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Teaching linguistics through language construction: A case study

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Abstract

For many students, introductory courses in linguistics prove somewhat disappointing. They often enroll in such courses because of a love of language – what some have called the "magic of language" – and instead are faced with the (perceived) dull and dry scientific study of language. There is, as a result, a need to explore more effective ways of "teaching linguistics to non-linguists." In this article, a case study of one pedagogical approach to accomplish this will be presented: the use of language construction as a means of introducing students to basic linguistic knowledge and understanding. We begin with an overview of the nature and history of interlinguistics (the study of planned languages), and then turn to recent examples of the creation of constructed languages (*conlangs*) in popular culture before discussing the use of language construction activities to introduce students to the study of linguistics.

Keywords language construction; pedagogical linguistics; interlinguistics; conlangs

1. Introduction

Linguistics is often defined as "the scientific study of language," which distinguishes it from both prescriptive and aesthetic approaches to language (see Mihalicek & Wilson, 2011, p. 696). As Fasold and Connor-Linton have commented,

> *Linguists approach language in the same way that astronomers approach the study of the universe or that anthropologists approach the study of human cultural systems. It would be ridiculous for astronomers to speak about planets orbiting stars "incorrectly" and inappropriate for anthropologists to declare a culture "degenerate" simply because it differs from their own. Similarly, linguists take language as they find it, rather than attempting to regulate it in the direction of preconceived criteria. Linguists are equally curious about all the forms of language that they encounter, no matter what the education or social standing of their speakers might be. (2014, p. 9, emphasis added)*

While such an approach is fundamental to the discipline of linguistics, it also has the unintended consequence of sometimes alienating students who might otherwise find the study of language interesting, exciting, and intriguing. As Arika Okrent has observed,

> *There are many ways to love language, but not all of them lead to linguistics. On the contrary, it seems that most of them don't … In most accounts of language love, there is an appeal to a mysterious quality and kind of magic …. These are not the questions that the field of linguistics seeks to answer, and often, the lover of language experiences an introduction to the field as a brutal draining away of the magic. (2020, p. 27)*

This is a major challenge for those who teach beginning and introductory linguistics courses at the university level. Many students arrive expecting one kind of course, with an emphasis on the facets of language that they find most attractive, only to discover that they are faced with a very different kind of course – and one that not only does not seek to accomplish what they expected, but in many ways challenges the very reasons that they decided to undertake the study of linguistics in the first place. This creates a need for us to explore more effective ways of "teaching linguistics to non-linguists" (see Berardi-Wilshire & Petrucci, 2015).

One way of addressing this mismatch of expectations and disciplinary realities which has gained limited popularity in recent years is the use of language construction as a means of introducing students to basic linguistic knowledge and understanding (see Gobbo, 2013; Punske et al., 2020b; Sanders, 2016; Köylü, 2023). In this article, a case study of such a pedagogical approach will be presented. I begin with an overview of the nature and history of interlinguistics (the study of planned languages, of which language construction is a key part), and then turn to recent examples of the creation of constructed languages (*conlangs*) in popular culture before discussing the use of language construction activities to introduce students to the study of linguistics.

2. The Nature and History of Language Construction[1]

Constructed languages (also known as "artificial"[2] or "invented" languages) are languages that are deliberately created by human beings, rather than those which have evolved through natural processes (see Eco, 1994; Knowlson, 1975). Languages of this type have been created for a variety reasons -- religious, mystical, or spiritual purposes, to represent reality and thought in pure and logical form (the "philosophical languages"), to facilitate communication between speakers of different languages (the "international auxiliary languages"), and most recently some as components of fictional and fantasy works. There are two different sorts of constructed languages: *a priori* languages, which are not based on an existing language but rather on some kind of schemata, and *a posteriori* languages, which are (to at least some extent) based on one or more existing language or languages.

The earliest documented constructed language is the *Lingua ignota* ("the unknown language"), an *a priori* language which was created in the twelfth century by St. Hildegard of Bingen, a Benedictine nun (Higley, 2007; Schnapp, 1991). Our knowledge of the *Lingua ignota* is limited: we do not really know why it was created, nor do we know in what context and by whom it was actually used. The *Lingua ignota* is preserved in two manuscripts from around 1200 CE, the *Wiesbaden Codex* and the *Codex Cheltenhamensis*. It appears that the *Lingua ignota* was most likely a secret code, employing Latin grammar and in which Latin and some German lexical items were replaced with constructed words (see Green, 2005; Schnapp, 1991).

