, would be more subjective, i.e., more situated in a person's 'belief state/attitude', than the former, which, after all, is merely a description of a person's activity. Thus, our focus is specifically on form-meaning pairs that encode subjectivity instead of the more general kind of subjectivity discussed by Benveniste (cf. Benveniste 1966: 261)[2].

Refining subjectivity and subjectification schematised in Contemporary English, we aim to demonstrate the potential of our approach for throwing new light on an analysis of Drama SO and the progressive form.

2. TWO CASE STUDIES. In what follows, we present two case-studies from Contemporary English, one exploring subjectivity realized by Drama SO, the other exploring the subjective meaning expressed by the progressive form, which has been subject to the temporally-driven accounts.

[2] Benveniste (1966: 261) remarks: " [Le langage] est marqué si profondément par l'expression de la subjectivité qu'on se demande si, autrement construit, il pourrait encore fonctionner et s'appeler langage." 'Language is marked so deeply with the expression of subjectivity that one might ask if it could still function and be called language if it were constructed otherwise.' (trans. Mary Elizabeth Meek (Coral Gables, FL: University of Miami Press), 225.

2.1. DRAMA SO: A NEW USAGE. It has been noticed for scores of years that the little word *so* has been changing in the way it is being used on both sides of the Atlantic and elsewhere where English is a native language. Clear cases of this new use of the word *so* occur in syntactic contexts that otherwise are not available for intensifiers like *so* (e.g., with dates and similar time expressions). Such usage is considered incorrect by many speakers (cf., Carter & McCarthy 2006). The word *so* in this use operates differently in a speaker-listener world, and we need a new term Drama SO.

2.1.1. PREAMBLE. From the viewpoint of subjectivity no account has been provided so far to approach the Drama SO constructions in Contemporary English. The goal of this section is to propose an analysis by arguing that Drama SO is intrinsically perspectival in the sense that it expresses a relation established by the speaker (the judge) between the speaker (the judge) and the content of the sentence (i.e., event/state, proposition, speech act) (cf., Charnavel 2019).

2.1.2. ORDINARY DEGREE *SO*. *So* is a degree adverb, that is to say, it modifies something gradable, usually adjectives and adverbs (cf., Irwin 2014). Traditionally, *so* could only modify a phrase whose meaning involves a range of possible degrees or intensities as illustrated in (1); a phrase with this property is said to be gradable.

(1) a. That is <u>*so* awesome</u>. (Kenter *et al*. 2007)
b. it's true nothing became <u>*so* inflated here</u>. (BNC: EBT 2527)[3]

Apparently, this *so* features a strong tendency to be used in propositions containing expressions contingent on a subjective assessment realized both by adjectives and adverbs on the part of the speaker.

2.1.3. DRAMA SO: WHAT IS IT? However, there are cases where the *so* in this construction appears to modify a non-gradable predicate (contra the usual degree *so*, which needs a gradable item) like (2)-(5).

(2) Robbie Graham: I speed-dialed my mother by mistake.
Shrug: Oh, you are <u>SO dead</u>. (*The Getaway*)
(3) Ha! Mecha is <u>*SO* last year</u>. (*Chaos at the Earth's Core*)
(4) I can hardly remember the World Series because I was <u>SO out of it.</u> (COCA[4])
(5) Children: You're <u>SO getting a babysitter</u>. (COCA)

[3] As common practice, BNC stands for British National Corpus, which is available online via Lancaster University. References below are abbreviated to BNC.
[4] COCA represents *The Contemporary Corpus of American English* created and developed by Mark Davies at Brigham Young University, UT, USA.

In these examples, the *so* does not seem to intensify a degree phrase following it, because the phrase does not imply a degree scale of any kind.

This new usage of *so*, called Drama SO in Irwin (2009), or variously referred to as 'Gen X *so*' (Zwicky 2006, 2010), and 'Speech act SO' (Potts 2005) in the literature, gained prominence starting in the 1980's in the US (cf., Gaston 2011).

The research question we are going to solve is how we can describe and explain the idiosyncratic behaviours of Drama SO in contrast to the ordinary degree *so*.

2.1.4. FEATURES OF DRAMA SO. One of the unique features of Drama SO is that the *so* in this construction appears to modify a non-gradable predicate as opposed to the usual degree *so*, which needs a gradable word: in (6) *so* is used with VPs of various types, (6) illustrating different tenses, (6) illustrating various event types, and (6) illustrating other types.

(6) Drama SO (+ VP)
   a. I SO know what you mean. (*The Goodbye Girl*)
   b. Parker SO wanted to be included. (Zwicky 2006)
   c. I SO rock at this. (Kenter, D. *et al*. 2007)
   d. I SO need lessons from you on how to be cool. (Zwicky 2012)
   e. and [he] SO completed the transformation of the entire parish except his own park. (BNC FAG265)
   f. I SO took out the trash. (Irwin 2014)
   g. Okay. I am SO canceling that hay ride with Michael Vincent. (*The Final Chapter: The Steal in the Wheels*)
   h. I SO should call my parents tonight./I should SO call my parents tonight. (Gaston 2011)
   i. We SO don't have time. (*The Harvest*)

Similar cases are shown in (7): in (7) it is used with predicative DPs; in (7c,d,e) it is used with PPs; in (7) it is used even with a CP.

(7) Drama SO with non-gradable predicates (non-VP: DP, PP, CP) :
   a. This is SO Iceland. (Zwicky 2006)
   b. It's SO you. (Zwicky 2006)
   c. Oooh! You are SO in the Doghouse for that one, Fitzy!
      (https://tvrecappersanonymous.wordpress.com/2011/07/14/text-messages-from-beyond-the-grave-a-recap-of-pretty-little-liars-the-devil-you-know/)
   d. Chris is SO/*so next in line. (Potts 2005: 130)
   e. Her outfit was SO 'I don't care anymore'. (Irwin 2009)

By extension, *so* could also be used with negated phrases, as exemplified in (8), which will be explained more in detail later.

(8) Drama SO with non-gradable predicates (non-VP: negated phrase) :

a. This is SO not amnesty. (*New York Times* 6 April 2006)
b. A pizza delivery man who can't find a campus address is SO not my problem. (Zwicky 2006)
c. It was SO not funny. (Huddleston & Pullum 2002: 807, fn. 9)

Further examples in (9) illustrate Drama SO used with non-gradable predicates, where *so* occurs with various 'Time Phrases'.

(9) Drama SO with non-gradable predicates (non-VP: Time Phrase) :
a. Bulimia's SO '86. (D. Waters, *Heathers* (film script) 14 *Grow up, Heather*)
b. That is, like, SO 1980s. (Zwicky 2006)
c. Chicago is SO Two Years Ago. (Tune title by Fall Out)
d. The idea is SO last summer. (*The Telegraph* 20 Jul 2002)
e. Andy Rooney, like my 9-year-old says, is SO last month. (http://bbs.clutchfans.net/showthread.php?t=42712, 4/2/2015)

2.1.5. WHAT DICTIONARIES AND GRAMMARS TELL ABOUT DRAMA SO. In this subsection, we will have a quick look at what British dictionaries and reference grammars tell about Drama SO. First, *OED*, labelling this use as "slang in the US English", gives the first citation of this Drama SO as early as in 1923, followed by a second citation collected with a break of 56 years.

Next, British Dictionaries *LDOCE Online* and its current 6th edition describe this use as quoted in (10) with illustrative examples.

(10) "something is so last year" (s.v., *unfashionable*) informal used when saying that something is now very unfashionable – a very informal use
(a) Blogging is already starting to feel *so last year*.

A similar description is observed in *Cambridge Grammar of English (CGE)*, which focusses on the spoken variety of English as reproduced in (11).

(11) British English: *CGE* (s.v., Adverb *so* 71a)

Younger speakers also use *so* as an intensifier with noun phrases, though such usage is considered incorrect by many speakers:
(a) That phone is *so last week*. [teenager commenting on a mobile phone] (to mean 'It is out of date, not the latest model'.)
(b) That's *so Sandra*. I knew she wouldn't help us. (to mean 'That's typical of Sandra'.)

Thus, that this use of *so* is not limited to American English but an increase use has been noted and recorded in British English as well.

2.1.6. PREVIOUS STUDIES ON THE DEGREE *SO*. Before going into more detail about the problems surrounding the syntax and semantics of the Drama SO construction, we will first discuss a couple of previous studies to illustrate problems and the puzzles of the degree *so* and the related constructions.

2.1.6.1. WEE & YING (2008). Wee & Ying (2008) present a pragmatic and sociolinguistic analysis of what they call 'So Time' construction. It does not seem that their study explains everything about this construction and ends up with a superficial analysis of the Drama SO construction, failing to show that the 'So Time' construction is in fact an instance of the Drama SO construction. Now we turn to Irwin (2014), a much more interesting and challenging analysis.

2.1.6.2. IRWIN (2014) AND HER PROBLEMS. Irwin (2014) assumes a degree word *totally*, be it implicit or not at the surface, to be the head of a DegP in syntax. On this analysis, the *so* of Drama SO is an ordinary degree word, therefore it needs a scalable QP composed of Q and AdvP <totally>. What Irwin (2014) proposes for a sentence like *I SO could …* is that Drama SO is best treated as containing the speaker-oriented adverb *totally*, which may or may not be silent in a Drama SO sentence. Ideally this sort of analysis should make accurate predictions of the behaviours of Drama SO, which is triggered by the syntactically posited speaker-oriented AdvP <totally>. As will be made clear, this is not the case.

Be that as it may, Irwin (2014) displays a number of serious problems such as how we can ensure that AdvP <totally> is actually assumed to occupy a specifier position somewhere in the syntactic structures of Drama SO sentences. Unless there is the exact matching in syntactic behaviours between *totally* and Drama SO, her assumption would lead to an ad hoc idea, to say the least. No doubt there is a significant contrast in behaviour between the *so* of Drama SO and *totally* as seen in (12) and (13). In the interaction (12), Drama SO on its own cannot answer a question uttered by Speaker A, while *definitely*, *TOTALLY*, and *SO totally* can (Irwin 2014: (21)).

(12) Drama SO vs *definitely* and *totally* in question-answer pairs
A: Is Mike going to the Depeche Mode concert?
B: Definitely!
B': *SO!
B": TOTALLY!
B"': SO totally!

The data in (12) show that *totally* is an item which makes an answer acceptable in (12) since "TOTALLY" and "SO totally" are both acceptable, while B's answer without *totally* is not. Since Irwin's (2014) analysis of Drama SO assumes *totally* <totally> to exist somewhere in syntax, it will automatically license B's answer "SO" as well, which in fact is not the case.

A careful look at the examples in (13) reveals another difference between Drama SO and *totally*: the fact that non-factive predicates like *believe* offer a contrast in grammaticality between *totally* and SO (TOTALLY) (Irwin 2014: (85)).

(13) a. *Jamie believes that everyone is SO wearing gray this season.
b. *Jamie believes that everyone is SO TOTALLY wearing gray this season.
c. Jamie believes that everyone is TOTALLY wearing gray this season.

Irwin (2014) argues that (13)ab are ungrammatical because the property of Drama SO requires it to always refer to the speaker in an embedding clause like (13)a, which is not possible in (13)a. In (13)a, the speaker-oriented *so* is linked with the main clause subject rather than the speaker, while (13)c is grammatical with *totally*, because the unique property of the speaker-oriented *totally* allows itself not to always refer to the speaker and it is considered, in this case, to link with the subject of the main clause rather than the speaker of the sentence.

The facts in (12) and (13) indicate that Irwin's (2014) proposal turns out not to be quite the case or, even worse, it will incorrectly predict that the two words, i.e., Drama SO and *totally,* behave in parallel with each other in syntax. The difference between Drama SO and *totally* in (12) and (13) confirms that these two words are not the same in their syntax and semantics. Given this fact, there would be no theoretical justification to introduce an AdvP<totally> in syntax and such a syntactic structure as Irwin suggests is therefore not tenable. For this reason, formal analyses like Irwin (2014) do not work for Drama SO. This is the point where our functional analysis is deemed capable enough to describe the behaviours of Drama SO adequately.

2.1.7. DRAMA SO IS A POSITIVE POLARITY ITEM (PPI). This subsection highlights two convincing pieces of evidence that Drama SO is a Positive Polarity Item (PPI). We would argue that Drama SO is not allowed to occur both in the scope of negation and a negative quantifier.

2.1.7.1. DRAMA SO AND THE SCOPE OF NEGATION. First of all, Drama SO cannot occur within the scope of sentential negation as in (14)a. By contrast, the ordinary degree *so* CAN as in (14)b.

(14) Drama SO, the ordinary degree *so*, and sentential negation
a. *I'm not SO going to study tonight. (Irwin 2014: (61a))
b. I'm not *so* happy about Jamie's new boyfriend. (Irwin 2014: (63a))

Compared to its being unable to appear within (or under) the scope of sentential negation, Drama SO appears above the scope of negation as in (15).

(15) Drama SO appears above negation
a. I'm SO not going to study tonight. (Irwin 2014: (61b))
b. I SO don't want to go to class. (Irwin 2014: (65a))

Similarly, Drama SO cannot be allowed within the scope of the negative DP subject as shown in (16). As in (16), by contrast, the ordinary degree *so* CAN.

(16) Negative DP subject: no one

a. *No one is SO wearing flip-flops this season. (Irwin: 2014: (60a))
b. NOT $\exists xW(x)$, where *W* stands for 'being SO wearing flip-flops this season'[5]
c. No one is so young and so villainous. (COCA)

The data in (14)-(16) clearly show that Drama SO cannot appear within the scope of a negative item. And the question is why. Our answer would be because it is an instance of PPI, which generally cannot appear within the scope of negation.

2.1.7.2. DRAMA SO IN QUESTIONS. The second piece of evidence comes from the fact that Drama SO cannot be questioned. In other words, it IS always used in a declarative clause, and is strongly degraded in yes-no (or information-seeking) questions regardless of the kind of question operators in (17) and (18) or WH- questions in (19).

