DEFINING 'NATURALNESS'

Constructed languages as typological exploration

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ABSTRACT • Among the community of language construction enthusiasts, particularly those who fall under the 'artlanger' category, there exists a concept termed 'naturalness' (Rhiemeier 2012). Under this framework, the quality of an artistic language ('artlang') can be assessed in terms of how naturalistic it is, i.e. the degree to which it is a simulacrum of a natural language (or 'natlang'). This concept as practised in artlang communities exhibits a complex relationship with broader linguistic theory and typology that I explore in this article. In terms of how 'naturalness' is achieved, while some advise engaging in 'imaginative role-play', (J. Brown 2017), the main advice is to read about a wide array of natural languages to see what structures are attested (Peterson 2015). Discussion of exemplar natlangs is thus a frequent device in theorising among artlangers, such as Kearsley (2023), who uses a discussion of Chukchi as a starting point for a critique of simplistic views of basic word order and alignment. Indeed, the term ANADEW, an acronym of 'A Natlang Already Did [it] Except Worse', distils this point, by noting that natlangs already exhibit 'bizarre' phenomena (Rhiemeier 2012). This paper explores the extent to which this learned intuition of 'naturalness' on the part of conlangers conforms to the kinds of generalisations drawn by typologists, making two main observations. Firstly, I observe that, as noted by Merlo, Bettega, and Corino (2022), the typology of a constructed language is in large part determined by the diversity of languages that the conlanger has had exposure to, i.e., their typological knowledge. Secondly, I propose that another significant influence on the typology of constructed languages are the theoretical assumptions made about human language more generally (a point made elsewhere in the case of morphology by Peterson (2014)), particularly focusing on morphological complexity as discussed by Baerman, Brown, and Corbett (2017).

KEYWORDS • Constructed Languages; Typology; Naturalness; Multivariance.

1. Introduction

The issue of naturalness in constructed languages has been the subject of some discussion in online conlanging circles for decades at the time of writing (J. Brown 2017). Figure 1 poses a typical question in this vein, with a Reddit user seeking a sense of naturalness in their own conlanging efforts but is unsure as to how to achieve this.

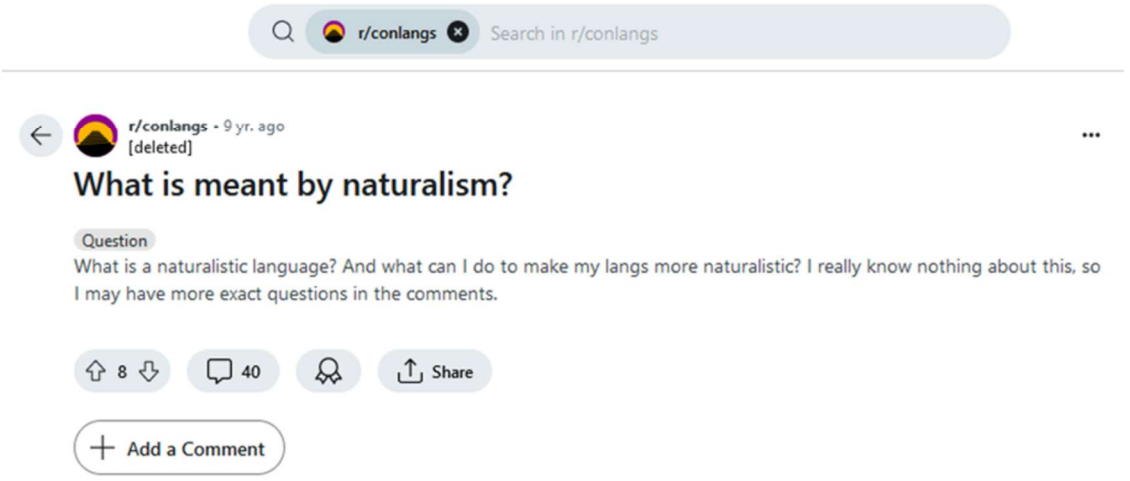


Figure 1: Reddit question on Naturalness

This question prompted responses such as the ones in Figure 2 and 3. The former suggests that the study of natural languages is the most straightforward way to achieve this effect. The latter further develops this point in a further methodological point with respect to the process of language change, proposing that naturalness is best achieved through the application of historical processes, which is claimed to naturally produce the kinds of irregularities that are held to partly characterise natural languages.