Another *a priori* language created for spiritual or mystical purposes – and an example that demonstrates that such phenomena are not simply found in the West -- was Balaibalan (*Bâleybelen* in Turkish) (see Olivieri & Lancioni, 2020), which was created around the fourteenth century by Fazlallah Astarabadi, the Persian mystic who founded the Hurūfī movement in Islam.[3] Written in the Arabic script, the syntax of Balaibalan shared elements of Farsi, Arabic, and Turkish grammar (and, like Turkish, seems to have been structurally agglutinative). Its lexicon, however, seems to have been distinct from (and perhaps unrelated to) all three of these languages.

The seventeenth century was the high point of the era of *a priori* languages. It was the age of the creation of a number of "philosophical languages." These languages were intentionally designed to organize human knowledge in systematical and hierarchical ways (see Eco, 1994, pp. 177-244; Maat, 2004).

Although certainly not the first writer to create a language to enhance his fiction, J. R. R. Tolkien, the author of *The Lord of the Rings* trilogy, did so especially prolifically -- for his creation Middle-Earth, he created more than a dozen different languages (see Bador, 2020; Dedè, 2022; Fimi & Higgins, 2016; Honegger, 2021; Hostetter, 2007; Noel, 1980). As a Professor of Anglo-Saxon at Pembroke College, Oxford, Tolkien no doubt had something of an advantage over many other creators of fictional languages -- although this has changed in recent years as professional linguists have been employed to create a variety of different "alien" languages, beginning with Klingon, which was created to add a degree of legitimacy to the *Star Trek* universe. Similar efforts have taken place for *Stargate SG-1, Game of Thrones, Avator, Dune,* and so on. In fact, there is now an extensive literature devoted to explaining how one can go about creating such a language (see Henning, 2020; Peterson, 2015; Rosenfelder, 2010, 2012, 2018). These constructed languages, commonly called *conlangs*, have become more and more popular in recent years.

Conlangs created for artistic and entertainment purposes are typically non-ideological in nature, but there are some exceptions (see Adams, 2011; Barnes & van Heerden, 2006; Galán Rodríguez, 2009). Especially interesting in this regard is Láadan, a *conlang* created by Suzette Haden Elgin, a well-known linguist, for her 1984 novel *Native Tongue*. Láadan was deliberately constructed to convey a feminist worldview. Another example of a *conlang* with an ideological focus was Newspeak, the language created by George Orwell for his novel *1984*. Newspeak was derived from English, but it was intended to limit thought and ensure ideological conformity. The goal of Newspeak, as Syme, one of the novel's characters and a specialist on the language, noted, was "to narrow the range of thought … The whole climate of thought will be different. In fact, there will *be* no thought, as we understand it now. Orthodoxy means not thinking – not needing to think. Orthodoxy is unconsciousness" (Orwell, 1989, pp. 60-61).

Last, there are the *a posteriori* constructed languages. These languages, which largely date from the nineteenth century, are also called "international auxiliary languages." They are designed not to replace existing languages; rather, they are intended to be used by people of different linguistic backgrounds to communicate. Throughout human history, of course, there have been dominant languages, as well as *lingua francas,* which have served the role of common interlanguages. At various points in history, Akkadian, Aramaic, Latin, Greek, French, and English have all functioned as *lingua francas*. The difference between such languages and the international auxiliary languages is that the international auxiliary languages have been *deliberately* designed and constructed to be easy to learn, and are not intended to be used as anyone's first language.[4] They are intended to be neutral in a way that no ethnic or national language could possibly be. International auxiliary language projects began developing in the third decade of the nineteenth century, and there continue to be on-going efforts to either improve existing international auxiliary languages or to create new ones.

The first international auxiliary language to become popular was Volapük, which was created between 1879 and 1890 by Fr. Johann Martin Schleyer (see Golden, 1997; Klimenko, 2016). Volapük was very successful at first, and by 1889 there were almost a million adherents of the language, although the number of fluent speakers of the language cannot be determined, and was most certainly a dramatically smaller number. By the end of the decade of the 1880s, there were almost 300 Volapük clubs, 25 Volapük periodicals, and more than 300 textbooks in some

25 languages (Sprague, 1888).[5] There were also international Volapük conferences -- the first in 1884 took place in Friedrichshafen, the second in 1887 in Munich, and the third in 1889 in Paris. Interestingly, the working language used in the first two conferences was German rather than Volapük. The underlying rationale for Volapük (and that for virtually all of the international auxiliary languages that would follow) was articulated by the author of the *Handbook of Volapük* as follows:

> *Volapük is designed to serve as a means of communication between persons whose native languages are not the same. Such a medium has long been regarded as desirable. The hope has often been expressed that one of the great national languages may, by common consent, be selected as a "universal language"; but there is not the slightest probability that this great advantage will be voluntarily given to one nation, or that any one of the great powers can ever impose its language on others … Volapük is one of numerous attempts at solving the problem of a common language. (Sprague, 1888, p. v)*

