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Comparative sociolinguistic perspectives on the rate of linguistic change

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Abstract: This issue of the *Journal of Historical Sociolinguistics* aims to contribute to our understanding of language change in real time by presenting a group of articles particularly focused on social and sociocultural factors underlying language diversification and change. By analysing data from a varied set of languages, including Greek, English, and the Finnic and Mongolic language families, and mainly focussing their investigation on the Middle Ages, the authors connect various social and cultural factors with the specific topic of the issue, the rate of linguistic change. The sociolinguistic themes addressed include community and population size, conflict and conquest, migration and mobility, bi- and multilingualism, diglossia and standardization. In this introduction, the field of comparative historical sociolinguistics is considered a cross-disciplinary enterprise with a sociolinguistic agenda at the crossroads of contact linguistics, historical comparative linguistics and linguistic typology.

Keywords: language contact, language change, multilingualism, L2 speakers, sociolinguistic typologies

1 Historical comparative approaches

One of the major challenges in linguistic research is unravelling the process of language change. Sociolinguists have made great strides in this field by analysing ongoing change in apparent time, comparing the language use of contiguous generations at a given point in time. Information on real-time change is harder to

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come by but, following the digital turn in the humanities and the rise of corpus linguistics, more data is being made available that supports the real-time approach. However, although steadily accumulating, empirical work on change over time is still scattered and fragmented and provides only a patchy coverage of certain aspects of language change. This is true even of languages with well-documented histories, but it is the rule with languages that are poorly documented or, being of considerable time depth, lack such textual records. However, this unevenness of historical coverage does not mean that work could not be done on those languages as well.

From the early 19th century on, systematic research has been carried out by *historical comparative linguists* to develop methods for the study of linguistic evolution and reconstruction of language relationships over time; the Comparative Method developed for phonological reconstruction, for example, relies on regularity and directionality of change (see e.g. Anttila 1989; Campbell and Poser 2008; Lass 1997; McMahon 1994; Trask 2000). Due to the high level of abstraction and the time depth which extends into prehistory, traditional reconstructions are only loosely, if at all, connected with extralinguistic factors. At the same time, even standard textbooks of historical and comparative linguistics show the extent to which sociolinguistic thinking has impacted the field, Anttila noting, for instance, that "social variation must be included in the background as a necessary prerequisite for understanding change" (Anttila 1989: 47).

By contrast, social variation is not viewed only as an abstract background factor for understanding change in *comparative historical sociolinguistics*, which aims to make systematic sociolinguistic comparisons of the historical evolution of multiple languages. The work carried out so far typically analyses more recent periods and topics such as the impact of prescriptivism on language change (Nevalainen 2015a; Nevalainen and Rutten 2012). This is not surprising: historical sociolinguistics is a relatively new field of study informed by historical linguistics and sociolinguistics, and its parent discipline of sociolinguistics itself has a broad scope and variety of specializations. This is not to say that there would be no work analysing the (co-)evolution of languages from sociolinguistically relevant perspectives, only that this work has largely been carried out in related fields such as dialectology, area studies, and linguistic typology (see e.g. Fisiak 1988; Greenhill 2014; Wichmann 2014).

However, it is a sign of convergence within the historical linguistic disciplines that the traditional historical comparative study of language relationships has also been revitalized, as Kiparsky (2014: 64) observes, "by new linguistic, historical, anthropological, and genetic evidence" as well as "by innovative methods of classification, and a better understanding of how languages disperse and change". Comparative historical sociolinguistics similarly benefits from

crossing boundaries by bringing together perspectives that related fields can provide on sociolinguistically informed research topics. The focus of this special issue is on the *rate of linguistic change*, a topic of direct relevance to historical comparative linguistics from the 19th century on and central to sociolinguistics at large.[1]

2 Language change: Quick or slow, abrupt or gradual?

The comparative historical perspective highlights variability in the rate of change across dialects and languages. Peter Trudgill puts this in a nutshell in his contribution to this issue: "[i]t is clearly true that different language varieties may change at different speeds". However, before moving on to language comparisons, we will consider what rate of change might mean at the different levels of linguistic organization of a given language, and whether change is expected to be abrupt or gradual.