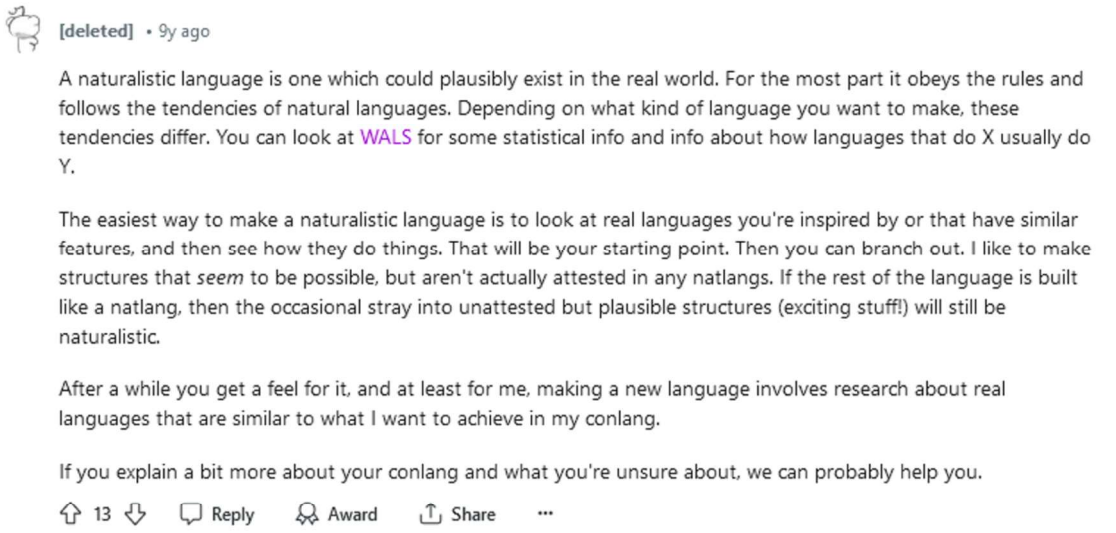
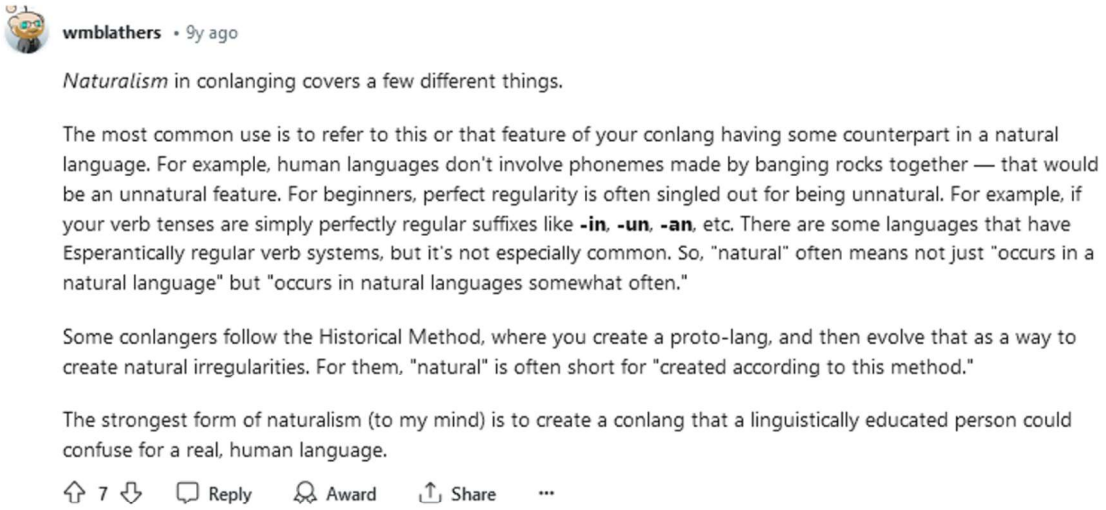


Figure 2: One Answer to Figure 1



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Naturalism in conlanging covers a few different things.

The most common use is to refer to this or that feature of your conlang having some counterpart in a natural language. For example, human languages don't involve phonemes made by banging rocks together — that would be an unnatural feature. For beginners, perfect regularity is often singled out for being unnatural. For example, if your verb tenses are simply perfectly regular suffixes like **-in**, **-un**, **-an**, etc. There are some languages that have Esperantically regular verb systems, but it's not especially common. So, "natural" often means not just "occurs in a natural language" but "occurs in natural languages somewhat often."

Some conlangers follow the Historical Method, where you create a proto-lang, and then evolve that as a way to create natural irregularities. For them, "natural" is often short for "created according to this method."

The strongest form of naturalism (to my mind) is to create a conlang that a linguistically educated person could confuse for a real, human language.

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Figure 3: Another answer to Figure 1

From this we can derive a preliminary definition of naturalness as it applies to constructed languages as a kind of 'verisimilitude', implying that a constructed language is 'realistic' in some way. Within this broad notion we can distinguish a number of distinct senses, depending on the (fictional) context in which the language is situated. On the one hand, if a constructed language is presented as if it were a natural language in an alternate version of our own world, then naturalness entails that the conlang in question must exist within the ecosystem of natural languages that exists in our world, with all of the contingent phenomena that that that context implies (e.g. areal effects). On the other hand, if the constructed language exists in the context of a fantasy world populated by humans (or beings functionally equivalent to humans), then naturalness instead implies simply that the conlang obeys similar broad a priori constraints as human languages[1].

As the discussion in Figures 1, 2 and 3 shows, this sense of naturalness in constructed languages is to some extent sufficiently intuitive that the conversation can move on to the practical methods to achieve this sense of naturalness. And yet, Figure 2 and Figure 3 present some differences in their characterisation of the perception of naturalness in constructed languages. For instance, both refer to statistical tendencies, but whereas Figure 2 highlights the frequency of co-occurrence of particular structures, Figure 3 instead focusses on the frequency of presence of particular structures. Therefore, giving a concrete definition of what naturalness actually is in practice is more complex than at first glance.