(17) a. Mike is SO going to that Depeche Mode concert.
b. *Is Mike SO going to that Depeche Mode concert? (Irwin 2014: (72))

(18) a. Jamie should SO break up with that guy.
b. *Should Jamie SO break up with that guy? (Irwin 2014: (73))

(19) a. *When is Jamie SO gonna break up with that guy?
b. *How is Jamie SO gonna break up with that guy? (Irwin 2014: (70))

Conversely, the degree *so* can appear in all types of questions as shown in (20) (cf., Gaston 2011: (9)).

(20) a. What are you so sad about?
b. Is Jamie really so happy with that guy?

Notice, incidentally, that Drama SO is sometimes acceptable in negative questions but this happens only when certain conditions are met as demonstrated in (21).[6]

(21) Isn't Socialism SO totally cool? (Gaston 2011: (8))

Why is it that Drama SO can occur in a negative yes-no question like (21)? Because it expects a positive answer or agreement from the addressee. If we compare (21) with the normal yes-no/WH-questions as in (17)-(19), the former type of question carries the positive implication intended by the speaker, which is in accordance with the function of Drama SO. Thus, it can be used in questions, as shown in (21). The apparent question (21) really carries the affirmative meaning and does

[5] (16) represents a sort of semantic structures corresponding to (16).
[6] The questions of this type are called 'rhetorical questions'.

not function as a question, which is precisely the reason why Drama SO can appear in this environment.

The second evidence also serves to confirm that Drama SO is a PPI because it cannot appear in normal questions (cf., McCready & Kaufmann 2013). Why Drama SO is a PPI? This is simply because it expresses the speaker's strong commitment to the truth of the proposition contained in a sentence/utterance.

2.1.8. INTERIM CONCLUSION. Our discussion so far has shown that the properties of Drama SO belong to a variety of expressions, which despite their substantial semantic and pragmatic differences between, share the common feature of realizing via speech act a property of the subjective relationship between the speaker and the propositional content, rather than the relation within the propositional content *per se*. In this sense, Drama SO expresses pragmatic subjectivity as opposed to semantic subjectivity.

2.1.9. FINAL REMARKS. Overall, we find that our Drama SO constructions are designed to illustrate the following key features:

- Drama SO is a degree adverb.
- Drama SO does not have the syntactic function of the ordinary degree *so*.
- Drama SO functions semantically outside (or beyond) the propositional content.
- Drama SO is, instead, intended to convey the speaker's quite strong opinion that the speaker evaluates highly and commits to the truth of the sentence (or the speaker's positive attitude towards the situation described by the sentence).
- Drama SO DOES have the subjective meaning in our sense.

Based on these features, we propose that a lexical meaning of Drama SO can be characterized as in (22). On this characterisation, the commitment by the speaker to the truth of the sentence is represented by a semantic meta verb AGREE.

(22) Lexical Meaning of Drama SO
'I (i.e., the speaker) AGREE, to a degree that is higher than some contextual standard, to the content of the sentence/utterance'.

We have argued that one type of subjectivity functions in the *ideational* component of the utterance (pragmatic subjectivity), and another type in the *interpersonal* component (semantic subjectivity). Drama SO realizes the latter, therefore achieves pragmatic subjectivity. Although these two dimensions pertain to separate linguistic levels – the level of the lexical semantics and a higher pragmatic level, they share an isomorphic scalar structure, which enables them to be 'measured'.

2.2. PROGRESSIVE, EPISTEMIC USAGES. This subsection explores how epistemic meanings are expressed by the English progressive.

2.2.1. ON EPISTEMIC PROGRESSIVE. As is commonly known, the semantics of English progressive has been traditionally defined from temporal or aspectual perspective. However, the progressive can also realize subjectivity, expressing a speaker's modal attitude toward a proposition.

Mainly building on the analyses that Woisetschlaeger (1976), and De Smet & Verstraete (2006) have put forward, this paper further proposes a unified epistemic analysis covering idiosyncratic usages such as *identity of two acts* (Jespersen 1931: 187), *emotional colouring* (Jespersen 1931: 180), and *a special polite use* (Leech 2004: 29), pointing out that all of such idiosyncratic meanings are attributable to subjectivity. By way of illustration, consider the following non-temporal usage of the progressive:

(23) a. The statue of Tom Paine *is standing* at the corner of Kirkland and College, and nobody thinks the deadlocked City Council will ever find an appropriate place for it.
b. The statue of Tom Paine now *stands* at the corner of Kirkland and College, but everybody expects the new Administration to move it. Woisetschlaeger (1976:74-75)

What is interesting about (23)a is that the situation is reported in the progressive in the temporally unbounded context, where the simple form would be preferred in the temporal analysis. On the other hand, the situation in (23) is denoted by the simple form in the temporally bounded context, where the progressive would be expected. The progressive/simple form alternation here cannot be explained by the temporal analysis.

Following Woisetschlaeger (1976), the appropriateness of (23) can be explicable in terms of the speaker-involved epistemic meaning of the progressive. The progressive in (23) marks the speaker's epistemic attitude toward the physical position of the statue: the speaker subjectively judges that its position does not conform to his or her pre-established knowledge about the statue. This subjective attitude is grammatically marked by the progressive.

The point is also illustrated in the following example of an experiment in chemistry, where a speaker is giving a description of the experiment to a listener who cannot see what is going on (e.g., in the telecommunicative situation):

(24) And now he *takes* the flask of sodium nitrates, and *adds* its contents to the mixture in the beaker. Now he *places* the beaker on the bunsen burner, and *heats* its contents to a vigorous boil. Now he *is taking* his handkerchief out of his pockets. Now he *is wiping* the perspiration off his forehead. (Woisetschlaeger 1976: 92)

What is common to this example is that the speaker is describing what is going on at the moment of speaking, but interestingly a switch from the simple form to the progressive. The alternation is due to whether a given action constitutes an essential part of a large scenario (in this case, an experiment in a chemistry class). The point is that by using the simple form the speaker is not describing what he is observing, but reading out a pre-established scenario about a chemistry experiment. As Woisetschlaeger (1976) rightly observes, *taking one's handkerchief* and *wiping the perspiration* are irrelevant to the development of an experiment, and therefore we can say that by

employing the progressive the speaker is hesitatingly judging that a certain action is not important part of the experiment. Thus, once again, not an aspectual information but the speaker's epistemic attitude is conveyed by the progressive.

2.2.2. ON IDENTITY OF TWO ACTS. When dealing with the semantics of the progressive, to our knowledge, little attention has been devoted until recently to the usage traditionally called 'identity of two acts' (Jespersen 1931: 187), where the progressive gives a certain reinterpretation to a statement already made:

(25) If I should go to one of the tea-parties in a dressing-gown and slippers, I should *be insulting* society, and *eating* peas with my knife. (Jespersen 1931:187)

In (25), as Jespersen (1931:187) suggests, the progressive *be insulting* implies identity of two acts (cf., *going to … would be insulting society*). Only a few scholars, among others, Behre (1961) and De Wit & Brisard (2014) have dealt with this usage. The scholars consistently claim that the progressive is referential in that it sums up or reinterprets a situation, an event or even a relevant context, making a comment on it.

Therefore, we argue that the usage *identity of two acts*, which has been discarded as a marginal usage of the progressive, is an example of not temporal, in fact, but epistemic progressive, through which a speaker expresses his or her subjectively reserved attitude toward a proposition and tentatively suggests a fresh categorisation of a previous experience.

2.2.3. ON EMOTIONAL COLOURING. In this sub-section, we shall show how our epistemic approach can successfully explain the effects of so-called *emotional colouring* (Jespersen 1931: 180) or other emotional contents such as *a surprise* or *mild reproach*, each of which can be conveyed by the progressive. In regard to this matter, our position is that such emotional meanings can naturally follow from subjectivity of the progressive. Any emotional meaning, be it positive or negative, can be implied because by resorting to the progressive form a speaker makes it explicit that a given situation or event is an accidental (not consolidated) part of his or her knowledge about the world. Therefore, emotionally positive or negative meanings can be contextually borne:

(26) a. I'*m* always *enjoying* your work because you're constantly bringing something new to the plate. Keep at it. (Kranich 2010:66)
b. He'*s* always *giving* her expensive presents. (Leech 2004:34)

An emotional meaning, be it positive or neutral, can be naturally accommodated in the present epistemic approach. It is possible that some events are repeatedly occurring, as desired, and a speaker can positively or neutrally categorize a certain situation.

2.2.4. ON A SPECIAL POLITE USE. Another usage of the progressive, which has been labelled as 'a special polite use' (Leech 2004: 29) can also be explicable in terms of our epistemic analysis:

(27) a. I'*m hoping* you'll give us some advice. (Leech 2004:29)
b. The driver swung around to stare at her appraisingly. "You're new in town?" "Yes." He nodded. "You'll *be needing* a job, I suppose." "Yes." (S. Sheldon, *The Other Side of Midnight*)

It has long been suggested that the progressive assumes the meaning of politeness, tentativeness, or a speaker's reserved attitude: it is employed as a polite way of expressing something, as in the examples in (27). In (27), which is an attested example from a work of Sidney Sheldon, the speaker's tentative attitude is expressed in the progressive (*be needing*). The driver is intentionally pretending to be a polite person and his polite attitude is achieved by the progressive. We propose that a polite or tentative statement can be achieved by counting on epistemic meaning of the progressive: through the progressive a speaker can naturally express a reserved attitude toward a proposition because the speaker is subjectively judging that a relevant proposition is not a part of his pre-established knowledge, suggesting that the statement is not established one, the consequence of which is that the statement takes on the meaning of politeness or reserved attitude.

2.2.5. ON THE EPISTEMIC APPROACH. As we have overviewed, it would be apparent that in the examples considered so far, the major factor in employing the progressive is whether or not a given event or situation constitutes part of a speaker's knowledge about the world. We, of course, agree that the progressive realises both epistemic and aspectual meaning, which are mutually exclusive. However, it can be pointed out that some usages are motivated exclusively by epistemic reasons:

(28) [In a discussion between a professor and his students about the discourse of civil rights activist Jesse Jackson] Well, he says minorities. He's smart, he *talks* about minorities. But he'*s* really *talking* about African Americans. (De Wit & Brisard 2014:85)

In the example (28), the speaker switches the same verbs from the simple form to the progressive form, which cannot be motivated by any temporal or aspectual reasons because it would be inconsistent, on the one hand, to refer to a situation as temporally unbounded by virtue of the simple form, and, on the other hand, to refer to the same situation as temporally bounded by way of the progressive. Here, the speaker is reappraising the situation at stake, suggesting his or her own subjective categorisation of the situation. Such an example is the evidence that there exist some progressive forms exclusively motivated by epistemic reasons, and not by temporal or aspectual ones.

For the progressive, an important question to be asked is how we can identify the involvement of a speaker. To be sure, it would be a difficult task to find such syntactic evidence for the progressive. However, the following contrast would serve as a piece of evidence for subjectivity in this construction:

(29) a. He doesn't know what *is going* on in this world.
b. ?He doesn't know people *are building* houses in this world.

(De Wit & Brisard 2014: 71)

In the examples in (29), where the dynamic verbs (*go* and *build*) are put into the progressive, (29) sounds less acceptable than (29), which cannot be explicable in terms of temporal or aspectual perspective. The important point here is whether or not a whole proposition described by a predicate is compatible with a speaker's pre-established knowledge. The lower acceptability in (29) can be accounted for in terms of an incompatibility between the nature of the generic proposition (people build houses), which is fundamentally independent of a speaker's subjective evaluation, and the epistemic progressive, the function of which is to put a negative evaluation on a proposition.

2.3 THE RELATIONSHIP BETWEEN DRAMA SO AND THE PROGRESSIVE. The present paper has been dealing with two seemingly unrelated constructions. What kind of relationship do they bear to each other? One important point can be made concerning the relationship between the two. As is clear from the examples presented so far, what the two constructions have in common is that both express a speaker's epistemic attitude toward a propositional content, their qualitative difference being in positive/negative polarity. As has been suggested in (22), repeated here as (30), the lexical function of Drama SO is to make an epistemically positive commitment to the content of proposition:

(30) Lexical Meaning of Drama SO
'I (i.e., the speaker) AGREE, to a degree that is higher than some contextual standard, to the content of the sentence/utterance'.

On the other hand, based on the observations made so far, the grammatical function of the epistemic progressive can be tentatively defined as follows:

(31) Grammatical meaning of the progressive
'I (i.e., the speaker) cannot make, based on my pre-established knowledge, a complete commitment to the content of the sentence/utterance.

In contrast with the lexical meaning of Drama SO, the function of which is to make a positive comment on a propositional content, the progressive shows a subjectively reserved attitude toward a propositional content, i.e. , to show an epistemically negative attitude toward it.

3. CONCLUSION. To conclude, our discussion so far has shown that the subjective (i.e., speaker-involved) meaning is observed in the *so* and the *be-ing*, both of which belong to seemingly unrelated grammatical categories. Yet the question remains for further investigation: can other items of different grammatical categories express pragmatic subjectivity or epistemic meanings at all?

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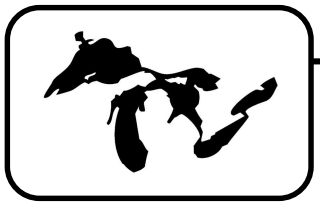

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HOW IT IS POSSIBLE THAT BOTH *KONO UTSUKUSHII HOSHI* AND*UTSUKUSHII KONO HOSHI* ARE ALLOWED IN JAPANESE: A NEW WORD GRAMMAR ACCOUNT

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Abstract: It is a challenging yet intriguing fact that *kono utsukushii hoshi* ('this beautiful star') and *utsukushii kono hoshi* ('beautiful this star') are both possible in Japanese, while in English, only *this beautiful star*, the structure corresponding to the former, is possible. This problem has not yet seen a satisfying answer. The present article attempts to solve this problem within the framework of *New* Word Grammar (*N*WG; Hudson 1990, 2007, 2010a, 2010b, 2019; Sugayama & Hudson 2005). The answer offered builds on an analysis where *this beautiful star* is to be considered as a DP which is headed by *this*, while *kono utsukushii hoshi* is construed as an NP whose head is the noun *hoshi* ('star'*)* rather than the deictic adjective *kono*. This analysis, together with the Precedence Concord Principle (PCP) enunciated in *N*WG, accounts for the syntactic contrast in word order between Japanese and English.