Although phonetic change may be gradual, at the phonological and lexical levels change can also be implemented abruptly (McMahon 1994: 47–68; Toon 1987: 276–291). Abrupt syntactic change is advocated by generative linguists, who approach grammars as decontextualized systems. In his much-debated work, David Lightfoot (1979) discusses the history of the English modals and argues for their radical reanalysis as a category in the 16th century (cf. Croft 2000: 49–51). On the other hand, the two perspectives, gradual and abrupt, combine in the framework adopted by De Smet (2016: 85; see also Traugott and Trousdale 2010), who views gradual grammatical change as a sequence of successful innovations whose progression suggests a mechanism by which different steps of change successively become possible. This approach permits an assessment of the rate of the ongoing change in its different stages over time.

In sociolinguistics, gradual change is typically traced in recorded performance data, where the diffusion of changes can be followed in and correlated with linguistic and nonlinguistic contexts across the speech community. Gradual change

1 This special issue is the outcome of a series of round table meetings the contributors held over several years, beginning with two colloquia moderated by Peter Trudgill in Helsinki in March 2015 and May 2016 on community size and language complexity, and on the rate of language change, respectively. These colloquia also benefited greatly from the contributions made by Terhi Honkola, Jouko Lindstedt, Taru Nordlund, and Sali Tagliamonte. We would like to thank our colleagues and fellow authors for these inspiring and instructive meetings, which broadened all our horizons far beyond our own fields of specialization.

enables intergenerational transmission, and its rate can be measured at any given time. However, even a gradual change does not diffuse at a uniform rate but is usually expected to follow an S-curve model, which has a slow beginning, a longer but rapid mid-phase, and a slow tailing off (Blythe and Croft 2012; Denison 2003; Labov 1994: 65–66).

In real-time studies, linguistic change is bound to come across as abrupt if the sampling interval is long enough. This point can be well illustrated by the written languages of Egyptian from c. 3000 BCE to 1000 CE. Although the spoken vernacular is assumed to continue to change over time, the five written languages are each taken to represent steps that adhere to a standard without any major changes as long as the society that uses it remains stable. The written language is only realigned with the vernacular after radical changes have taken place in a culture, as the new culture that succeeds it creates its own literary language (Pulgram 1950). This is also an extreme example of deliberate linguistic change, a topic elaborated on by Thomason (2007).

Like Egyptian, languages are often divided into chronological stages such as "old", "middle" and "modern". Period divisions of this kind are broad generalizations, and they may be further divided into shorter stretches of time ("early middle" X, "late modern" X, "16th-century" X) using more fine-grained linguistic and external criteria. Such periods may be characterized in terms of varying rates of linguistic change, as is done, for example, by David Denison (2003: 68) when he writes: "Old English and (late) Modern English are relatively invariant, whereas Middle (and possibly early Modern) English show rapid change of all kinds". This commonly held view is an assessment of the aggregate of a large number of changes that are in progress or completed during a given period; as such, the generalization aims to present a broad-brush comparison of the evolution of the language over an extended period.

These approaches present three perspectives from which linguists have approached the rate of change in a given language. They are, to re-use Anttila's (1989) phrase, "a necessary prerequisite for understanding change" when comparisons of the rate of change are made across languages and language varieties, although they may not all be equally relevant or, in many cases, even accessible. To summarize:

(1) The focus can be on the chronological states of the language at large, such as Middle English compared to Old and Early Modern English. However, Denison (2003: 68) himself notes that if this generalization is taken to represent "a conflation of S-curves", it should be approached with caution because the model is based on too simplistic a picture of variation. This variation can be either linguistic or due to language-external circumstances.

(2) Different levels of linguistic organization can evolve at different paces, with syntactic processes such as word-order changes being generally slower than morphological changes. A notable case would be shifts in word-order typologies, such as the PIE – Latin – French change from SOV to SVO, partly based on reconstructed evidence, which has taken millennia to operate and is still not fully completed (McMahon 1994: 147–149). By contrast, the change from the subject pronoun *ye* to *you* took no longer than 80 years to run its course in the 16th-century English data studied by Nevalainen and Raumolin-Brunberg (2017: 60–61).
(3) Descriptive empirical research shows the extent to which the trajectories of individual changes can alternate between phases of rapid, abrupt change and more or less stable frequency plateaus. This variability may correspond to data granularity, on the one hand, reflecting the structure and coverage of the database, and the quantitative methods and statistical models adopted (Gries and Hilpert 2012; Nevalainen 2015b). Importantly, however, the observed variation can be a reflection of various language-external influences, which impact on the pace of linguistic change either in the short term or over a longer period of time. The approaches adopted in this issue of the *Journal of Historical Sociolinguistics* are united in drawing attention to the impact of external factors on the rate of linguistic change.