In the next section I therefore present three potential criteria that could be employed in a typological definition of naturalness in constructed languages. This is framed in terms of an attempt

[1] With non-human fantastical beings, whether extraterrestrial or fantasy races, there is a further notion of naturalness which is even harder to define, as in those contexts the conlanger is explicitly leaving at least one or more of the biological and social constraints of 'baseline' humans behind. This makes it more difficult to actually know what ought to be possible in languages spoken by such beings, and such questions will not be considered in further depth in this paper (though see the discussion of human learners of Klingon in 2.2 below).

to create a multivariate typology within the Canonical Typology framework of Corbett (2005), assessing the viability of each criterion in turn with regards to how well they can each serve as a criterion for naturalism.

2. Canonical Naturalness

Traditional typological approaches frequently suffer from a problem of attempting to fit a multivariate phenomenon into a discrete set of 'boxes' (typological categories). For instance, M. Dryer et al. (2024, chp. 81) classify a dataset of languages of the world by their dominant word order, according to the traditional 'Greenbergian' six-way typology of Subject, Object and Verb ordering (Greenberg 1963, 60–61). However, of the 1,376 languages in their list, 189 are listed as 'lacking a dominant word order'. Similarly, within these boxes there is variation that a simplistic reading of the data would overlook. For instance, both Russian and English are labelled as 'SVO' on the map, however the body of the article itself acknowledges that the former is much more flexible in its constituent order relative to the latter.

Kearsley (2023) makes this point specifically in the context of constructed languages, exemplifying this by pointing to the non-configurational syntax of Chukchi. He particularly highlights the relative paucity in Chukchi of transitive clauses with two spelled-out nominal arguments that the Greenbergian typology assumes to be basic, and the role played in Chukchi by discourse factors over role in the clause for determining the order of constituents, both of which make Chukchi clause-level syntax difficult to typologise within the traditional framework. From this he goes on to make a point about the relationship that conlangers ought to have with traditional typologies, arguing that the most interesting languages are constructed by considering how the system of the language functions as a system first before classifying it by these typological means, rather than stating from the outset that the goal is to 'make an SVO language' (for instance).

These issues with a traditional typological approach are of particular relevance for the purposes of a discussion of naturalness. As observed above, the question 'what is naturalistic in a constructed language?' is inherently a question of what is possible, rather than what necessarily is attested. As such, this strongly suggests that we require a typology of naturalness that is not so rigid that it does not allow for the potential existence of linguistic structures that are technically unattested in natural languages but nevertheless would appear to be unsurprising in a natural language to exist (a point which will be returned to in more depth in 2.1). This therefore suggests that a more multivariate approach will be more fruitful in addressing this question, and Canonical Typology provides with a framework within which to implement this.

The Canonical framework in linguistic typology, first outlined by Corbett (2005) and further developed in works such as D. Brown, Chumakina, and Corbett (2013), aims to capture linguistic variation by means of plotting individual instances of a phenomenon in a multivariate typological space with respect to a strictly defined canonical reference point. The core building block of this framework is the concept of the 'canon', a criterion which partially defines the canonical instantiation of a linguistic phenomenon. The combination of several of these criteria forms a canonical definition of a phenomenon, with actual instantiations of a phenomenon being measured with respect to their distance from this canonical definition.

Importantly, these canons are violable in that one or more canon may not hold for a linguistic structure in a given language that otherwise appears to represent an instantiation of said phenomenon. A canonical typology therefore is in this respect something of a 'typology of the edge cases', where the most interesting phenomena are those which don't fulfil all of the canonical criteria and are therefore at some degree of remove from the ideal. Indeed, there is not even an assumption that the most ideal instantiation of a given phenomenon is the most frequent or even

attested. In the context of the present discussion this therefore implies that it is possible for some structures to be more canonically naturalistic than others, without necessarily having an absolute division between linguistic structure which are and are not 'naturalistic'.

I therefore present three criteria that might conceivably form part of a canonical typology of naturalness as applied in constructed languages. I will discuss each of these criteria in turn and assess how well they actually enable us to define naturalness. As the discussion below shows, in practice not all of these criteria appear to be workable for this purpose, but nevertheless the exercise of attempting to formulate such a definition in itself is useful in terms of highlighting the difficulties in attempting to provide such a unified definition of 'naturalness'.

2.1. Attestation in Natural Languages

The first criterion that I propose is that a linguistic structure in a constructed language may be said to be canonically natural if they are also attested in a natural language. Non-canonically naturalistic structures by this criterion, as a result, are those which have the semblance that they could be found in a natural language but aren't yet. I will term this the 'Criterion of Attestation'.

Putative criterion 1: attested in a natural language > not attested in a natural language[2]

There is an obvious relationship here between this criterion and the notion of typological rara or rarissima, phenomena which are attested in specific languages of the world but at very low frequencies (Wohlgemuth and Cysouw 2010). As an example of such an 'extreme' phenomenon, consider the tonal phonology of Iau, a Lakes-Plain language of West Papua. Phonologically the language appears 'bizarre'; only 6 contrastive consonants /ɓ t ɗ k ɸ s/, but 8 contrastive vowels /i̯ i ɪ ɛ a ɔ ʊ u/ and 8 contrastive tones /˦ ˧ ˦˥ ˨˧ ˦˨ ˧˨ ˨˧ ˧˨˧/ (Bateman 1990). Furthermore, these tonal contours may be compounded, particularly in the expression of inflectional contrasts on verbs, e.g. tai˦ 'pull', tai˧ 'have pulled off', tai˦˥-˨˧ 'pull on', tai˦˥-˧˨ 'pull back and forth' (Bateman 1986).