Keywords: dependency grammar, *New* Word Grammar, word order, head, dependent
Languages: Japanese, English

IT IS A NOTABLE FACT that *kono utsukushii hoshi* and *utsukushii kono hoshi* are both possible in Japanese, while in English, only *this beautiful star*, the structure corresponding to the former, is possible:

(1) a. *kono* *utsukushii* *hoshi*
this beautiful star
b. *utsukushii* *kono* *hoshi*
beautiful this star

(2) a. this beautiful star
b. *beautiful this star

How we can explain this fact is an intriguing and challenging problem. To my knowledge, there has been no satisfactory answer so far to this old but difficult to answer question in literature on Japanese linguistics. In this article, I attempt to solve this problem within the framework of *New* Word Grammar (*N*WG; Hudson 1990, 2007, 2010a, 2010b, 2019; Sugayama & Hudson 2005).[1]

The striking contrast between Japanese and English as seen in (1) and (2) is accounted for by using the Precedence Concord Principle (PCP), the Promotion (Demotion) Principle, and the Demoted (Extra) Dependency, key notions in *N*WG.

I will begin with a discussion of the key concepts in *New* Word Grammar for this study of the internal structure of noun phrases containing Japanese and English determiners[2]. Next, I will present data from Japanese and English. Then, I will demonstrate how Japanese and English data are handled quite neatly in *N*WG using the PCP.

1. *NEW* WORD GRAMMAR IN A NUTSHELL.

New Word Grammar is a theory of language structure which Richard Hudson of University College London has been building since the early 1980's. It is still changing in detail, but the main ideas remain the same. These ideas themselves developed out of two other theories that he had proposed: Systemic Grammar (now known as Systemic Functional Grammar), constructed and advanced by Michael Halliday, and then Daughter-Dependency Grammar, his own invention.

The main ideas are as follows, most of which come from the latest version of the WG Encyclopedia (Hudson 2010a) and WG Homepage (Hudson 2019), together with an indication of where they originally come from.

- *N*WG presents language as a network of knowledge, linking concepts about words, their meanings, etc. E.g., the word *fig* is linked to the meaning 'fig', to the form /fɪg/, to the word-class 'noun', etc. (From Lamb's Stratificational Grammar, now known as Neurocognitive Linguistics, Relational Network Theory).
- If language is a network, then it is possible to decide what kind of network it is.
- *N*WG is monostratal - only one structure per sentence is permitted. There can be no transformations. (From Systemic Grammar).
- *N*WG uses word-word dependencies. E.g., a noun is the subject of a verb (From John Anderson and other users of Dependency Grammar, via Richard Hudson's Daughter Dependency Grammar; a reaction against Systemic Grammar where word-word dependencies are mediated by the features of the mother phrase).
- *N*WG shows grammatical relations/functions through explicit labels. E.g., 'S/subject', 'O/object', or 'P/Predicative', etc., as shown in Figure 1, Figure 2, (5) and (6). (From Systemic Grammar).

Figure 1 presents a flavour of the syntax and semantics in *N*WG. The structure above the dotted line is the semantics of the sentence and the one below it represents its syntax.

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[1] A reviewer asks how this *N*WG can be expanded to deal with discourse; it will be intriguing to pursue this perspective, especially because it potentially provides a novel perspective on the dependency analysis, but I will resist the temptation to investigate in this manner at the moment, because it would take me far beyond the scope of this paper, and will have to be left for further research.

[2] As will be discussed later in the article, there is syntactic evidence against categorizing these Japanese demonstratives as determiners, which does not mean that they are indeterminate in semantics. They refer to a physical or psychological closeness or distance to the object concerned.

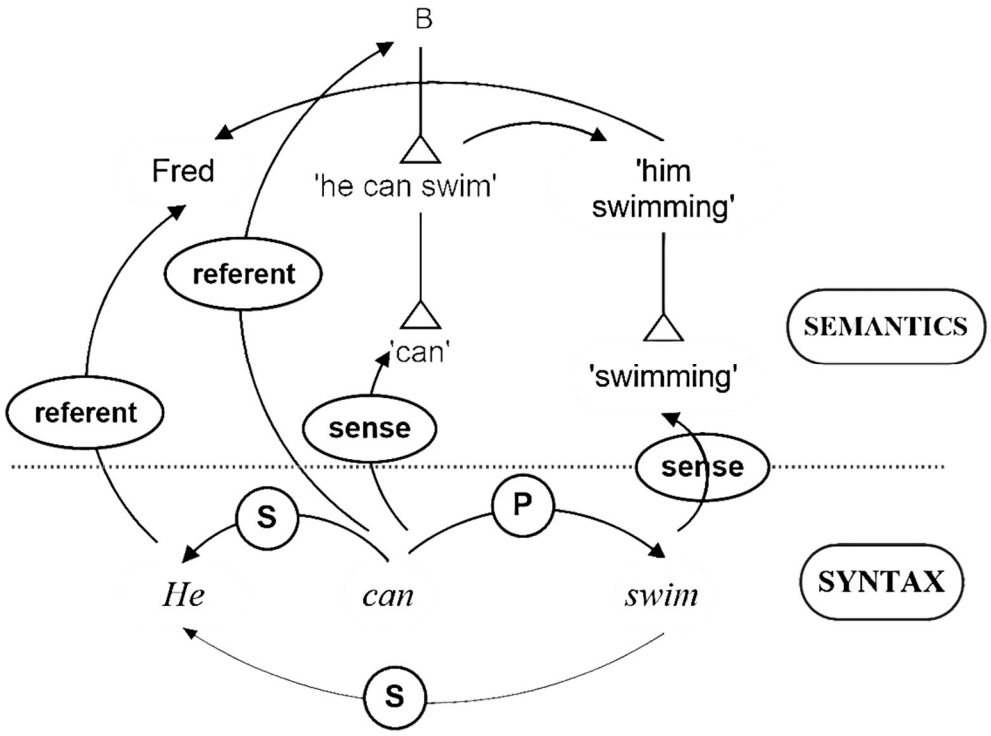


Figure 1. Syntax and semantics of *He can swim* in *N*WG

In Figure 1, Figure 6, and the structures in (5) and (6), a letter above or below the dependency arrow represents a grammatical function: 'S/subj' stands for subject, 'O/obj' for object, 'P' for predicative, 'c(omp)' for complement, 'a+' for pre-adjunct, '+a' for post-adjunct, etc. The vertical arrow shown in the structures elsewhere in the paper shows the root (head, parent) of the sentence. 'Predicative' is a new term for a grammatical function introduced in Hudson (2010a). It used to be called 'sharer'[3].

It seems that some explanation is in order for the semantics in *N*WG. First, a word has (at least) two kinds of meaning: various senses and a referent. Controversially, *N*WG claims that this is true of almost all words, including verbs and adjectives as well as nouns as is shown in Figure 1. The senses are general categories such as 'can' or 'swimming', whereas the referents are typically

[3] According to Hudson (2010a), 'sharer' is a grammatical relation (function), and more specifically, it is a kind of verb complement. As the name suggests, this complement shares its subject with the parent verb. Consider, for example, the following (i):

(i) It is raining.

In (i), on the one hand, *it* must be the subject of *is* because the latter is a tensed verb so it must have a subject; moreover, in a question, subject-auxiliary inversion applies to *it* and *is*. On the other hand, *it* must also be the subject of *raining,* because any form of 'rain' has to have *it* as its subject, as shown by the impossibility of any other subject in (ii).

(ii) It/*that/*rain rains.

specific individual people (things or events such as Fred, Fred's bike or the occasion when I last went to Kyoto).

Second, here is an important 'isa' notion in *N*WG semantics: if A isa B, the base of a triangle (i.e., its 'large-side') touches B (the larger category), while the triangle's apex is linked to A by a line, and similarly for any other concept which may 'isa' B. The notation is illustrated in Figure 1, where the concept 'he can swim' isa the concept 'can', the concept 'him swimming' isa the concept 'swimming', etc. Another notable element in Figure 1, is that a curved arrow labelled 'sense' goes from the word to the sense or sometimes directly to the referent.

1.1. WORD ORDER AND DEPENDENCY. Every fact in the grammar about possible orders of words is stated in terms of dependency (or coordination). The dependent takes its parent (the word it depends on) as its landmark[4]. In other words, the dependent 'takes its position from' its parent. For example,

- an adjective precedes its parent noun;
- a verb's subject precedes it;
- a verb's object follows it; or
- a preposition's dependent follows it.

Ultimately, every word in the sentence takes its position from the sentence root (the independent finite verb). But how do we show order in an *N*WG network?
We recognise it as an additional relation:

- 'before', shown by < pointing to the earlier time,
- 'after', shown by > pointing to the later one.

Thus, to put it quite informally, in Figure 2 *loves* is a landmark both of *John* and *Mary*. More formally, *loves* is a head of both *John* and *Mary* in Figure 2.

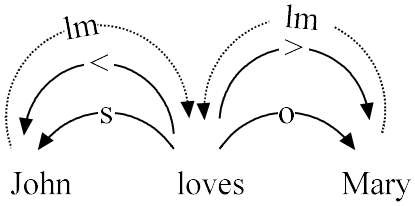


Figure 2. Landmark and relation

1.2. ORDER CONCORD. Let us now consider then why example (4) is ungrammatical whereas 0is grammatical.

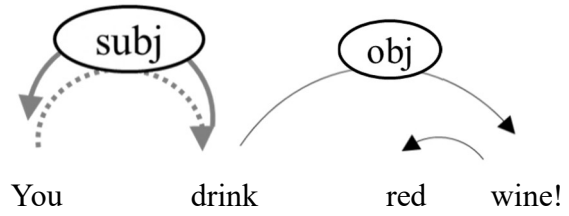
(3) (You) Drink red wine!

[4] 'lm' represents the relation 'landmark'.

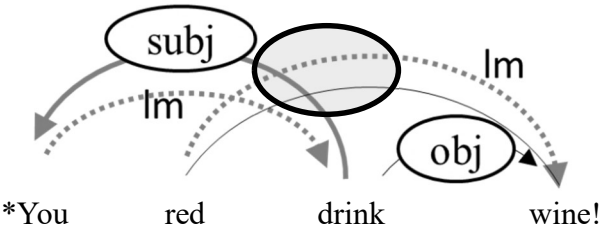
(4) *(You) red drink wine!

Structures in (5) and (6) represent the dependency structures of 0and (4) following the *N*WG rules, respectively. Observe the dependency relations in (5) and (6).

(5)



(6)



Notice that in (5) there is no tangle of dependency lines while in (6) my answer to our earlier question from a *N*WG perspective would be that, first the word *red* is on the wrong side of *drink*, and second, the arrows tangle (indicated by the shaded circle in (6)). The latter part of the answer would be expressed as "No-Tangling Principle", which requires no dependency arrows to tangle (cf., Hudson 1998: 20). I will come back to this in more detail in Section 0.

2. THE DATA FROM JAPANESE AND THE ANALYSIS. Let us consider in detail what is the syntactic structure of *kono utsukushii hoshi* in terms of dependency. Observe the following data first:

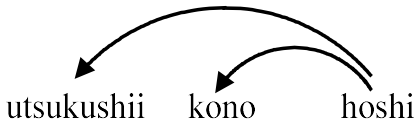
(7)	utsukushii	kono	hoshi
	Beautiful	this	star

(8)	kono	utsukushii	hoshi
	this	beautiful	star

If we take the *N*WG view that in a word combination like *utsukushii hoshi*, the word which provides the basic meaning is the head (also called the 'parent' in the paper) of the combination, and the other is its dependent (i.e., 'the dependent depends on the head'), then *hoshi* is the head of the whole structure *utsukushii hoshi*. In general, the word which is expanded is the head and the words which expand it are said to 'depend on it'. Drawing dependency relations in (7) based on

the definitions reveals the dependency structure for *utsukushii kono hoshi* shown in (9), where the arrow points from the head to its dependent.

(9)

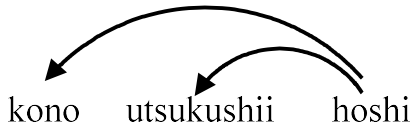


After having drawn these dependency lines, it is now clear that the afore mentioned No-Tangling Principle is in operation among the dependency relations.

(10) No-Tangling Principle:
In surface structure, no dependencies should tangle with each other. I.e., dependency lines must not cross except when required to do so for coordination or clitics. (Hudson 1998: 20).

The No-Tangling Principle will predict (8) and (11) to be all right, because there is apparently no tangling among the dependency relations.

(11)



2.1. HEAD AND DEPENDENT. Remember here that I stated earlier that a dependency line goes from the head to its dependents. Each of both terms is a key notion of dependency grammar including *N*WG. In the interest of the following discussion, let me characterize and define these two notions (or grammatical relations).

(12) Head vs dependents
- The head has a certain number of characteristics; in a pair of words related by dependency.
- The head is the one
  a. from which the other word takes its position
  b. which controls the inflected form (if any) of the other
  c. which controls the possibility of occurrence of the other
  d. which denotes the more general case of which 'Head + Dependent' is an instance (i.e., 'Head + Dependent' is a kind of Head, not vice versa) (Hudson 1984, 2004). The word that provides the basic meaning is the head (parent).

The same dependency pattern that we have seen in (9) and (11) licensed by the No-Tangling Principle, is also seen in similar structures in (13) - (16), where a different determiner *ano* 'that' is used with the common noun as the head in the NP.

(13)	ano	furui	shashin
	that	old	photo
(14)	furui	ano	shashin
	old	that	photo
(15)	ano	yukino	yoru
	that	snowy	night
(16)	yukino	ano	yoru
	snowy	that	night

Thus, these data and flexibility in word order in Japanese imply that nouns such as *hoshi, shashin, yoru,* etc., are actually heads, and the determiners, like other adjectives, are dependents in these nominal structures in Japanese[5].