3 Language change: Tempo and mode

As there is no one approach to the study of the rate of linguistic change, there is also no standard term for the *rate of change* itself, and alternatives such as *speed* and *velocity* have been used as well. To approach linguistic diversity at large, Greenhill (2014: 558) proposes a distinction between the *tempo* and the *mode* of language change. These terms were originally introduced in paleontology, where the tempo of evolution referred to the rates of change and the variation of these rates over time, whereas the mode referred to the causes of that variation in tempo. As to tempo, Greenhill (2014: 560) finds that linguists have moved between two extremes: a relatively constant tempo across languages and a language-specific tempo, which is purely "at the whim of history". He himself advocates the commonly held mediating position that more closely related languages will be more similar, and that languages change at a relatively constant rate in the absence of drivers for diversity.

Accounting for the mode of language change, extensive lists of drivers for diversity have been proposed and include factors such as population and

community size, technological innovations, geography and ecology (e.g. resource availability and barriers to human contact), and a variety of social factors, among them, political complexity, society type, language maintenance and shift, and language and social identity (e.g. Campbell and Poser 2008: 332–363; Greenhill 2014: 561–572; Trudgill 2011: 21–26, 146–148). The various contingent factors listed by Dixon (1997: 76–85) range from natural causes, material innovations, forms of communication and trade to conquests and religious expansionism, occupations of previously occupied territory and expansion of populations into uninhabited territory.

Many of these influences lead to *language contact*, which was already acknowledged in historical comparative linguistics in that it could impact on the assumed regularity of linguistic change. The role of contact is also recognized by scholars interested in stable linguistic variation and prepared to argue that "[m]uch of what used to be considered 'internally-caused change' might perhaps more appropriately have to be considered as contact-induced" (Bouzouita et al. 2019: 1). Sarah Thomason (2008: 47) takes account of the possibility of multiple causation and gives this general definition of *contact-induced change*: "[c]ontact is *a* source of linguistic change if it is *less likely* that a given change would have occurred outside a specific contact situation". She nevertheless concludes that social factors are ultimately more influential than linguistic factors as predictors of contact-induced change (Thomason 2008: 52).

In his contribution to this issue, Trudgill makes the point of contact and rate of change more explicit: "contact is the key factor in leading to higher speed of linguistic change". The two major influences that he finds instrumental in producing different rates of linguistic change are the relative degree of contact versus isolation of speech communities, and the role of relative social stability versus instability of communities. Trudgill combines these insights into a *sociolinguistic typology* (2011), which documents and compares combinations of community characteristics in promoting linguistic change.

A framework less frequently adopted by historical linguists is *linguistic typology*, a field that aims to understand language diversity by studying linguistic features over a number of languages; statistical tools are commonly used to validate different claims about their stability and change over time (e.g. Ladd et al. 2015; Nichols 2018; Wichmann 2014; for a diachronic intralingual study, see Szmrecsanyi 2009). Comparative work of this kind has advanced in recent years and taken a sociolinguistic direction by combining information on linguistic features and language classification with sociolinguistic parameters such as population size (Greenhill 2014; Sinnemäki and Di Garbo 2018).

It is yet another sign of cross-disciplinary convergence that social factors also figure in work on language classification which has its roots in

traditional comparative historical linguistics. Campbell and Poser (2008), for example, place a high priority on social mediation in the diffusion of linguistic change:

> Briefly put, linguistic diversification and language spread appear to be the results of linguistic change mediated by social factors (speakers' choices) and contingent historical events (migration, conquest, climate change, choice to shift languages, etc.). Agriculture, physical geography, ecology, and economics, to the extent that they play a role, are also mediated by social behaviour and particular historical events. (Campbell and Poser 2008: 363)