If a conlanger were to present even a comparatively simpler version of such a structure in their own constructed language, a commenter unfamiliar with the phonological typology of Lakes-Plain languages such as Iau might plausibly claim that the constructed system presented is 'unnaturalistic'. On the other hand, those familiar with these languages, when presented with the less extreme variant, might instead cite the example of Iau as an instance of what is possible, thereby validating the creative choice of the original conlanger. This is typically accompanied by the description of said conlang structure as 'ANADEW', 'A Natlang Already Did it Except Worse' (Rhiemeier 2012). In its epistemological framing this is an echo of the sentiment expressed in the words of Shakespeare's Hamlet (Act 1, Scene 5):

> 'There are more things in heaven and earth, Horatio, than are dreamt of in your philosophy.'

As an example of a possible application of this Criterion of Attestation in the context of a canonical typology, consider the contrast between a syntactic structure attested in natural languages termed 'Austronesian Alignment' and a structure found in constructed languages referred to as the 'Conlang Trigger System'. The latter is notionally derived from the former, but it has properties of its own which separate it from anything found in any natural language.

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[2] In this and subsequent definitions '>' stands for 'is more canonical than'.

In a natural language exhibiting Austronesian Alignment such as Tagalog, there is (minimally) a contrast between an ‘agent voice’ (AV) (1) and a ‘patient/undergoer voice’ (PV) (2), with the possibility of additional voice markers for various kinds of oblique arguments such as locations. These voices are ‘symmetrical’, in the sense that verbs inflected for either voice take two arguments, with nominal case marking occurring on an accompanying determiner. Significantly, the alternation in voice marking is accompanied by a shift of the case marking of the noun phrases in the sentence (examples from Blust (2013, 63)), similar to active-passive alternations in other languages but without the syntactic asymmetry that characterises such systems.

1. *b**um**ilí naŋ kotse aŋ lalake*
   <um>bilí naŋ kotse aŋ lalake
   <AV>buy GEN car NOM man
   ‘The man bought a car’

2. *b**in**ibilí naŋ lalake aŋ kotse*
   <in>CV-bilí nan lalake aŋ kotse
   <PV>PROG-buy GEN man NOM car
   ‘The man is buying a car’

On the other hand, in a conlang trigger system such as in Ayeri (a personal language created by Carsten Becker (Becker 2003)), the case-marking of the nouns in the clause is not affected by the voice marking on the verb. Instead, the marking on the verb denotes the role of the noun that is the topic of the clause, with the topicalised noun dropping its case marking (examples from Becker (2018, 255)).

3. ***Ang**intya ayon inunley motonya*
   ang=int-ya ayon inun-ley moton-ya
   AV.TOP=buy-3SG.M man[TOP] fish-PAT.INAN store-LOC
   ‘The man, he bought a fish at the store’

4. ***Le**intya ayonang inun motonya*
   le=int-ya ayon-ang inun moton-ya
   PV.INAN.TOP=buy-3SG.M man-AGT fish[TOP] store-LOC
   ‘The fish, the man bought it at the store’

In a discussion of conlang trigger systems in a thread on the Conlang Mailing List, Brown argues that this particular system of alignment, while not directly attested in any natural language, nevertheless has the appearance of a structure that could plausibly occur in a natural language, also stating:

> ’I agree with David [J. Peterson] in that I also wish: to suggest that such trigger languages exist as conlangs only; to suggest that this should be noted on this page.
>
> ‘Likewise, I also do *not* mean to suggest that the ’trigger conlang’ is a bad thing, only that it isn’t necessarily a representation of something that’s naturally occurring. Indeed, experimenting with such a system could be quite interesting and illuminating.’ (R. A. Brown 2006)

This nuanced relationship between naturalness and attestation in natural languages would appear to be exactly the kind of typological problem that the Canonical approach in typology is well-placed to encapsulate. The nature of the problem is that it appears to be possible for some linguistic phenomena to have at least the semblance of naturalness without being directly attested. Excluding such phenomena from the set of phenomena which might plausibly exist in natural

languages would similarly appear to be premature, and a definition of naturalness which allows for this possibility is therefore to be preferred over one which is strictly constrained by the set of phenomena attested in natural languages.

2.2. Ease of Acquisition

A second, related criterion that I propose is that a linguistic structure in a constructed language may be said to be canonically natural if it can be acquired through the natural process of acquisition. A non-canonical structure per this criterion is correspondingly difficult to impossible to acquire through normal processes of neither L1 nor L2 acquisition. I will term this the 'Criterion of Acquisition'.

Putative criterion 2: acquirable > not acquirable

This can be tied to the prevailing theme throughout much of the theoretical linguistic literature. This is the conception that a 'theory of Language' (in the capital-L sense of the broad phenomenon of human linguistic communication) is by necessity a solution to the question of how individual languages are acquired. This is particularly true of theories based off of the work of Noam Chomsky (Chomsky 1986), whose theories of language are predicated on the notion of 'Plato's problem' (Lightfoot 2005). This leads to the supposition of the notion of a Language-specific 'Universal Grammar' which is held to provide the underlying basis for all languages (though the extent to which this is actually workable as a theory has been challenged by authors over the years (Dąbrowska 2015)).