Further evidence that the noun is a head in the so-called NPs in Japanese comes from the behaviour of two determiners and one adjective in the structure at issue. Observe further data in (17) - (22) to see that expressions such as the following are all possible in Japanese.

(17)	John-no	kono	kichouna	hon
	John-Gen	this	rare	book
(18)	John-no	kichouna	kono	hon
(19)	kono	John-no	kichouna	hon
(20)	kono	kichouna	John-no	hon
(21)	kichouna	John-no	kono	hon
(22)	kichouna	kono	John-no	hon

Morphologically, demonstratives such as *kono*, *sono*, and *ano* seem to be composed of *ko*, *so*, *a,* and a dependent particle *-no*, which explains why *kono*, *sono*, and *ano* behave exactly the same

[5] I notice that it is a matter for discussion whether or not Japanese demonstratives such as *kono*, *sono*, and *ano* are proper determiners in Ray Jackendoff's X-bar tradition. For the sake of simplicity, let us provisionally assume throughout the paper that these demonstratives can be classified as determiners apart from a detailed analysis of their internal structure.

as other adjectives, since *-no* changes the base pronoun into a type of adjective, which attaches quite freely with nouns as long as the derived structures are semantically interpreted.

Since all the permutations in order of the words *John-no*, *kono*, and *kichouna* are allowed before the common noun, and since *kichouna* is obviously an adjective and therefore a dependent of *hon*, we should assume that the same is true of *John-no* and *kono* given the No-tangling Principle, although they both translate as determiners in English. In short, the evidence so far clearly shows that the noun is a head in the so-called NPs in Japanese.

3. THE ENGLISH DATA AND THE ANALYSIS. Now we turn to the case with English. In contrast to Japanese, English involves a situation where only the structure *this beautiful star* corresponding to (1a) is possible and **beautiful this star* corresponding to (1b) is not permitted grammatically. Before going into a detailed analysis of why this structure is ungrammatical in English, let us consider engrossing facts about the word order in English and try to find a way in which to explain the facts.

3.1. THE ANALYSIS. Given the *N*WG devices, we now consider the following contrast.

(23) Ali supervised keen students.

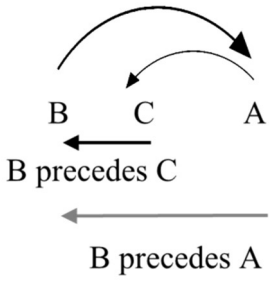
(24) *Ali keen supervised students[6].

This fact is accounted for by the Precedence Concord Principle, as formulated in (25).

(25) Precedence Concord Principle (Hudson 2010a, 2019):
A word must have the same precedence relation as its head to the latter's head.

Precedence concord is the very general principle that makes phrases hang together. I.e., that in general bans discontinuous phrases. It assumes that words have 'precedence relations' to one another, showing which comes before which. Precedence concord means that two words have to have the same precedence relationship to some other word: so if A follows B, and C has precedence concord with A, then C must also follow B. The diagram in (26) well-illustrates the point and the basic rationale of the Precedence Concord Principle (now known as 'Order Concord' in Hudson (2010a)).

(26)



[6] This sentence is ungrammatical because the dependency relation '*keen* ←*students*' crosses the one '*Ali* ← *supervised*', which is a violation of the PCP.

To be concrete, as seen in (26), the word C has the same precedence concord as the word A to the word B. Put alternatively in terms of dependency, the PCP states that if C depends on A and A on B, then C must have the same precedence (before/after) relation as A to B, as in (26). In more plain terms, C and A, which are both dependents of B, have to appear on the same side of B.

To see how well it works to give an elegant elucidation for discontinuous phrases in English, let us come back to earlier examples (23) and (24), repeated as (27) and (28) below.

(27) Ali supervised keen students.

(28) *Ali keen supervised students.

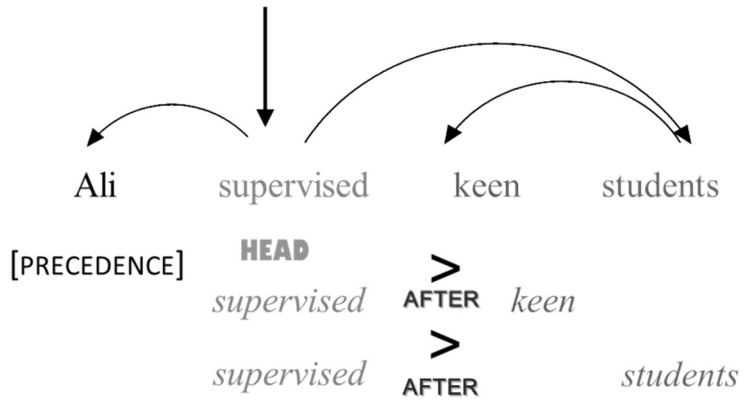


Figure 3. Precedence relations in *Ali supervised keen students*

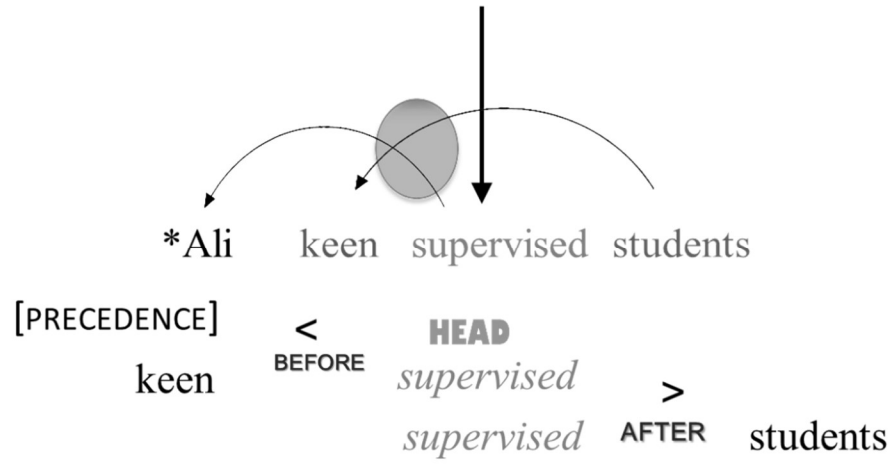


Figure 4. Precedence relations in **Ali keen supervised students*

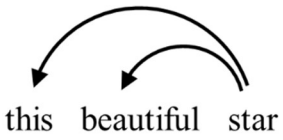
The diagram in Figure 3 corresponds to the structure of (27). The precedence (before/after relation) between *supervised*, *keen*, and *students* is indicated by an angle bracket below the sentence in Figure 3 where *keen* has the same precedence as *students* to *supervised*. As shown in Figure 3, if *students* in *Ali supervised keen students* depends on *supervised*, and follows *supervised*, then any other word which depends on *students* must also follow *supervised*. This is precisely the reason why *keen* has to come between *supervised* and *students* in Figure 3.

Let us proceed to consider the case with (28), the structure of which is shown in Figure 4. In Figure 4, the tangle of dependency lines is represented by a shaded circle. Our PCP rules out **Ali keen supervised students*, on the grounds that *keen* depends on *students* but does not share its precedence relation to *supervised*, as shown in Figure 4, where a clash in precedence is indicated by two angle brackets pointing at each other below the diagram.

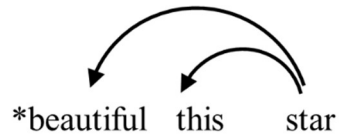
4. WHY **BEAUTIFUL THIS STAR* IS NOT POSSIBLE. In this section, I will demonstrate why we have to take a determiner as head in the NP in English within the framework of *N*WG. My claim is that the Precedence Concord Principle blocks the word order adjective > determiner > noun such as **beautiful this star* if the determiner is treated as head in English[7].

If we construe a noun as head of the phrase in English, then what the No-Tangling Principle predicts based on the dependency structure in (29) is that (30) should be grammatical, which, on the contrary, is not the case.

(29)

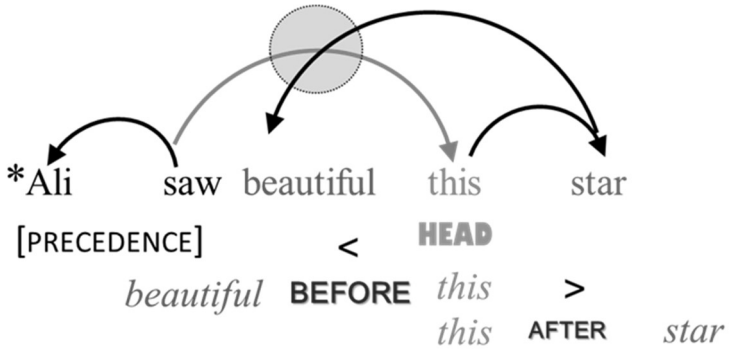


(30)



In contrast, if we take a determiner rather than a noun as head, together with the Precedence Concord Principle, it will clearly show that (31) is not a grammatical structure.

(31) *Ali saw beautiful this star.



[7] 'β>α' indicates that β precedes α.

Although *beautiful* is a dependent of *star* in (31), it does not have the same precedence as *star* to *this*, which is automatically predicted to be ungrammatical by the Precedence Concord Principle.

4.1. SEMANTIC EVIDENCE. Additionally, there is also semantic evidence confirming that determiners are actually heads in English. They must be heads because *this star* is an expansion of *this*, which can always occur without *star*; it cannot be an expansion of *star*, because this is impossible without *this*. Therefore, *star* must depend on *this*, not the other way around. In Japanese, on the other hand, *kono* (corresponding to *this*) cannot be expanded, but *hoshi* can, which implies that *hoshi* is a head in (1).

To sum up, fitting the required order of determiner < adjective < noun in English NPs into the grammar of English necessarily involves a rule which takes a determiner as head. This view is shared with the so-called DP analysis (Abney 1987).

5. APPARENT COUNTER-EXAMPLES. There are structures which the PCP predict to be ungrammatical, yet they are actually licensed in English. Below are some such apparent counterexamples. In Figure 5 there is obviously violation of the PCP with the word *rough* (and also violation of the No-Tangling Principle), which has to come to the right of *a*.

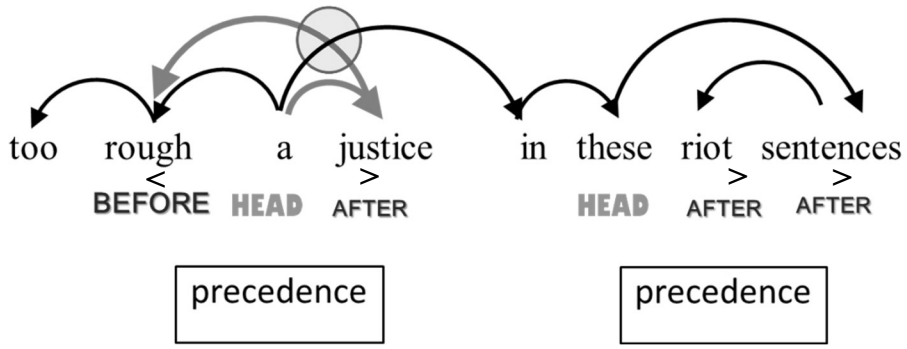


Figure 5. Dependency and precedence relations in t*oo rough a justice in these riot sentences.*

5.1. BIG MESS CONSTRUCTION. In English NPs, the determiner canonically precedes the prenominal adjectives, both the lexical and the phrasal ones. Consider the contrast in (32) and (33). A notable exception is the adjectival phrases which are introduced by *as, so, too, how, this,* and *that*[8]. When they occur in a nominal which contains the indefinite article, they precede the determiner (Huddleston & Pullum 2002: 435)[9].

[8] A reviewer suggests that *such* should be added to this list of words which allow exceptions. However, it should be noted that *such,* in fact, very rarely appears before the indefinite article when there is an adjective intervening, as in *such smooth a course*-COCA. It is also interesting to point out that *such*, preceded by the indefinite determiner, very rarely occurs before the adjective, which is usually not acceptable with *as*, *so*, etc., as witnessed in an instance from COCA - *a such big man*. For these reasons, I doubt that *such* is included in the list.

[9] In connection with (34), the same reviewer questions how we could analyse *They are bargains/It's a bargain so good that I can't resist buying them/it* in an approach presented here. I take these sentences as different from the phrases we are talking about in the sense that *so good* is an (post-) adjunct depending on *bargains* or *a bargain*. These sentences do not involve any tangling in dependencies, which predicts that they are grammatical.

(32) a. a big house
b. a very big house

(33) a. *big a house
b. *very big a house

(34) a. It's so good a bargain I can't resist buying it. (van Eynde 2007)
b. How serious a problem is it? (*ibid*.)
c. *They're so good bargains I can't resist buying them. (van Eynde 2007)
d. *How serious problems are they? (Huddleston & Pullum 2002)

(35) a. *It's a so good bargain I can't resist buying it. (van Eynde 2007)
b. *A how serious problem is it? (*ibid*.)

This construction, for which Berman (1974) coined the term Big Mess Construction (BMC), only occurs in nominals with an indefinite article. It does not occur in nominal with another kind of determiner, as in (36a), nor in nominals without determiner, as in (36c-d).

(36) a. *How serious some problem is it? (van Eynde 2007)
b. How serious a problem is it? (*ibid*.)
c. *They are so good bargains I can't resist buying them. (*ibid*.)
d. *How serious problems are they? (Huddleston & Pullum 2002)

What makes the Big Mess Construction interesting is not only its idiosyncrasy and the descriptive challenges which it raises, but also the light which its treatment sheds on the issue of the trade-off between lexicalism and constructivism in formal grammar.

To pave the way for the treatment I first present my analysis of the internal structure of the relevant BMCs. It deals with the canonical order autonomously. The exceptional order, as exemplified by (38) and (39), is modelled later in this section.