4 Approaches to tempo and mode in this issue

4.1 Theoretical and descriptive frameworks

A major theme running through the contributions in this issue is indeed *language contact*. It is considered in more detail by **Peter Trudgill** (2011 and this issue), who presents a typological framework of the sociolinguistic determinants which he shows correlate with the nature of linguistic changes over time. When it comes to the rate of language change, it is argued that languages that are spoken in relatively isolated communities tend to change gradually via intergenerational transmission (i.e. mostly through L1 acquisition), whereas a high proportion of adult L2 speakers in contact situations leads to rapid change (Operstein 2015: 11–13; Trudgill 2011). That is to say, the kinds of change that take place in a given language, and the rate at which these changes progress, crucially depend on the demographic and social history of its speakers. This "*contact-genetic*" *view* of language change takes into account the role of adult L2 learners as the driving force of (rapid) change (Thurston 1987: 36), while acknowledging the role of children in the stabilization process of the language variety that emerges from extended contact between two linguistic populations (Trudgill 2004: 28).

Sociolinguistic typologies have been criticized by Danylenko (2018) and other *systemic typologists* for being too mechanical in that they concentrate on social determinants of linguistic patterning and overlook the role of language-internal determination in linguistic developments and change. This internal tendency is seen as a mediator between types of societal structures and conditions, and types of linguistic patterning. More specifically, Danylenko (2018: 83) argues that external, societal determinants shape the internal determinant of a particular language either to accrue complexity or to simplify.

The predictive power of these two kinds of determinant can be put to test, a topic addressed by **Kaius Sinnemäki's** typological contribution to this special

issue. Using linguistic data from the *World Atlas of Language Structures* (WALS) he examines word order and the number of cases as language-internal predictors, and population size and the proportion of L2 speakers in the speech community as sociolinguistic predictors. His modelling takes as a starting point the observation that rates of change may vary across language families and geographical areas, and his results provide general evidence for the relevance of both social and linguistic predictors. However, for many other social determinants and research contexts, such experimental designs are not readily available but the researcher has to assess their impact on a case-by-case basis.

One way forward is to consider a wider range of simultaneous factors behind alternating rates of linguistic change as proposed, for example, by Natalie Operstein (2015: 8), who argues that the alternation between periods of abrupt and gradual change "is likely to be correlated with a specific type of societal structure, language transmission, typical pathways of linguistic change, sources of new linguistic structures, agents of change, as well as its outcomes", in other words, a variety of drivers for change. In practice, the evidence for influences on language variation and the rate of change is gathered from various sources and on different levels of linguistic organization. In this issue, **Riho Grünthal** examines the complex long-term interaction between linguistic patterning and contact networks as determinants of the rate of linguistic change in Finnic languages. He shows that language contacts did not remain constant but varied in intensity over time, and neither was the areal distribution of individual linguistic features uniform. The combined influence of such internal and external factors resulted in considerable variation in the dynamics and pace of change in the closely related Finnic language varieties over time.

As the role of external factors in preconditioning the rate of linguistic change is extended into a large number of potential drivers, one practical step is to attempt to grade the relative impact of these possible conditioning factors. In his discussion of the *punctuated equilibrium model* and the rate of language change, Dixon (1997: 76–85) details a large variety of contingent factors that are bound to cause major disruption in the equilibrium of human living and language. While the range of factors he lists has general validity, there is disagreement concerning the degree to which his model of such major punctuating events leading to linguistic divergence, i.e. rapid change, is followed by convergence during the following period of stasis. Campbell and Poser (2008: 325), for example, argue that languages diversify and spread in both punctuation and equilibrium, whereas Hudson's (2019) resilience model considers language change in terms of a four-phase adaptive cycle. Derived from ecology, this adaptive cycle model accommodates both change and resistance to change (resilience) and relates the phases of earlier models such as Dixon's into one larger cycle (Hudson 2019: 24).

Considering these various models and possible alternation between abrupt and gradual change, the authors in this issue introduce and elaborate on a range of non-linguistic and geographical factors that are likely to have impacted the rate of linguistic change in particular sociohistorical circumstances. The Dixon model is considered by **Juha Janhunen** in his article of Mongolic, by **Martti Leiwo** in his article on Greek, and by **Terttu Nevalainen, Tanja Säily, Turo Vartiainen, Aatu Liimatta and Jefrey Lijffijt** in their study of English. Leiwo, for example, finds that in the context of Egyptian Greek Hudson's resilience model in fact provides a fitting framework for the parallel linguistic developments documented in his data.