Similarly, more constructivist theories of language acquisition typically view the process of language acquisition as a form of language construction in itself. Infants in these models receive input from the speakers around them and form generalisations on that basis, with language change resulting from differences in analyses between generation (Behrens 2021). Frameworks resultant from this perspective such as Construction Grammar place greater weight on the surface linguistic data itself and the ability of speakers to make generalisations over the data over any kind of a priori language-specific constraints (Hoffmann and Trousdale 2016).

The recent surge in popularity of constructed languages has resulted in a handful being the subject of acquisition studies. One example that we could point to is Klingon, the constructed language created by Mark Okrand for the TV series Star Trek: The Next Generation with the explicit aim of attempting to construct as 'alien' a language as possible (at least from the perspective of Anglophone westerners) (Meluzzi 2022). The popularity of the series has resulted in the incorporation of the language into the fan culture of Star Trek, seeing usage in a range of fan works and even appearing to have acquired a community who attempt to learn to speak the language fluently (Hermans 1999; Wahlgren 2004; Meluzzi 2019), and for which the Klingon Language Institute provides a certification program (Klingon Language Institute 2025).

Crucially, Klingon provides a promising test case for testing the acquirability of seemingly 'unnatural' linguistic structures. For instance, Windsor and Steward (2017) conducted experiments to test the extent to which L2 speakers of Klingon to acquire the typologically idiosyncratic stress system of the language. They found that it was possible despite the fact that the system exhibits properties which are apparently unnatural at first glance, such as a root-final stress (5) that is pulled to the right edge of the word by a coda glottal stop in suffixes, regardless of their distance from the root (6). Thus, the Klingon stress system per the proposed typology could be considered canonical with respect to the Criterion of Acquisition while being non-canonical with respect to the Criterion of Attestation.

5. [(dʒɪnˈmol)xommeɪqʰoqʰvɑm] *jInmolHommeyqoqvam*
   dʒɪnmol-xom-meɪ-qʰoqʰ-vɑm
   project-DIM-PL-so.called-PROX
   ‘these so-called minor projects’

6. [(dʒɪnmol)xommeɪqʰoqʰvɑmˈvoʔ] *jInmolHommeyqoqvamvo’*
   dʒɪnmol-xom-meɪ-qʰoqʰ-vɑm-voʔ
   project-DIM-PL-so.called-PROX-ABL
   ‘from these so-called minor projects’

However, upon further investigation, it becomes less clear how suitable this criterion is for ‘naturalness’ in constructed languages, as it is not certain that all acquirable structures are per se ‘natural’ in this regard. For instance, Esperanto morphology features a unique set of suffixes whose sole function is to mark the word-class of the form to which they are attached, with no obvious parallel in natural languages. A final *-o* marks a noun, *-a* an adjective, *-i* a verb, *-e* an adverb and -u and imperative (Zamenhof 1905). Alternations between these terminations serve derivational functions, e.g. *viro* ‘man’ vs. *vira* ‘manly’, *skribi* ‘write’ vs. *skriba* ‘written’.

This system is clearly to some extent acquirable, given the existence of a community of native speakers of Esperanto (Lindstedt 2010) (though one with a distinct status compared to that of native speakers of natural languages (Fiedler 2012)). However does this therefore mean that it can reasonably be claimed that the system is naturalistic? The Canonical approach to this would be to say that it is naturalistic, but that (as with the Klingon example above) it would non-canonical with respect to the Criterion of Attestation discussed in the 2.1, while at the same time being canonical with respect to the Criterion of Acquisition. At the same time, it is not clear to me that this is actually satisfying given the nature of the Esperanto system, problematising the utility of this Criterion of Acquisition.

Furthermore, there is the practical problem of how to test where a given structure is acquirable or not. While researchers into language acquisition frequently create ‘schematic’ languages in order to test a particular feature in a limited experimental context, it is unclear how one might test how acquirable most fully fleshed-out constructed languages actually are, given the limited parameters within which psycholinguists typically employ constructed languages in such studies (Goodall 2023). Thus, despite its theoretical attractiveness, it is not a straightforward task to establish how acquirable a structure in a constructed language, and this further limits the utility of ease of acquisition as a canonical criterion for naturalness.

2.3. Conformity to Theoretical Frameworks

Following on from the discussion in the preceding section, the concern with the problem of acquisition among many theoretical linguists leads me to suggest a final potential canonical criterion for naturalness in constructed languages. This is the idea that a linguistic structure in a constructed language may be said to be canonically natural if it conforms to an existing theoretical framework. Non-canonical structures by this criterion are those which specifically cannot be described in terms of existing theoretical frameworks. I will term this the ‘Criterion of Affirmation’.

Putative criterion 3: expressible by theoretical frameworks > not expressible by theoretical frameworks

This criterion is the most problematic in the context of the proposed typology, as its application ought to be different between theories, assuming it is the case that different theories make different, testable predictions for what ought to be attested in natural languages. On the other hand, this

problem in itself highlights how constructed languages can be useful to test both to what extent these theories do make different predictions and to what extent the theoretically possible structures appears to map well onto the typologically attested set of phenomena in natural languages.