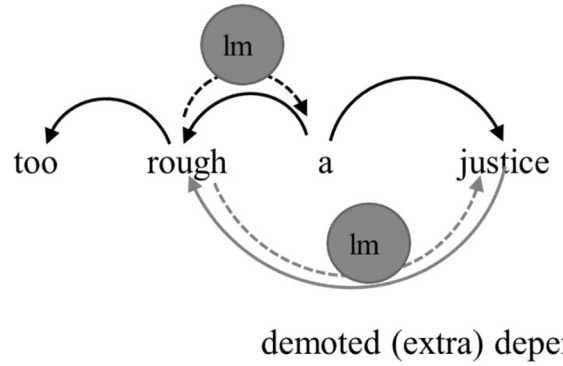
This alleged violation of the Precedence Concord Principle seen in the BMC, however, can be saved by introducing the idea of dividing the sentence's dependencies into two, i.e., the 'surface' dependencies and 'other' (*alias* 'extra') dependencies.

This brings in the necessity of introducing the idea of demoted dependency as stated in (37). The impulse is to try to demote a dependency relation which has a farther head.

(37) Demoted Dependency
- If a word has more than one landmark, only the nearest landmark is visible to dependency analysis. The dependencies that do not provide landmarks are demoted. (Hudson 2010b)

This is illustrated by the structure in (38) where a farther landmark relation is downgraded to be made invisible to dependency analysis. Extra dependencies are drawn below the sentence in (38).

(38)



demoted (extra) dependency

Figure 6 provides another instance of demoted dependency illustrating how landmarks could shadow dependencies.

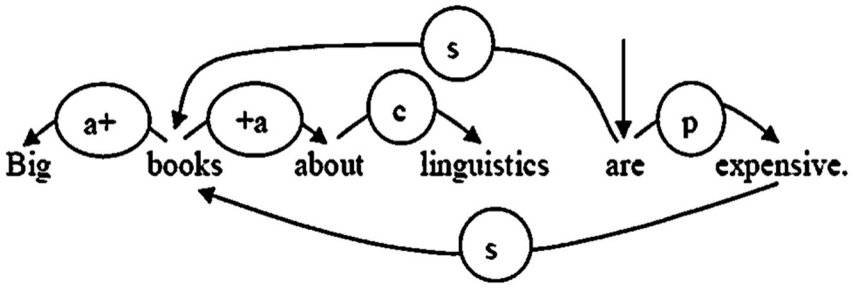
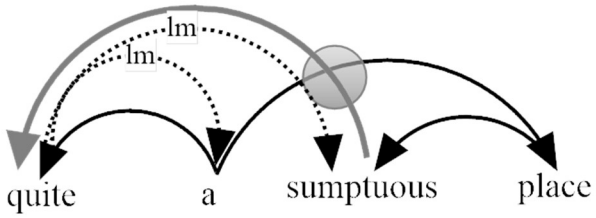


Figure 6. Landmarks shadowing dependencies.

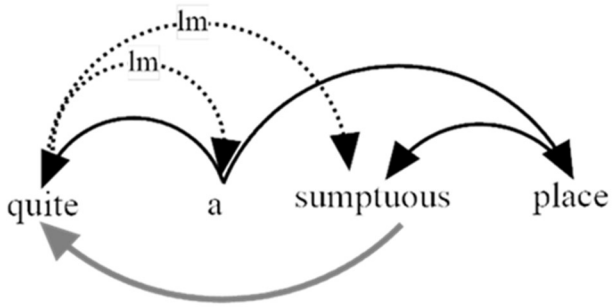
This idea of demotion of dependency extends further to another case of seemingly counter examples as in (39). In (39) *quite* has two parents (i.e. *a* and *sumptuous*) at the surface, and a dependency relation from *sumptuous* to *quite* crosses the one between *a* and *place*, violating the No-Tangling Principle.

(39)



As evidently seen in (40), *sumptuous* is a more distant parent to *quite* than *a*, which triggers the demotion of the dependency from *sumptuous* to *quite* to give a new dependency structure in (40).

(40)



6. CONCLUSION. This article argues for *New* Word Grammar, an instance of dependency theory, which employs cognitive networks to explain our linguistic and non-linguistic knowledge. I have demonstrated that *N*WG provides a unified account of the free relative word order of determiner and adjective in Japanese and the restricted order in English (*this*>*beautiful*>*star*) without recourse to constituency structure.

In summary, I have offered an account of why *kono* and *utsukushii* are reversible in the structure *kono utsukushii hoshi* in Japanese, while English allows only one structure corresponding to *kono utsukushii hoshi*. My arguments are based on the difference in grammatical category of *kono* and *this* in each language. From the dependency analysis so far, the conclusion, then, is that the determiner is the head (parent) of a NP, and that the common noun is a complement in English NPs and that deictic words like *kono sono,* and *ano* in Japanese are really modifiers (adjuncts). I hope to have shown that a *New* Word Grammar analysis is indispensable and to have provided linguists a useful and promising tool for working out word order problems and identifying the head.

ACKNOWLEDGMENTS

I would like to offer my sincere thanks to my audience for their comments on my presentation at the LACUS 2019 conference, John Watson for checking the language in this paper and suggesting stylistic improvement, as well as the two anonymous reviewers, whose constructive comments helped me improve the paper significantly. All remaining imperfections are my own.

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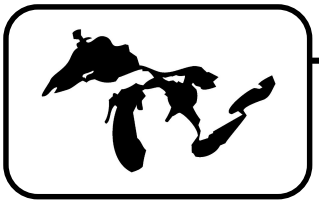

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SONANT-SONANT ONSETS IN RUSSIAN

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Abstract: Garcia et al. (2017) provides a relational network description of obstruent-only onsets in the Russian syllable, as a first step on the way to a complete phonology of Russian centered on a generalized description of the syllable. The present study provides a relational network description of sonant-sonant onsets in the Russian syllable as a second step.

Keywords: Relational network (RN), stratificational, word initial (WI), word medial (WM), word final (WF), onset, sonant, obstruent.
Languages: Russian

THE PRESENT STUDY IS PART OF A SERIES aimed at the description of a complete phonology of Russian centered on a generalized description of the Russian syllable in neurocognitive Relational Network (RN/Stratificational) theory. Though a fascinating topic in itself, the prior history of the syllable in phonological theory is beyond the scope of this paper. Apart from a few significant points, I ignore it in the interest of space restrictions.

1. BACKGROUND

1.1. THE SYLLABLE IN PHONOLOGY. The syllable has a long history in phonological studies. Not a lot was done during the pre-Bloomfieldian and Bloomfieldian days, but two serious phonological studies of the syllable in different languages were published: Hockett (1942) and Haugen (1956). But neither study resulted in a school of syllabic phonology. Hockett wrote on Chinese, which is characterized as having an "easy" syllable[1] and therefore is not a sufficient model for the phonology of languages with a "difficult" syllable, Russian. Haugen wrote on Norwegian, and his study stopped at a taxonomic stage[2]. Haugen stated (P.C.) that the general consensus among American Structuralists in the 1950s seemed to be that the concept of a syllable in phonology was useful, but no one knew how to go about describing it. He said that was one of the motivations behind his work on the syllable in Norwegian. Whatever the reason, Haugen (1956) stands alone as a description of the syllable in an Indo-European language in the American

[1] This was the reaction of colleagues at the University of Florida when I cited Hockett as an exemplar of syllabic studies.
[2] Haugen did not have a theoretical model that would allow him to generalize fully.

Structuralist School. Trubetzkoy (1939), to cite aborted work by a founding member of the Prague School, planned at least one chapter on the syllable, but he had done no more than lay out his plan before he died, essentially from injuries received at the hands of the Nazis.

Contemporary studies of Russian phonology begin with Jakobson, Cherry, & Halle 1953 (JCH). It is based on distinctive feature analysis of contrasts and incorporates sequencing restrictions which, if fully generalized, would lead to a description of the Russian syllable. JCH was modified in Halle 1959, leaving out much of the information on sequencing restrictions. Subsequent work on Russian phonology and phonological theory followed a path laid out by Halle (1959), which says nothing about the syllable in Russian phonology[3]. From there, things developed along a line suggested by a misunderstanding of a remark that Roman Jakobson used to make when asked about the syllable as a universal in phonology. I wrote in my class notes, "There is no language that does not have a CV syllable." Starting with CV theory and going on to CVCV theory, phonology now begins with the universalist assumption that there are only CV syllables. If there are or appear to be clusters or long vowels, they must be derived by different means from special characteristics of the CVCV base (cf. Scheer 2004). I do not analyze their methods here.

The current situation, outside of CVCV phonology, has some studies that recognize and even describe a part of the syllable (e.g., Chew 2003, Ostapenko 2005, Kulikov 2011, and Howie 2014, but see Sampson 1970). The studies that touch on Russian phonology are cognitively insufficient or not fully generalized (Sullivan 2017:82-83). In any case, there is room in the literature for a neurocognitive RN description. About half my dissertation (Sullivan 1969) was devoted to the syllable in Russian. That study, though extensive, is incomplete. Namely, I accepted the restrictions on scope of exemplars established by Halle (1969). My aim at the time was to show that his restrictions could be accommodated within a syllabic framework. Ironically, the broader base of exemplars leads to a simpler syllabic frame.

Quite apart from theoretical considerations, Sampson (1970) shows that arguments for a syllable-based phonology make good sense. Phonetically, a syllable is realized by a vocalic core with boundary consonants that modify and are modified by the vocalic core. But we make no prior assumptions about the boundary consonants. And that means no a priori assumptions about structure, whether In-Fnl, CV, CVCV, or whatever, beyond what is phonetically observable. As remarked above, the RN assumption is that a generalized description of the Russian syllable should be an emergent property of the full RN analysis. Now speech is a chain of syllables and each coherent linguistic output begins with a syllable. Most Russian syllables begin with a consonant or cluster, which we call an onset. A generalized description of the obstruent onsets is given in Garcia et al. (2017: Ch 4). The present study is about a much smaller data set: the sonant-sonant clusters, which do not present a major descriptive challenge.

Neurocognitive RN theory infers the existence of a linguistic system sufficient to account for the storage of linguistic knowledge and provide for the communication process. In practice, with regard to phonology, this means relating the neurological system that accounts for morphological information to the articulatory systems that produce speech (and ultimately to speech acoustics) during encoding. It also includes relating the acoustic characteristics of speech to the

[3] My impression after conversations with Halle was that he did not believe the syllable was necessary. One observation: maybe you can do without it, but you pay a price. One of the emergent properties of an RN description of Russian is that analyzing word medial (WM) and word final (WF) clusters is redundant. Another such property is the appearance of a generalized description of the Russian syllable itself.

morphology during decoding. Whether this requires two distinct but closely parallel phonological systems or a single, sufficiently general one will emerge from the descriptive process. But because of its widespread use in literature on phonology and its resulting familiarity to phonologists, an encoding approach is adopted herein[4].

We turn now to a more detailed outline of the RN model we use in formalized descriptions.

1.2. RELATIONAL NETWORKS. Formalized relational network descriptions have only two tools: lines and relationships between lines. The lines and relationships may be defined neurologically (cf. Garcia et al. 2017: Ch 3) or logically (see the algebraic formulae below). Neurological descriptions contain a degree of detail that is unnecessary for the present study; instead we rely on the logical structures. The structures adduced can be expressed in Boolean statements, algebraically, or in graphic form. Boolean statements include information not needed in the present study and are not used herein. Therefore, the present study rests on two logically defined relationships: AND and OR. These may be combined without restriction to describe the linguistic structures observed. No further assumptions, e.g., that all structures must be trees or that all structures must be two-dimensional, are made. Both algebraic and graphic descriptions are provided.

One additional caveat is needed. One of the anonymous reviewers pointed out that saying Russian has a phoneme /p/ may sound to the reader as if it is an item assumed in advance, as in the descriptive tradition going back to the 19th century. Not true. Saying that Russian has a phoneme /p/ means that there is a point, call it **p**, that is related upward to a class of morphemes, downward to the instructions to shut the oral cavity completely (Cl) using the lips (Lb), and horizontally to a set of positions across a syllable, traditionally called the distributional properties of a phoneme.

Accordingly, algebraic descriptions have the form S / C V, which should be read 'syllable is related at a lower level to a consonant AND THEN to a vowel'. (I return to the graphic form below)[5]. For more detailed information on relational network descriptions, see Garcia et al. (2017: Ch 3).

Before proceeding with the description, we provide some background information on Russian phonology.

2. THE CONSONANTAL PHONEMES OF RUSSIAN. We begin with the classification of Russian consonants in Table 1.

2.1. OBSTRUENTS. Note that in Table 1, the columns are the articulators and the rows are the manner of articulation. Place of articulation only enters the picture on the hypophonemic stratum (cf. Lamb 1966; Hockett 1942 and 1976). Articulators and place and manner of articulation are

[4] For an idea about a hypophonemic stratum that could possibly relate to acoustics for both encoding and decoding, see Lockwood (1976).

[5] More than one past referee has complained that my presentations are hard to follow because I rely too heavily on graphic descriptions of multiple examples from "exotic" languages (Slavic, a couple of times Vietnamese, once each Korean, Aymara, and Lesotho) and not just English. I am trying to address this criticism by using a self-contained but very small set of examples: sonant-sonant onset clusters, which do not present a major descriptive challenge, and by providing both algebraic and graphic descriptions at each step. Personally, I prefer graphic descriptions because I have a strong visual ability regarding spatial relations and because unwary readers may believe that S / C V contains syllables, consonants, and vowels. Those are just convenient labels for points in the network.

all real-world items given in advance by our knowledge of human anatomy and pronunciation (cf. Yngve 1996: passim).

The nine obstruents are those that may be voiced (i.e., related to Y, the symbol used here to indicate voicing). The obstruents, besides being paired voiced-voiceless, all participate in regressive voice assimilation. That is, a cluster spelled *bx* in *obxodit'* 'walk around (imprf)'is pronounced [px] (note the [b] in *obojti* 'walk around (prf)'). Similarly, an unvoiced obstruent in parallel circumstances comes out as its voiced counterpart. So, *k Borisu* 'toward Boris' comes out as [gb] (note the [k] in *k Alekseju* 'toward Aleksej'). Regressive voice assimilation does not apply across a sonant: note the [b] in *oktjabrskij* 'October (adj.)', where the voice assimilation would produce [prsk], if the *r* did not supersede the relation.