One example of a major cultural disruption in the history of Britain is the Norman Conquest (1066), which had a colossal impact on medieval English. Providing systematic corpus-based evidence for variation in the rate of language change over an extended period of time, Nevalainen et al. show that multiple interacting factors follow this punctuating event at some temporal remove from it. Although the Norman Conquest served as a catalyst for major social and linguistic processes, concomitant factors like variation in population size, for example, cannot be separated from the social consequences of epidemics and prolonged military activities that simultaneously increased social and geographic mobility and effected changes in social network structures in the language community.

Apart from military conquest, which is also considered by Leiwo in the context of Egyptian Greek, other major drivers for diversity include natural causes such as climate conditions, which can affect, directly or indirectly, the size and movements of human populations. One such instance, relevant to the social history of the Mongolic languages studied by Janhunen, is assumed to be the brief cooling which affected grasslands and grazing conditions in Manchuria around 1150 CE, during what is known as the Medieval Warm Period (Li and Ku 2002). As a consequence, people migrated on to Mongolia in search of new, more favourable regions to inhabit. In his contribution, Janhunen assesses a combination of language-external influences such as this one on linguistic variation of these nomadic populations and their subsequent differential rate of diversification.

Another factor, often related to climatic conditions, is epidemics. One example is the plague or the Black Death, a pandemic which peaked in Europe in the mid-14th century and killed, according to various estimates, from one to two thirds of the population of Europe. It originated in Central Asia and was spread along the Silk Road by land rodents infested with fleas that carried the infecting bacterium. The Medieval Warm Period appears to have had a role to play in the process, drying out grasslands and causing the flight of rodents. In Europe, the end of the Medieval Warm Period had created preconditions for the devastating effects of the plague by

reducing harvests and causing wide-spread famines. Overall, these developments represented a radical contraction in the size of linguistic communities. In England, for example, the Black Death is estimated to have brought the population of some four million down to two million in the mid-14th century (Slack 2012). The ensuing rapid social changes did not pass without linguistic consequences for European languages; Trudgill's article discusses the impact of the pandemic on Norwegian, and Nevalainen et al. consider it in the English context.

4.2 Evidence: Data and methods

The contributions to this issue make use of a varied set of materials and methods depending on the languages analysed. In his more theoretically oriented paper, **Trudgill** surveys a great deal of previous research ranging from typological studies based on descriptive materials ultimately derived from fieldwork, to historical studies based on textual evidence and reconstruction. He discusses languages belonging to the Indo-European, Afroasiatic, Austronesian and Pama-Nyungan language families. Examples of the former – which typically boast a relatively long textual tradition – include Latin, Brittonic, Old Norse and their descendants, as well as Irish, English, Greek and Armenian. By contrast, research into the Austronesian language family, such as Proto-Oceanic and its descendants considered by Trudgill, relies of necessity more on fieldwork and comparative phonological reconstruction, as the time scale is longer and literacy a more recent phenomenon. Hence, Trudgill particularly focuses on the rate of phonological change and, in the case of English, morphosyntactic change observed in corpora, relating it to the degree of language contact and social stability based on previous (socio)historical research.

Leiwo's study focuses on Greek written by the residents of Roman forts in Egypt. The data for the study are drawn from *ostraka* (potsherds), which were commonly used as writing material in ancient Egypt. Leiwo's data are extremely interesting in the sense that the scribes who wrote the letters were almost invariably L2 speakers of Greek, who drew their linguistic repertoire from a "feature pool" that was available to them in the multilingual Roman praesidium. As Leiwo points out, many essential changes that took place from Attic to Modern Greek started in the Hellenistic period but evolved in the first two centuries of the Roman period. The *ostraka* therefore provide us with an interesting glimpse into speaker-internal and contact-induced variation as well as incipient grammatical changes that were more firmly established at a later period.