The approach suggested by this Criterion of Affirmation therefore presents naturalness as a form of experimentation, where the logical conclusions of a particular theory are followed to produce seemingly absurd results. For instance, the Zhÿler language created by David J. Peterson takes 'underspecified vowels', a notion employed by certain strands of featural phonology in the description of vowel harmony systems and creates a system with more underspecified vowels than contrastive vowel sounds[3]. Twelve of these are shown in feature terms below.

Vowel	[round]	[front]	[high]
B	-	-	±
F	-	+	±
A	-	±	-
W	-	±	+
Q	+	-	±
Y	+	+	±
O	+	±	-
U	+	±	+
J	±	-	±
R	±	+	±
E	±	±	-
I	±	±	+

In this respect then, constructed languages present the opportunity to 'stress-test' a theory, particularly to see in what respects it 'over-generates', i.e. allows for a much greater array of possible structures than is attested in natural languages, and such a program has indeed been proposed by authors such as Enguehard, Luo, and Lampitelli (2022). However, as a result of this, we cannot therefore also use conformity to a theoretical framework as a criterion for canonical naturalness, due to the fact that this kind of testing is in essence a way of testing whether a theory that claims to be able to describe or explain the phenomena found in all natural languages can be used to generate structures that are explicitly not naturalistic, i.e. unlike anything that we might reasonably expect to encounter in any natural language. By extension, this makes the Criterion of Affirmation problematic in the context of a definition of naturalness which attempts to capture the variation that we actually expect to see across the broad spectrum of human languages.

3. Typologically-Informed Language Construction

As shown in the above discussion, the pursuit of the goal of naturalness in constructed languages by necessity has a relationship with a major question that linguistic theories seek to answer, which is what kinds of structures are possible in human languages. M. S. Dryer (2008)

[3] The actual contrastive vowel set is identical to that of Turkish: /i y ɯ u e ø a o/.

refers to theories which aim to capture this variation ‘descriptive theories’, contrasting them with ‘explanatory theories’ which aim to provide an explanation for why language the way it is[4]. As a result, the practice of language construction is also informed by linguistic typology, reflects the process of typological inquiry, and has similar constraints.

Consider again the advice discussed in 1 to study the structure of natural languages as a source of inspiration for constructed languages. For instance, without the example of languages such as Iau, we might propose a universal that languages always have more consonants than tones Similarly, the compounding of tonal contours to express inflectional contrasts in Iau might seem bizarre to anyone on first blush, regardless of previous exposure to other languages with tonal inflection, simply because the mechanics of the system seem quite unlike anything found in perhaps any language outside of the Lakes-Plain family (Foley 2018).

And yet such natural languages exist, entailing that not only should a descriptive theory of human languages be able to provide an account of them, but also that they are phenomena that an artistic conlanger may employ in their languages and can therefore plausibly claim to be naturalistic (see again the notion of ‘ANADEW’ discussed in 2.1). At the same time, we can envision a philosophical circularity, whereby a conlanger creates a structure in a constructed language without any direct analogue in a natural language and then claims it to be naturalistic on the grounds that it could be attested in a hypothetical natural language. The issue is not the claim per se, but rather that there is no certain way to actually prove the claim that it could conceivably be attested in a natural language to be false.

Similarly, as shown in 2.3 constructed languages can also provide a useful tool for understanding what particular kinds of structures a given theory is biased towards among those that it attempts to encapsulate. A version of this latter point is made by Peterson (2014) in Fiat Lingua. Here Peterson argues that, in terms of the creative potential of constructed languages, the exercise of language construction has been in large part held back by the concept of the morpheme. Taking this as the basis of morphological organization results in conlangs which feature morphological systems that are much more transparent and regular compared to the trends evident in most natural languages, which results in languages which feel (somewhat ironically) unnaturally regular. For instance, morphological deponency, where morphological forms that mark an inflectional contrast in one part of the grammar fail to do so in another part (such as deponent verbs in Latin, which use passive morphology despite not having an obviously passive meaning) are specifically highlighted by Baerman, Brown, and Corbett (2017, 52–60) as one of the kinds of phenomena that are not predicted by a strongly modular view of linguistic structure, which suggests that we ought to find it less frequently among constructed languages than among natural languages[5]. Thus, the adoption of the assumptions of a theoretical framework can actually result in a set of constructed languages which seem less natural (in the negative sense of lacking phenomena that we ought to expect given the natural language data) than if the theoretical framework had not been presumed, further problematising its utility as a criterion for canonical naturalness.

[4] This point is articulated as part of a broader point concerning theories which fail to distinguish these two questions that is not relevant here.

[5] Note here that this is a claim about the naturalness of the typology of constructed languages as a class, rather than about the naturalness of individual constructed languages.