Table 1. Classifying Russian Consonants

	Lb	Ap	Fr	Do		
Cl	p	t		k	[Y][6]	
Cl&Gr		c	č			
Sp	f	s	š	x		
Ns	m	n				[']
Tr		r				
Lt		l				
--	**w**		j			

Lb = Labial Cl = Closure Tr = Trill
Ap = Apical Gr = Groove Lt = Lateral
Fr = Frontal Sp = Spirant Y = Voice
Do = Dorsal Ns = Nasal ' = Pal-Dom

In short, obstruent clusters in Russian are all voiced or all unvoiced, and the choice is determined by the voice nature of the final obstruent. This simple statement has caused a lot of grief (or opportunity) in phonological description: Is the unmarked obstruent the voiced or unvoiced? What should the underlying form be? How can this be described and still preserve phonemic contrast? Does this phenomenon require an alpha-switching rule? Is there such a thing as an alpha-switching rule? And more. We answer all of these questions in previous publications and will revisit them in the *Syllabic Phonology of Russian* (in process), but space considerations preclude their recapitulation here. Still, these facts concerning voicing suffice to distinguish obstruents as a class.

2.2. SONANTS. The five sonants are m, n, r, l, and **w**. As mentioned in section 2.1, the nasals and liquids do not participate in voice assimilation and are mostly unaffected by it. But they are part of the structural relations that define the syntax of clusters. We return to **w** below.

[6] Brackets indicate structural optionality, i.e., marked for voice or not marked for voice.

Now the frontal glide j is an outlier both phonetically and phonologically. Jakobson and those who follow his acoustic classificatory system define the j as [-cons, -voc] i.e., neither a consonant nor a vowel. We repeat: j is an outlier both phonetically and phonologically. In the RN approach it must await much more complete phonological description before its full relations can be clarified. Until that time, it is ignored in the relational network description.

At the same time, the [w] is also an outlier, but closer to the materials already provided and those given below, and we turn now to its unique characteristics.

2.3. **w**. Russian j and **w** are traced back to the Indo-European semivowels i/j and u/w. The tale is long and complex and beyond our scope. Suffice it to say that one of the results is **w**, which is realized phonetically as [v] or as [f]. Halle's verbal description is that **w** acts as a sonant when followed by a sonant (or vowel) and otherwise as an obstruent. That is, it is unvoiced [f] in word final position and undergoes regressive voice assimilation when followed by an obstruent (hence, being realized [v] or [f]). But it does not evoke voice assimilation. So *wtornik* 'Tuesday' has an initial [ft] and *wdowa* 'widow' has an initial [vd], but *twoj* 'thy' has initial [tv].

In fact, is it quite easy to incorporate these alternate realizations and the positions of their occurrence in a full description that incorporates both obstruents and sonants in full syllabic structure. That is, none of this need be a part of the present study.

3. SOME COMMENTS ON PREVIOUS STUDIES. Halle (1959) catalogued clusters in three positions, as was common practice then: word initial (WI), word medial (WM), and word final (WF). This practice led to a lot of redundant cluster description. My initial hypothesis was that taking the syllable as the basic structural relation in phonology would provide a more general description. Since the basic unit of pronunciation is a syllable, it follows that the speech chain is a series of syllables. A corollary assumption, therefore, is that a WI cluster is the onset to the first syllable[7].

Regarding Russian phonology, contemporary approaches begin with JCH 1953, an article expanded and (sadly) contracted in Halle (1959). We provide a general description of obstruent onsets in Sullivan (2017). No clusters containing the zero realization of the fleeting vowel[8] are included in Sullivan (2017) and such clusters are also excluded in the present study. We concentrate only on the sonants: nasals (m, n), liquids (r, l), and **w**.

4. SONANT-SONANT ONSETS. With five sonants, there could potentially be 25 sonant-sonant onset clusters. In fact, only 8 occur: **w**m in *vmjatina* 'dent', **w**n in *vnuk* 'grandson', **w**r in *vrag* 'enemy', **w**l in *vlaga* 'moisture', mn in *mnemonika* 'mnemonics', mr in *mrak* 'gloom', ml in *mladšij* 'younger', and nr in *nrav* 'disposition'.

4.1. SOME GENERAL OBSERVATIONS. There are no morphemes that begin with a geminate, but this does not seem to be the realization of a phonetic impossibility for two reasons. First, Russian permits phonetically long consonants as the realization of a pair of consonants in adjacent morphemes: *v-vod* 'introduction' vs. *vot* 'lo!' or *pod-deržat'* 'support' vs. *po-deržat'* 'hold a while)'. The actual realization is a bit less than 1.5 times the length of the time taken on a singleton, depending on the rate of speech and the individual. Foreign lexemes spelled with a doubled consonant may also be pronounced with a phonetically long consonant (as in [su ll'i

[7] A hypothesis. i.e., an assumption that must be verified empirically, beginning with its emergence from a generalized statement of phoneme distribution in syllable structure.

[8] Another contemporary recension of the IE semivowels.

van]). This is probably a spelling pronunciation, interference only to be expected in literate speakers, and is not consistently applied. But it does show the phonetic possibility of a long consonant.

Second, Russian has non-dictionary lexemes like *mm* 'um, I'm thinking what to say' and *nn* 'I'm thinking about it, but my inclination is to refuse'. Still, these are not onsets, and in mainstream Russian speech, monomorphemic geminate onsets do not occur. This means that there is no need to block geminate onsets phonotactically, because no realizational input will be supplied from the morphology. Thus, in an RN approach, the rarity of geminate onsets is an emergent property of the Russian linguistic system as a whole.

4.2. SOME RUSSIAN-SPECIFIC OBSERVATIONS. There are some important observations that must be incorporated in the description. There are, of course, single-sonant onsets, which provide nothing of structural interest. Two-place or sonant-sonant onsets are the maximum size and **w** can only occur in first position, never second. The liquids (l, r) can only occur in second position, never first position. Only the nasals (m,n) can occur in both positions. Generalizing on this observation permits nasal-nasal onsets, which are introduced in section 4.1, but require further discussion.

Nasal-nasal onsets potentially include mm, mn, nm, and nn. Eliminating geminates leaves mn and nm. The nm simply does not occur as an onset. Combine this with the fact that all native Russian morphemes with an mn onset (*mne* 'me, DL', *mnit'* 'imagine') are a part of the zero jer realization, and the temptation is to say that the other nasal-nasal onsets are as impossible as geminates.

The only problem with this is that Russian borrowed *mnemonika* 'mnemonics' from Greek without difficulty or reanalysis. Even though *mnit'* and *mnemonika* are (very distantly) related etymologically, we cannot justify using that relation as an explanation for the borrowing without looking more carefully at the structure. Our inclination is to accept nasal-nasal onsets as part of the structure. The subsequent borrowing of *gimn* 'hymn' further justifies this decision.

However, it leaves us with another problem: what to do with *nm*, here a permissible onset. Whereas [mn] did not occur in Russian before *mnemonika* was borrowed, [*nm*] still does not occur. So, is it structurally ruled out in the phonotactics or is it an emergent property of the system? The emergent solution would be that the phonotactics permits [nm] but the realization of morpheme combinations never requires it. We have no direct evidence either way, but we can seek indirect evidence in the phonetics and in the history of Russian. The *nm* is an apical-labial sequence. Nowhere else in the phonology is an apical-labial sequence blocked. *T'ma* 'darkness', *dver'* 'door', *svoj* 'one's own', *zver'* 'animal', *spat'* 'sleep', *smex* 'laugh', *otbirat'*[9] 'select' and so on. This is not evidence that *nm* should be permissible in Russian phonology, only that there is no evidence that rules it out. This is a good thing, because the *nm* sequence occurs in *sonm* 'assembly, crowd'. Of course, this is not an onset cluster and can be accounted for elsewise, but it is not within our current scope. The lack of negative evidence against is not positive evidence for, and we eschew such structural arguments.

The historical evidence is, however, both strong and impossible to ignore. News readers restructure Treasury Secretary Mnuchin's name, adding a vowel between m and n [ma-nu-chin]. Nothing of the sort happened in Russian when *mnemonika* was adopted. Note also the opposite happening to the initial stops of *knee* and *pneumonia* in English. The lack of any disturbance in the Russian phonological system argues strongly that mn onsets and nasal-nasal onsets in general

[9] Though not a morpheme-initial onset, but the result of the concatenation of two morphemes, the resulting [db] sequence can be pronounced as an onset cluster and often is.

are structurally acceptable. This means that *nm* is possible and that the non-occurrence of *nm* is an emergent property of the full system.

This leaves us with nasal-liquid onsets. Nasal-liquid onsets are quite rare. Historically they result from examples of liquid metathesis[10] borrowed from Old Bulgarian via Church Slavonic. The set of potential onsets is *ml*, *mr*, *nl*, and *nr*, and again, softness plays no role here. This is a simple network, or it would be if not for the absence of any attested *nl* onsets. As remarked above, a statistical approach to syllable structure may have applications in the course of a linguistic description, but it does not relate to the cognitive functions of language. Yet it has a possible application here with regard to l-r frequency. In every head-to-head count, onsets with *l* are less numerous than onsets with *r*. There should be fewer *nl* onsets than *nr* onsets. There is only one Russian morpheme with an *nr* onset (*nrav* 'disposition'). The only positive integer less than one is zero. Therefore, we conclude that *nl* is structurally permissible and its non-occurrence is an emergent property of the linguistic system as a whole[11].

We now turn to the relational network description.

5. A RELATIONAL NETWORK DESCRIPTION.

5.1. ONSETS IN ***w***. The full set of onsets beginning with ***w*** is ***wm***, ***wn***, ***wr***, ***wl***. In an RN description, this fact is stated algebraically in (1).

(1) O**w** / **w**m, **w**n, **w**r, **w**l

The network in (1) should be read "the set of onsets beginning with **w** is related downward to **w**m OR **w**n OR **w**r OR **w**l" and "each of the four terms individually is related upward to the set of onsets beginning with **w**".

Note that the eme[12] **w** appears in first position in every one of the pairings that are the members of the set O**w**. Therefore, it is possible to simplify the right-hand side of (1) by factoring out the **w**, giving (2).

(2) O**w** / **w**(m, n, l, r)

The network in (2) should be read "The set of onsets in **w** is related to **w** AND then to m OR n OR r OR l." The statements in (1) and (2) are fully equivalent algebraic expressions. They each provide the same information, except that (2) is simpler and more general.

We state above that the algebraic expressions are merely one form of describing the networks and not the ones we personally prefer. Our preferred method of description is a graphic one, in which the relationships that represent formalized descriptive networks can be seen in detail. Some other characteristics of the description also become clearer.

The graphic description of (1) is given in Figure 1 and the graphic description of (2) is given in Figure 2. Beginning at the top of Figure 2, the triangle is an ordered AND node. That is, its

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[10] A sequence of consonant, full vowel (e,a,o), liquid (l,r) in a closed syllable produced C (r,l)(e,a)C: *Karl (der Grosse)* 'Charlemagne' became Old Bulgarian *kral*.

[11] Bulgarian also has only one *nr* onset, in the lexeme that provided the Russian example. An RN description that exclude *nl* can also be provided, but there's no evidence to require it.

[12] This is a term indicating a linguistic element that is neutral with respect to its location in the linguistic system.

downward output is **w** followed by one of the set defined by the horizontal bracket (an unordered OR node), with a downward output to m, n, r, or l[13]. It should be clear that Figure 2 is both neater and simpler than Figure 1, even though the effective information carried is the same.

The onsets in **w** are simply and exhaustively described in Figure 2. The next step is an RN description of nasal-initial onsets.

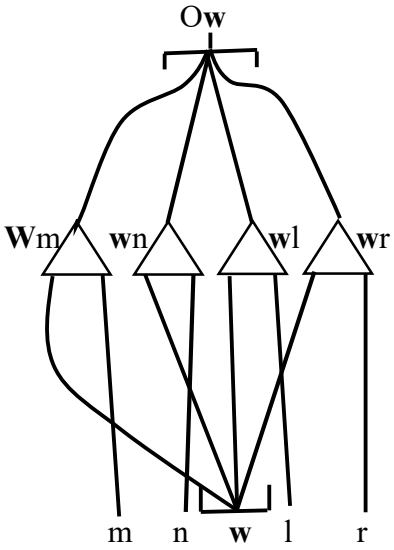

Figure 1. Network for (1)

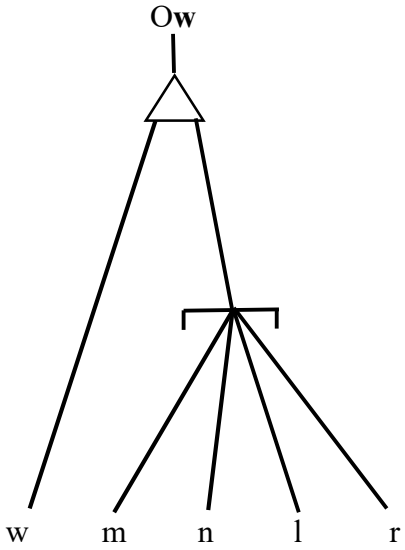

Figure 2. Network for (2)

5.2. NASAL-SONANT ONSETS. The unarguable set of nasal-sonant onsets includes mn, ml, mr, and nr. In addition to these are the permissible but non-occurring nl and nm. There are very few lexemes with WI onsets of any of these clusters and only a single example apiece for mn (*mnemonika* 'mnemonics', unless we count WF non onset *mn* in *gimn* 'hymn', also from Greek) and nr (*nrav* 'disposition'). This is a small set of examples easily reduced to a relational network.

Now we know from Ow that (m, n) can appear in second position in a sonant-sonant cluster. This means that a network for a nasal-sonant onset or Ons looks like (3).

(3) Ons / (m, n) (m, n, r, l)

Note the common element that can be factored out, giving (4).

(4) Ons / (m, n) ((m, n), r, l)

Now let (m, n) = Ns, a mere labeling convention for convenience, and we have (5). A two-level structure.