Nevalainen et al. conduct a meta-analysis of 44 linguistic changes that were ongoing during the Middle English period. They investigate a wide range of grammatical features, including verbs, degree words, pronouns, adverbs, derivational morphemes and clause-level phenomena. Their data on the text frequencies of these features come from a number of previous studies based on the *Helsinki Corpus of English Texts*, retrieved from the open-access Language Change Database. Nevalainen et al. develop a new measure of the rate of change and apply it to estimate the rates of different categories as well as the overall rate of change at various stages of Middle and Early Modern English. Finding that the overall rate was at its highest in the decades surrounding the year 1350, they relate this peak to language-external factors described in historical research, such as the Black Death and the aftereffects of the Norman Conquest.

Janhunen analyses the Mongolic language family, which consists of some 15–17 different languages representing four different branches (Daghuric, Mogholic, Shirongolic, and Central Mongolic). They can all be traced back to a common ancestral form, derived from Proto-Mongolic, which is also the basis of a shared historical literary variety. Today, the Mongolic languages are not mutually intelligible but show what Janhunen calls *differential diversification*, with different innovations associated with each of them. Using the standard methods of comparative linguistics and, in some cases, of internal reconstruction as well as the extant Middle Mongolic texts, he compares the individual modern languages with their common ancestral form, analysing phonology, morphology, syntax, and lexis. Janhunen documents a wide range of variation within the language family and shows that some modern languages are conservative, retaining many features of the Mongolic protolanguage, while others are highly innovative, and all of them also have innovative features. He notes that these differences can be quantified by counting the number of innovations per language, but it is not possible to calculate overall differences in the rates of evolution between related languages because innovations are not evenly distributed across the different language components. By contrast, the differential rates of linguistic change can be correlated with such external factors as the size, profile and geographical environment of the speaker population.

Like Trudgill's contribution, **Grünthal's** analysis of medieval Finnic languages is based on a comprehensive review of existing literature. The primary data on these medieval languages range from birch bark writings to place names and agricultural terms, and by studying the degree of morphophonological change (e.g. loss of case endings) as well as the varying diffusion of lexical innovations in different Finnic languages, Grünthal shows that the rate of language change has been most rapid in the southern zone of Finnic-speaking areas. Grünthal explains this finding by language contact: the southern areas were exposed to intensive and

stable contacts with Germanic, Scandinavian, Baltic and Slavic languages in the Middle Ages, which consequently supported the spread of new vocabulary and resulted in morphophonological attrition and grammatical innovations.

As mentioned above, **Sinnemäki's** typological article uses the WALS database (which is chiefly based on grammar descriptions) as its main data source on case marking and word order. The sociolinguistic data on population size and number of L2 speakers come from *Ethnologue* and similar collaborative projects gathering information on the world's languages. As noted by Sinnemäki, the data are unevenly distributed, and especially the amount of data available on the number of L2 speakers (66 languages) is heavily skewed towards Eurasia and Africa (80%). Sinnemäki's statistical analysis of the data involves generalized linear mixed effects modelling, which predicts the value of the dependent variable – here, number/presence of cases – based on predictor variables: word order, population size and proportion of L2 speakers. This novel approach enables him to compare the relative importance of linguistic and social factors at the level of language families, across which rates of change are known to vary.

5 Conclusion

This collection of articles makes a contribution to *comparative historical sociolinguistics* by presenting empirical studies over a broad geographical spread and a long time span. The authors analyse the rate of linguistic change based on data that ranges from phonology and morphology to syntax, lexis and semantics. With their combination of theoretical, methodological and empirical choices, they hope to take a small step towards Natalie Operstein's desideratum (2015: 13) for "a fuller integration of historical-comparative linguistics with historical sociolinguistics, sociolinguistic typology, creolistics, and the study of bilingualism and adult L2 acquisition, into a coherent theory of language change". That Operstein's list is not exhaustive is shown by the inclusion of linguistic typology among the frameworks referred to in this special issue.

As our studies demonstrate, accounting for the rate of change in earlier varieties of languages and language families is never a simple enterprise. It is therefore no wonder that predicting the future presents an almost insurmountable challenge (Sanchez-Stockhammer 2015). However, we may assume that the general drivers for linguistic change will retain their validity in the future as well. For example, one of the scenarios based on current knowledge of climate change predicts massive population movements globally after some of the world's most populous regions have become uninhabitable with a 4 °C increase

in temperature over the next hundred years. If it were to take place on the scale predicted, the ensuing mass migration will not happen without major linguistic consequences.

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