In theory this therefore might suggest naturalness in constructed languages as an ideal phenomenon with which to implement an approach based upon a canonical approach. However, as the above discussion shows, there are various reasons why this approach does not seem to be viable in this instance. For one, the criteria involved are not strictly independent, but rather canonicity according to one criterion can affect the canonicity according to a different criterion. For one, if a linguistic structure is attested in a given language (and thereby canonical with respect to the Criterion of Attestation) it must also therefore be acquirable by humans (and thereby canonical with respect to the Criterion of Acquisition). Similarly, both what is attested in natural languages and what is acquirable influences what linguists aim to encode in their theoretical frameworks. As such, a given linguistic phenomenon being canonical according to the Criterion of Attestation would appear to imply its canonicity with respect to the Criterion of Acquisition, and canonicity according to the Criteria of both Attestation and Acquisition would appear to logically entail canonicity according to the third, nullifying its utility as a criterion. This problematises the applicability of a canonical approach, as the entire goal of a Canonical typology is to allow for the maximal possible range of variation across all combinations of variables, with no single variable being defining.

For another, canonical criteria in the manner of Corbett (2005) also rely upon the ability to objectively assess a linguistic structure's status by itself in relation to the criterion. For instance, in the case of suppletion (e.g. English go vs. went), one of the criteria is that suppletion is more canonical if it is morphological in distribution rather than morphosyntactic[6]. The status of a given suppletive alternation in relation to this criterion is therefore straightforward to establish simply by looking at a morphological paradigm of the language. The proposed criteria for the canonical definition of naturalness in constructed languages by contrast are different in that they cannot be so objectively assessed. The status of a given conlang structure with respect to the Criterion of Attestation in particular can change by the presentation of new data from a natural language which exhibits such a structure.

As a result, the attempt to devise a canonical typology of naturalness has not at this point been successful in producing a precise definition of canonical naturalness, as each of the proposed criteria present distinct issues which problematise their utility in such a typology. At the same time, the above exercise has been useful in showing the multivariate nature of naturalness as a concept, with no single defining criterion being able to encapsulate the variation within its usage.

4. Conclusion

The act of constructing a language that aims to be naturalistic is by itself a typological exercise, and constructed languages provide an avenue for typological exploration of a different kind to that provided by natural languages. While natural languages provide examples of what is possible in languages, they do not by themselves present an exhaustive set of such possibilities. Individual languages with their own unique set of properties are constantly evolving and disappearing, and to assume that the current set of languages that are attested represents a complete set of the possibilities for all human languages is therefore self-evidently naive. Furthermore, the exact relationship between the set of attested natural languages and the set of possible natural

[6] This is because a morphosyntactic determination brings a suppletive alternation closer to a lexical alternation.

languages is unclear, and as a result constructed languages provide an opportunity to experiment with structures that are unattested in natural languages in order to more comprehensively enquire into what kinds of phenomena a theory of human languages ought to be able to capture.

At the same time, as the difficulty highlighted above in providing a concrete definition of 'naturalness' shows, the actual utility of constructed languages for this kind of typological exploration must be qualified with the lack of certainty with regards to actual parameters under which the experiment operates. The disconnect between what is attested in the languages of the world and what is possible for human languages is an unresolved (and likely unresolvable) quandary for linguists. The former set is the only one for which actual data is available, and therefore provides an opportunity for falsifiable predictions, if only of the negative kind; predictions of a structure which ought not to be possible within a given framework but which is in fact attested in a natural language.

Furthermore, for the purposes of everyday language construction, the practical notion of what is 'naturalistic' in this regard remains constrained by the set of phenomena which is directly attested in natural languages. Since we cannot be sure that a given hypothetical structure could arise in a natural language without actually seeing it attested, we likewise cannot be entirely sure that it cannot (barring gross violations of the physical constraints of the human mind such as limits on active memory recall). As a result, the study of natural languages (preferrably a broad range thereof) appears to still be the optimal method for achieving naturalness in constructed languages.

REFERENCES

Baerman, Matthew, Dunstan Brown, and Greville G. Corbett. 2017. Morphological Complexity. 1st ed. Cambridge: Cambridge University Press. https://doi.org/10.1017/9781316343074.

Bateman, Janet. 1986. Iau Verbal Morphology. Jakarta: Universitas Katolik Indonesia Atma Jaya.

———. 1990. "Iau Segmental and Tone Phonology." NUSA - Linguistic Studies of Indonesian and Other Languages in Indonesia 32: 29–42.

Becker, Carsten. 2003. "Benung. The Ayeri Language Resource." Benung. The Ayeri Language Resource. https://ayeri.de/.

———. 2018. A Grammar of Ayeri: Documenting a Fictional Language. Marburg: Lulu Press.

Behrens, Heike. 2021. "Constructivist Approaches to First Language Acquisition." Journal of Child Language 48 (5): 959–83. https://doi.org/10.1017/S0305000921000556.

Blust, Robert. 2013. The Austronesian Languages. Canberra: Pacific Linguistics.

Brown, Dunstan, Marina Chumakina, and Greville G. Corbett, eds. 2013. Canonical Morphology and Syntax. First edition. Oxford: Oxford University Press.

Brown, Jeffrey. 2017. "An Essay on Naturalism in Conlangs." Fiat Lingua.

Brown, Ray A. 2006. "Re: Trigger Systems (Was Re: Book on Constructive Linguistics)." Listserv 16.5 - Conlang Archives. https://listserv.brown.edu/cgi-bin/wa?A2=ind0610a&L=CONLANG&P=50951.

Chomsky, Noam. 1986. Knowledge of Language: Its Nature, Origin, and Use. Convergence. New York: Praeger.