[13] Which of these is chosen in a particular instance is determined by choices made in other parts of the network. This is another example of an emergent property of the system.

(5) a. Ons / Ns ((Ns), r, l)
b. Ns / (m, n)

(5) is given as a relational network in Figure 3.

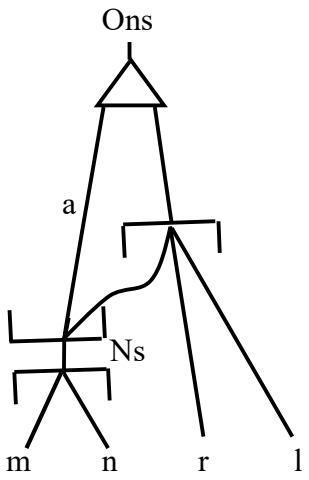

Figure 3. Ons / (m, n) ((m, n), r, l)

(6) a. Osn-sn / (**w**, Ns) (Ns, r, l)
b. Ns / m, n

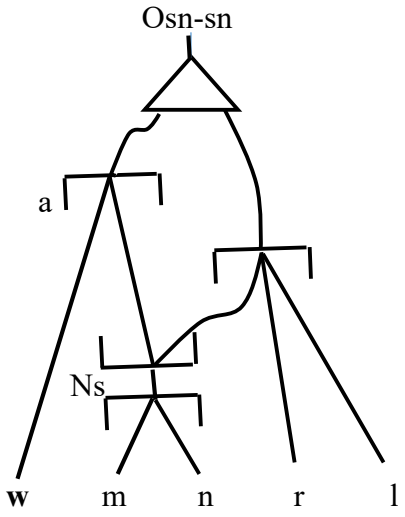

Figure 4. Osn-sn / (**w**, (m, n)) ((m, n), r, l)

It is now possible to add Figure 2 to Figure 3, providing a complete RN description of sonant-sonant onset clusters. The right-hand line from the AND node in Figure 2 leads down to

an output of *m*, *n*, *r*, *l*. The right-hand line down from the AND node in Figure 5 also leads down to an output of *m*, *n*, *r*, *l*. Therefore, all that must be added to Figure 5 is a line connecting the left-hand line down from the AND node to **w** which is related to it by an OR node. The algebraic representation of this network is given in (6) with the graphic representation in Figure 4.

6. AFTERWORDS. The network in Figure 3 contains all the information underlying the structurally permissible sonant-sonant onset clusters in Russian. The labels **Osn-sn** and **a** are not part of the network, rather, they are merely reference points for the benefit of the reader and, often enough, the author. The letters across the bottom, while not part of the linguistic system, are shorthand for the eventual acoustic input-output. In similar fashion, the underlying structure of the Russian syllable, and of the entire phonology of Russian, can be built of nothing but lines and the relationships between them without prior assumptions that are empirically unverifiable.

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COMPARATIVE STUDY OF TONE-3 SANDHI IN BEIJING, NORTHEAST, AND BROADCAST MANDARIN

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Abstract: This study aims to compare tone-3 sandhi among Beijing, northeast, and broadcast Mandarin through a productive experiment to examine if there is pitch difference between sandhied tone 3 and lexical tone 2. The results show that the pitch difference in F_0 between sandhied tone 3 and lexical tone 2 is larger in broadcast Mandarin than that in Beijing Mandarin but the pertinent difference in Beijing Mandarin is larger than that in northeast Mandarin. The results indicate that tone-3 sandhi among variants of Mandarin displays a continuum of a categorical change and tonal reduction. Gender effects in F_0 difference are also observed. The difference in female samples is consistently larger than that of male samples across the three Mandarin variants.

Languages: Chinese
Keywords: Tone sandhi, Beijing, northeast, broadcast Mandarin, fundamental frequency (F_0)

FOR A LONG TIME, studies on Mandarin tone sandhi—tonal modifications have almost exclusively focused on Beijing Mandarin. Tone sandhi of other Mandarin variants has been largely ignored. For example, Taiwan has been politically separated from mainland China since 1949. But few studies have been conducted to investigate Taiwan Mandarin tone sandhi. There is only one study to compare Beijing and Taiwan Mandarin tone sandhi, which reports that Beijing and Taiwan Mandarin display different tone-3 sandhi patterns (Yin 2020). However, there has been no comparative study to investigate if Beijing Mandarin and other Mainland Mandarin variants display the same tone sandhi pattern. This study aims to fill this gap by investigating acoustic properties of tone-3 sandhi among Beijing, northeast, and broadcast Mandarin.

Beijing Mandarin is a prominent and very influential Mandarin dialect which provides the phonological basis of standard Mandarin. Standard Mandarin is a standardized form of the language called Putonghua (普通话) 'Common Language' in Mainland China. The pronunciation of standard Mandarin is based on the Beijing dialect, its vocabulary on the northern Mandarin dialects, and its grammar on written vernacular of Mandarin Chinese. Northeast Mandarin is a Mandarin dialect mainly spoken in three northeast provinces: Heilongjiang, Jilin, and Liaoning

Provinces in China. It is a prominent Mandarin dialect and has the largest population among Mandarin dialects. Broadcast Mandarin is used in broadcasting across China with less dialect coloring. It is representative of Chinese Common Language, which is a Mandarin variant especially used as an instruction language at schools and often used for people with different dialects for communication in China. Therefore, broadcast Mandarin is better to be considered as a Mandarin variant rather than a Mandarin dialect. Beijing, northeast, and broadcast Mandarin are three prominent and representative Mandarin variants in mainland China, which make them relevant choices in conducting a comparative study to explore tone sandhi in Mandarin variants.

1. TONE THREE SANDHI. There are four basic tone categories in Mandarin. Every stressed syllable belongs to one of the four, although actual realizations may vary according to contexts. When the four tones are applied to the same syllable, four different lexical items are the result (Wang and Norval 1997). The following is a classic example of tonal contrasts (Lin 2001:45):

(1)	syllable	tone	gloss
	ba	tone 1 (high level)	‘eight’
	ba	tone 2 (high rise)	‘pull over’
	ba	tone 3 (fall-rise)	‘target’
	ba	tone 4 (falling)	‘father’

In analyzing the Mandarin tonal system, the voice range is divided into five levels: upper, upper middle, middle, lower middle, and lower. The numbers from 1 to 5 are used to designate these levels, where 1 represents the lowest comfortable pitch of the vocal range and 5 represents the highest. The first tone (tone 1) (55) is high and level. It is pitched near the top of the comfortable voice range. The second tone (tone 2) (35) starts around the middle of the voice range 3 and rises towards the level of the first tone 5. The third tone (tone 3) (214) begins near the bottom of the comfortable voice range 2, proceeds to the bottom 1, and then upward to end above the middle range 4. The fourth tone (tone 4) (51) begins at the top of the comfortable range 5 and falls quickly to the bottom range 1 (Chao 1968).

A well-known phenomenon in Mandarin phonology is tonal variations according to different phrasal contexts, among which tone-3 sandhi is the most noticeable and most complicated (Yin 2003:296). Furthermore, tone-3 sandhi contains much more surface (output) variations than any other Mandarin tone sandhi. However, in a disyllabic compound or phrase in a sequence of two third tones, tonal modifications will happen when it is spoken/read alone. So disyllabic compounds or phrases are the clearest cases to investigate the tone sandhi phenomenon since the sandhi should occur between two third-tone sequences. Therefore, the stimuli for this study were all disyllabic compounds or phrases where the first of the two syllables should undergo tone-3 sandhi.

Regarding the third tone sandhi phenomenon, there are two opposite views: some linguists treat it as a categorical change while others view it as a phenomenon of tonal reduction. Wang and Li (1967) conducted a perceptual experiment about tone-3 sandhi and the results suggest that it is difficult for Mandarin speakers to distinguish sandhied tone 3 (i.e., a modified tone 3 resulting from the sandhi effect on a standard tone 3) and lexical tone 2 (i.e., the recognized, standard, simple

tone 2). Chen (2000:20) also claims that sandhied tone 3 has changed to tone 2. Lin (2001:47-48) proposes that a full tone 3 contains three tonemes and she claims that tone 3 in a non-final syllable is shortened so that it loses one toneme in connected speech. Yuan and Chen (2014) put forward a proposal which treats tone-3 sandhi as tonal reduction by claiming that sandhied tone 3 is changed from 214 to 24, that is, it starts from initial point 2 and goes straightforward to the end point 4. Yin (2003) presents an Optimality Theory (OT) analysis and maintains that sandhied tone 3 keeps its rising portion (the second half) and loses its falling portion (the first half).

So far, the long-time debate on whether the third tone sandhi phenomenon involves a categorical change or tonal reduction is still going on and inconclusive. Instead of focusing on one representative Mandarin dialect such as Beijing Mandarin, the present study aims to compare pitch difference between sandhied tone 3 and lexical tone 2 among Beijing, northeast, and broadcast Mandarin and expects to shed some light on the nature of the third tone sandhi phenomenon.

2. METHODS.

This study aims to investigate pitch difference between sandhied tone 3 and lexical tone 2 among Beijing, northeast, and broadcast Mandarin, as well as discover if these three Mandarin variants display the same or different tone-3 sandhi pattern. In order to achieve these objectives, an experiment was conducted where Beijing Mandarin speakers, northeast Mandarin speakers and speakers who had been trained to speak broadcast Mandarin were invited to produce Mandarin words and phrases. In order to conduct a comparative study, in this experiment the same method (including the same stimuli, same procedure and same measurement) was used for the three variants of Mandarin.

2.1. PARTICIPANTS.

The participants for the experiment were 20 Beijing Mandarin speakers, 10 northeast Mandarin speakers, and 10 broadcast Mandarin speakers. The fact that there are discrepancies in the number of participants in each group is due to funding constraints within the research project. The Beijing Mandarin speakers were born and raised in Beijing and they were recruited from Beijing and Xi'an Jiaotong-Liverpool University, an international Sino-British cooperative university which is located in Suzhou, China. The northeast Mandarin speakers were recruited from Xi'an Jiaotong-Liverpool University. They were born and raised in China's northeast area which includes Heilongjiang (黑龙江), Jilin (吉林), and Liaoning (辽宁) Provinces. The broadcast Mandarin speakers were recruited from Suzhou University, which is in the same city as Xi'an Jiaotong-Liverpool University, where they were trained to speak broadcast Mandarin. For each of the three Mandarin variants, half of them were males and half were females, creating a balance in genders. In this study, gender effects in pitch differences between sandhied tone 3 and lexical tone 2 were investigated. To maximize objectivity, the participants were not informed that the subject of the experiment was tones or tone sandhi. All of the participants for this experiment were remunerated for participating in this study.

2.2. STIMULI.

The stimuli for the experiment were 15 pairs of disyllabic compounds or phrases with tone 3 on the second syllable and tone 2 or tone 3 on the first, as (2) and (3) illustrate.

(2) (a) guo (tone 3) jiu (tone 3) 果酒 'fruit wine'
(b) guo (tone 2) jiu (tone 3) 国酒 'nation wine'

(3) (a) mai (tone 3) ma (tone 3) 买马 'buy horses'
(b) mai (tone 2) ma (tone 3) 埋马 'bury horses'

The pair in (2) and (3) are bi-syllabic nominal compounds and verb phrases respectively. However, most of the stimuli for this experiment were nominal compounds. The stimulus in (a) of each pair is a bi-syllabic word/phrase with tone 3 on both the first and the second syllable while that in (b) of each pair is also bi-syllabic with tone 2 on the first syllable and tone 3 on the second. Orthographically, the second characters in each pair are the same. For example, in (2) the second character in (a) is the same as that in (b), that is, *jiu* (tone 3) 酒 'wine'. Therefore, in this experiment the second characters in each pair are held constant by using the same character. In the two stimuli of each pair, the first syllables are also the same with the exception of the tones. For example, the first syllables in both (2a) and (2b) are *guo* but the tone assigned to the first syllable in (2a) is tone 3 while the tone assigned to its counterpart in (2b) is tone 2. In this experiment, everything in the stimuli of each pair is held constant except for the tones in the first syllables. Therefore, any pitch difference between the first syllables in each pair should result from sandhied tone 3 and lexical tone 2.

2.3. PROCEDURES. The 15 pairs of stimuli were presented through PowerPoint slides and to ensure a clear comprehension, each slide contained only one stimulus. The simplified Chinese characters were presented to the participants of Mandarin speakers of each of the three variants. The slides were set to show automatically at 7 second intervals. Each stimulus was presented on the computer screen for 3 seconds and then participants saw an asterisk (*). In order to control speaking rates, participants were asked to read the stimuli in isolation in their normal speech. In order to avoid reading a stimulus (a bi-morphemic compound/phrase) in a hurry, they were instructed to read the stimulus after they saw an asterisk. The asterisk appeared on the screen for 4 seconds before the next stimulus was presented. Prior to the real stimuli, there was a demonstration session which gave participants hands-on experience in dealing with the actual experiment session. In some of the fifteen pairs of stimuli, the 2-3 compound (with the second-tone character preceding the third-tone character) was displayed before the 3-3 compound, while in other pairs, the reverse order was used. The stimuli were randomized before being put on the PowerPoint slides and participants' readings were recorded. The sampling frequency used for recording participants' speech was 44100 Hz.

2.4. MEASUREMENTS. After the recordings were collected, Audacity—a free multi-track audio editor and recorder was used to edit the stimuli. For convenience of analysis, the stimuli were edited into contrastive pairs with tone 3 + tone 3 sequences vs. tone 2 + tone 3 sequences in order to facilitate measuring pitch difference between sandhied tone 3 and lexical tone 2. After the stimuli were edited, all of the recordings were inserted into Praat—a free computer program for

the acoustic analysis of speech (Boersma and Weenink 2018) to measure fundamental frequency (F_0) of sandhied tone 3 and lexical tone 2 in the stimuli.

3. RESULTS AND DISCUSSIONS. This section will present findings in this study. First, the results of each variant will be presented, and then pitch difference in F_0 in northeast, Beijing, and broadcast Mandarin will be compared.

3.1. PITCH DIFFERENCE IN NORTHEAST MANDARIN. Pitch difference between sandhied tone 3 and lexical tone 2 was measured in Hz. The software Praat was used to obtain F_0 over time for calculating the averages of the two tones in question. The function of pitch listing in Praat was performed to generate a listing of F_0 associated with different sampling times. The mean (or average) of F_0 was calculated by averaging all the listed F_0 values.

In this paper, low pitch difference is defined as any figure under 5 Hz while high pitch difference is defined as any figure over 15 Hz. Table 1 shows percentage of difference (D) in average F_0 in four different ranges. The four ranges of difference in average F_0 are as follows: Range 1: equal to or less than 5 Hz (i.e., between 0 to 5 Hz); Range 2: more than 5 and less than 15 Hz; Range 3: equal to or more than 15 and less than 25 Hz; Range 4: equal to or more than 25 Hz.

Ranges	Percent
D < or = 5	41.32
5< D < 15	37.08
15< or = D < 25	15.37
25< or = D	6.24

Table 1. Difference in F_0 between sandhied tone 3 and lexical tone 2 in northeast Mandarin.

Table 1 indicates that for 41 percent of the stimuli, the difference in F_0 is equal to or less than 5 Hz. For most of the stimuli (78 percent), the pertinent difference is less than 15 Hz. The table also shows that among all the stimuli, the difference equal to or larger than 25 Hz is not common at all.

Next, let us investigate gender effects in pitch difference. Table 2 shows the difference in question for male and female samples (i.e., compounds and phrases produced by males and females).

Ranges	Percent	
	Male	Female
D < or = 5	46.86	35.78
5< D < 15	37.72	36.44
15< or = D < 25	11.59	19.11
25< or = D	3.80	8.67

Table 2. Difference in F_0 between sandhied tone 3 and lexical tone 2 for male and female samples in northeast Mandarin.

It can be observed from Table 2 that for 84.58 percent of the male samples, the difference in F_0 is less than 15 Hz while for 72.22 percent of the female samples, the difference in F_0 is less than 15 Hz. The table also indicates that for 15.39 percent of the male samples, the difference in F_0 is equal to or larger than 15 Hz, while F_0 difference in 27.78 percent of female samples is equal to or larger than 15 Hz. Thus, 12 percentage points, which converts to 80.51% (the arithmetic: (27.78-15.39) ÷ 15.39 = 0.8051), more female samples have F_0 difference larger than 15 Hz than male samples, meaning that female samples exceed male samples by 80.51% in the pertinent range. F_0 difference more than 15 Hz between sandhied tone 3 and lexical tone 2 is considered to be a large difference. It can be seen that the magnitude of the difference in F_0 is larger in female samples than in male samples.

3.2. PITCH DIFFERENCE IN BEIJING MANDARIN. Pitch difference between sandhied tone 3 and lexical tone 2 in Beijing Mandarin will be presented in this section. Table 3 shows the percentage of pitch differences in Hz in four different ranges.

Ranges	Percent
D < or = 5	34.92
5< D < 15	39.93
15< or = D < 25	13.66
25< or = D	11.49

Table 3. Difference in F_0 between sandhied tone 3 and lexical tone 2 in Beijing Mandarin.

Table 3 indicates that for nearly 35 percent of the stimuli, the pertinent difference is equal to or less than 5 Hz. Compared with other ranges, more cases (nearly 40%) fall in the range of difference in F_0 between 5 to 15 Hz. The table also shows that for one quarter of the samples, the difference in F_0 is equal to or larger than 15 Hz.

Next, let us investigate gender effects in pitch difference. Table 4 shows the difference in F_0 for both male and female samples.

Ranges	Percent	
	Male	Female
D < or = 5	37.00	32.85
5< D < 15	40.24	39.62
15< or = D < 25	12.30	15.02
25< or = D	10.46	12.51

Table 4. Difference in F_0 between sandhied tone 3 and lexical tone 2 for male and female samples in Beijing Mandarin.

It can be observed from Table 4 that for 77 percent of the male samples, difference in F_0 is less than 15 Hz while the F_0 difference in 72.5 percent of the female samples is less than 15 Hz. The table also indicates that for 22.76 percent of the male samples, difference in F_0 is equal to or larger than 15 Hz, while difference in F_0 in 27.53 percent of female samples is equal to or larger than 15 Hz, which means that nearly 5 percentage points (which converts to 20.96 percent) more female samples have a difference in F_0 equal to or larger than 15 Hz than male samples. It can be seen that the magnitude of difference in F_0 between sandhied tone 3 and lexical tone 2 is larger in female samples than in male samples.

3.3. PITCH DIFFERENCE IN BROADCAST MANDARIN. Pitch difference between sandhied tone 3 and lexical tone 2 in broadcast Mandarin will be presented in this section. Table 5 shows percentage of pitch difference in Hz in four different ranges and indicates that for nearly 25 percent of the stimuli, the difference in question is equal to or less than 5 Hz. Compared with other ranges, in terms of difference in F_0, the range between 5 to 15 Hz has more cases (34.44%). The table also shows that for nearly 41 percent of the samples, difference in F_0 is equal to or larger than 15 Hz.

Ranges	Percent
D < or = 5	24.98
5< D < 15	34.44
15< or = D < 25	21.56
25< or = D	19.02

Table 5. Difference in F_0 between sandhied tone 3 and lexical tone 2 in broadcast Mandarin.

Next, let us investigate gender effects in pitch difference. Table 6 shows the pertinent difference for male and female samples. It can be seen from Table 6 that for 71.34 percent of the male samples, difference in F_0 is less than 15 Hz, while for only 47.55 percent of the female samples, difference in F_0 is less than 15 Hz. The table also indicates that for 28.67 percent of the male samples, the difference in F_0 is equal to or larger than 15 Hz; however, it is impressive that in 52.44 percent of female samples, the difference in F_0 is equal to or larger than 15 Hz, which means that nearly 24 percentage points (which converts to 82.91%) more female samples have an

F_0 difference equal to or larger than 15 Hz than male samples. For broadcast Mandarin, the magnitude of difference in F_0 between sandhied tone 3 and lexical tone 2 is much larger in female samples than in male samples.

Ranges	Percent	
	Male	Female
D < or = 5	31.78	18.22
5< D < 15	39.56	29.33
15< or = D < 25	20.67	22.44
25< or = D	8.00	30.00

Table 6. Difference in F_0 between sandhied tone 3 and lexical tone 2 for male and female samples in broadcast Mandarin.

It can be observed from the tables presented thus far that there is a difference in mean F_0 between sandhied tone 3 and lexical tone 2, though the degrees of difference are varied among Mandarin variants. The findings suggest that sandhied tone 3 in each of the Mandarin variants is not fully changed to lexical tone 2. There are gender effects in the difference, and the magnitude of the difference is larger in female samples than that in male samples across the three Mandarin variants. This difference may be partly due to physical differences between males and females in terms of the lengths of the respective vocal folds. Generally, female vocal folds are shorter than those of males, and they also vibrate faster. Thus, the fundamental frequency (F_0) of females is higher than that of males. Hence, higher fundamental frequency of females could be a factor which contributes to a larger F_0 difference between sandhied tone 3 and lexical tone 2 in female samples.

3.4. COMPARISON OF PITCH DIFFERENCE IN NORTHEAST, BEIJING, AND BROADCAST MANDARIN. This section will compare pitch difference between sandhied tone 3 and lexical tone 2 in northeast, Beijing, and broadcast Mandarin. Table 7 shows difference in F_0 in the three Mandarin variants.

	F_0 difference equal to or less than 5 Hz	F_0 difference larger than 5 Hz
Mandarin variant	Percent	
Northeast Mandarin	41.32	58.68
Beijing Mandarin	34.92	65.08
Broadcast Mandarin	24.98	75.02

Table 7. Difference in F_0 between sandhied tone 3 and lexical tone 2 in northeast, Beijing and broadcast Mandarin.

It can be observed from Table 7 that the percentage of samples (with an F_0 difference equal to or less than 5 Hz) produced by northeast Mandarin speakers is the highest, while the percentage of samples (with the same F_0 difference) produced by broadcast Mandarin speakers is the lowest. Table 7 shows that broadcast Mandarin speakers produced 10 percentage points (which converts to 28.47%) less samples (with F_0 difference less than 5 Hz) than Beijing Mandarin speakers and 16 percentage points (which converts to 39.55%) less than northeast Mandarin speakers. An F_0 difference less than 5 Hz is considered to be small.

Table 7 indicates that the percentage of samples (with an F_0 difference larger than 5 Hz) produced by broadcast Mandarin speakers is the highest, while the percentage of samples (with the same F_0 difference) produced by northeast Mandarin speakers is the lowest. Table 7 shows that Beijing Mandarin speakers produced 10 percentage points (which converts to 13.25%) less samples (with an F_0 difference larger than 5 Hz) than broadcast Mandarin speakers and northeast Mandarin speakers produced 16 percentage points (which converts to 27.85%) less than broadcast Mandarin speakers. Table 7 suggests that broadcast Mandarin has a larger pitch difference between sandhied tone 3 and lexical tone 2 than northeast Mandarin and Beijing Mandarin.

Next, let us compare pitch difference between male and female samples across the three Mandarin variants. Table 8 shows the pertinent difference in the three Mandarin variants for male and female samples. It indicates that there are gender effects in F_0 difference between sandhied tone 3 and lexical tone 2. Across the three Mandarin variants, males consistently produced more samples than females, the F_0 difference of which is equal to or less than 5 Hz. Furthermore, for both males and females, the percentage of the samples in the F_0 difference range equal to or less than 5 Hz produced by northeast Mandarin speakers is the highest, while that produced by broadcast Mandarin speakers is the lowest. The table also suggests that in both male and female samples, northeast Mandarin has a smaller pitch difference between sandhied tone 3 and lexical tone 2 than Beijing and broadcast Mandarin.

Table 8 also shows that across the three Mandarin variants, females consistently produced more samples than males with an F_0 difference between sandhied tone 3 and lexical tone 2 larger than 5 Hz. Broadcast Mandarin female speakers even produced nearly 82 percent of the words with an F_0 difference larger than 5 Hz. Also, for both males and females, the percentage of the samples (with an F_0 difference larger than 5 Hz) produced by broadcast Mandarin speakers is the highest while that produced by northeast Mandarin speakers is the lowest.

	F_0 difference equal to or less than 5 Hz		F_0 difference larger than 5 Hz	
Mandarin variant	Percent			
	Male	Female	Male	Female
Northeast Mandarin	46.86	35.78	53.14	64.22
Beijing Mandarin	37.00	32.85	63	67.15
Broadcast Mandarin	31.78	18.22	68.22	81.78

Table 8. Difference in F_0 between sandhied tone 3 and lexical tone 2 in male and female samples of northeast, Beijing and broadcast Mandarin.

The table suggests that in both male and female samples, broadcast Mandarin has a larger pitch difference between sandhied tone 3 and lexical tone 2 than Beijing and northeast Mandarin.

4. CONCLUSIONS. Mandarin tone sandhi is one of the core areas in Mandarin phonology and previous research on Mandarin tone sandhi has almost exclusively focused on Beijing Mandarin. Tone sandhi of other Mandarin dialects has been largely ignored, meaning that there has been no study to compare Beijing Mandarin with other Mainland variants. This study examined pitch difference in terms of mean F_0 between sandhied tone 3 and lexical tone 2 among Beijing, northeast, and broadcast Mandarin. By comparing different Mandarin variants instead of focusing only on one Mandarin dialect, this study shed some light on Mandarin tonal modifications and helped reveal the nature of tone-3 sandhi among Mandarin variants.

For over a half century, there has been disagreement as to whether Mandarin tone-3 sandhi involves a categorical change or tonal reduction. The results from this study indicate that tone-3 sandhi among variants of Mandarin is a graded phenomenon. The findings suggest that tone-3 sandhi in northeast Mandarin is more of a categorical change (i.e., changed to lexical tone 2) than a tonal reduction whereas tone-3 sandhi in Beijing Mandarin displays a phenomenon between a categorical change and tonal reduction. For broadcast Mandarin, tone-3 sandhi is more of a non-categorical change or tonal reduction than a categorical change. The results indicate that tone-3 sandhi among variants of Mandarin displays a continuum of a categorical change and tonal reduction.

Consistent with most of previous acoustic studies on tone sandhi (e.g., Hockett 1950, Lee-Schoenfeld & Kandybowicz 2009, Martin 1963, Shen 1990, Xu 1997, Yin 2020, Yuan & Chen 2014, Zee 1980), the results from the present study display that there is a pitch difference in F_0 between sandhied tone 3 and lexical tone 2. The acoustic evidence from this study indicates that tone 3 which has undergone the sandhi is not fully changed to lexical tone 2, contrary to some of traditional analyses which treat tone-3 sandhi as a categorical change (e.g., Shih 1997, Chen 2000, Duanmu 2000, Yip 2002). Degrees in the magnitude of F_0 difference are varied from variant to variant. The F_0 difference in broadcast Mandarin is the largest while that in northeast Mandarin is

the smallest. The ranking of F_0 difference between sandhied tone 3 and lexical tone 2 in the three Mandarin variants is as follows: broadcast Mandarin> Beijing Mandarin> northeast Mandarin (the symbol > indicates 'being greater than').

The findings also suggest that there are gender effects in pitch difference between sandhied tone 3 and lexical tone 2 and that the difference in female samples is consistently larger than that in male samples. This may be partly due to the factor of different fundamental frequency ranges between males and females. It is also possible that tone-3 sandhi occurred in females is more of a tonal reduction phenomenon than that in males.

As a possible further study, a perceptual experiment could be conducted to test if participants of the three Mandarin variants can tell the difference between lexical tone 2 and sandhied tone 3 and if correct rates of this kind of judgement are varied from variant to variant. As another possible study, duration of lexical tone 2 and sandhied tone 3 could be measured to see if there is duration difference between them among northeast, Beijing, and broadcast Mandarin to examine the sandhi phenomenon from another acoustic dimension.

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