Corbett, Greville G. 2005. "The Canonical Approach in Typology*." In Studies in Language Companion Series, edited by Zygmunt Frajzyngier, Adam Hodges, and David S. Rood, 72:25–49. Amsterdam: John Benjamins Publishing Company. https://doi.org/10.1075/slcs.72.03cor.

Dąbrowska, Ewa. 2015. "What Exactly Is Universal Grammar, and Has Anyone Seen It?" Frontiers in Psychology 6 (June). https://doi.org/10.3389/fpsyg.2015.00852.

Dryer, Matthew S. 2008. "Descriptive Theories, Explanatory Theories, and Basic Linguistic Theory." In Catching Language, 207–34. Berlin: De Gruyter Mouton.

Dryer, Matthew, Martin Haspelmath, eds. 2024. "The World Atlas of Language Structures Online." Zenodo. https://doi.org/10.5281/ZENODO.13950591.

Enguehard, Guillaume, Xiaoliang Luo, and Nicola Lampitelli. 2022. "Constructing Languages to Explore

Theoretical Principles." RiCOGNIZIONI. Rivista Di Lingue e Letterature Straniere e Culture Moderne 9 (18). https://doi.org/10.13135/2384-8987/7098.
Fiedler, Sabine. 2012. "The Esperanto Denaskulo: The Status of the Native Speaker of Esperanto Within and Beyond the Planned Language Community." Language Problems and Language Planning 36 (1): 69–84. https://doi.org/10.1075/lplp.36.1.04fie.
Foley, William A. 2018. "The Languages of Northwest New Guinea." In The Languages and Linguistics of the New Guinea Area: A Comprehensive Guide, edited by Bill Palmer, 433–568. The World of Linguistics, volume 4. Berlin: De Gruyter Mouton.
Goodall, Grant. 2023. "Constructed Languages." Annual Review of Linguistics 9 (Volume 9, 2023): 419–37. https://doi.org/10.1146/annurev-linguistics-030421-064707.
Greenberg, Joseph H. 1963. "Some Universals of Grammar with Particular Reference to the Order of Meaningful Elements." Universals of Language 2: 73–113.
Hermans, Judith. 1999. "Klingon and Its User: A Socioliguistic Profile." Master's thesis, Tilburg: Tilburg University.
Hoffmann, Thomas, and Graeme Trousdale, eds. 2016. The Oxford Handbook of Construction Grammar. First issued as an Oxford University Press paperback. Oxford: Oxford University Press.
Kearsley, Logan. 2023. "Against Word Order and Alignment." Fiat Lingua.
Klingon Language Institute. 2025. "Klingon Language Certification Program – Klingon Language Institute."
Lightfoot, David. 2005. "Plato's Problem, UG, and the Language Organ." In The Cambridge Companion to Chomsky, edited by James Alasdair McGilvray, 42–59. Cambridge: Cambridge University Press.
Lindstedt, Jouko. 2010. "Esperanto as a Family Language." In Lingua Francas: La Véhicularité Linguistique Pour Vivre, Travailler Et Étudier, edited by Fred Dervin, 69–80. Logiques Sociales. Paris: L'Harmattan.
Meluzzi, Chiara. 2019. "Real Communities for Invented Languages. Dothraki and Klingon on the Web." American Language Journal 3 (2): 16–29.
———. 2022. "Alien Sounds:" RiCOGNIZIONI. Rivista Di Lingue e Letterature Straniere e Culture Moderne 9 (18). https://doi.org/10.13135/2384-8987/7057.
Merlo, Roberto, Simone Bettega, and Elisa Corino. 2022. "Conlangs as a Goal, Conlangs as a Mean. How to Do Linguistics Inventing Languages." RiCOGNIZIONI. Rivista Di Lingue e Letterature Straniere e Culture Moderne 9 (18): 9–27. https://doi.org/10.13135/2384-8987/7871.
Peterson, David J. 2014. "Down with Morphemes: The Pitfalls of Concatenative Morphology." Fiat Lingua.
———. 2015. The Art of Language Invention: From Horse-Lords to Dark Elves, the Words Behind World-Building. New York, NY: Penguin Books.
Rhiemeier, Jörg. 2012. "The Conlangers' Jargon File." Jörg Rhiemeier's Conlang Page. http://www.joerg-rhiemeier.de/Conlang/jargon.html.
Wahlgren, Yens. 2004. "Klingon as Linguistic Capital A Sociologic Study of Nineteen Advanced Klingonists [Hol Sup 'oH tlhIngan Hol'e'; Wa'maH Hut tlhIngan Hol Po'wI'; nughQeD]." Bachelor's, Lund: Lund University.
Windsor, Joseph W., and Robyn Steward. 2017. "Can Unnatural Stress Patterns Be Learned: New Evidence from Klingon." In Proceedings of the 2016 Annual Conference of the Canadian Linguistic Association.
Wohlgemuth, Jan, and Michael Cysouw, eds. 2010. Rethinking Universals: How Rarities Affect Linguistic Theory. Basel/Berlin/Boston: De Gruyter, Inc.
Zamenhof, L. L. 1905. Fundamento de Esperanto, Gramatiko, Ekzercaro, Universala Vortaro … Paris: Hachette.

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