In spite of its initial popularity, the success of Volapük was ephemeral and its decline occurred nearly as quickly as had its rise. Volapük was grammatically complex and not particularly easy to learn, but this was not its major problem. Rather, Volapük's greatest challenges were interpersonal ones. Fr. Schleyer saw Volapük as a personal possession, and resisted any changes in the language. This ultimately led to a schism in the movement, with many of its supporters abandoning Volapük in favor of other "international auxiliary languages," including Idiom Neutral, Nal Bino, and others. As Garvía observed, "as much as some journalists, entertainers, nationalists, and scholars might have opposed Volapük, those most responsible for the language's collapse were the Volapükists themselves" (2015, p. 43). Today, except as an historical footnote Volapük has largely disappeared and been forgotten. Perhaps a rather sad example of the legacy of Volapük is its use as a noun in some languages to indicate "nonsense," as in Danish: *Det er det rene volapyk for mig*, "That's pure Volapük to me."[6]

As the initial success of Volapük made clear, the late nineteenth century was a period of intense interest in international auxiliary languages. Within less than a decade of the creation of Volapük, its far more successful replacement appeared. Ludwig Zamenhof, a young Polish Jewish ophthalmologist who had grown up in Białystok, then part of the Russian Empire, published a booklet entitled, *Международный языкъ* ("The International Language") in 1887. While concerned with facilitating communication, Zamenhof's ultimate goal was far broader. His underlying concern was the conflict among different national and ethnic groups, and he believed that conflict between and among peoples might be reduced, if not eliminated, if there were a way for them to better understand one another.[7]

Esperanto is an extremely interesting phenomenon. It is the only *a posteriori* language to have achieved any significant degree of success (see Janton, 1993; Garvía, 2015; Okrent, 2006, 2009; Schor, 2016). In part, this is due to its absolutely regular yet incredibly productive structure (see Gledhill, 2000; Hana, 1998; Kalocsay & Waringhien, 1985; Wennergren, 2005). At the same time, though, while Esperanto may on occasion evoke humorous responses from non-Esperantists who are familiar with it,[8] on a more serious note its potential significance can be seen in the fact that speakers of Esperanto were persecuted both in Nazi German and during Stalin's time in the Soviet Union – in both instances at least partly because of the perceived "Jewish" origins of the language and antisemitic responses to it (see Lins, 2016, 2017; Sadler & Lins, 1972; Sikosek, 2006, pp. 220-224).[9]

Although not succeeding in its broad objective of becoming a shared universal language, Esperanto survived and to some extent thrived over the course of the twentieth century (see Janton, 1993; Garvía, 2015; Schor, 2016). Although estimates vary considerably (from tens of millions to 1,000,000) (see Richardson, 1988, p. 18), and are exceptionally difficult to evaluate critically, today there are conservatively probably at least some 120,000 fluent speakers of Esperanto, and hundreds of thousands of others who have at least a passing knowledge of the language (see Nuessel, 2000, p. 24). What *is* clear is that Esperanto, compared to all other efforts to create artificial or planned languages, has indeed been remarkably successful. It is spoken around the world on a daily basis, has an impressive literature of both translated and original works, is used by a vibrant speaker community, is studied as a topic of academic concern, and continues to be studied and learned by thousands of people every year (both in person and online) (see Janton, 1993; Garvía, 2015; Okrent, 2006, 2009; Schor, 2016; Sikosek, 2006).

3. *Conlangs* in Popular Culture: Do You Speak Klingon?

Prior to the late 1970s, the dialog of aliens and fantasy characters took place in English, sometimes accented in odd ways, and on occasion using a fabricated word or phrase. Basically, though, as Paul Frommer (the creator of the Na'vi language in *Avatar*) commented, the language of aliens was "pretty much gibberish" (quoted in McCally, 2010).[10] That is no longer the case – there are now hundreds of *conlangs* in existence, with more being developed all the time.[11]

In September 1966, a new science fiction television series debuted on NBC – a series called *Star Trek*, which was to air for only three seasons. Although cancelled in 1969, the original *Star Trek* series ultimately launched about a dozen follow-up television series, as well as a substantial number of films. Apart from occasional names and words, the only alien language actually used in the original series was Vulcan, and even that only in a very restricted form; it was not until the third *Star Trek* movie, *Star Trek III: The Search for Spock*, that the linguist Marc Okrand was hired to produce Klingon dialog.[12] Since then, Klingon, according to the *Guinness Book of World Records*, has become the world's "largest fictional language" (Okrand et al., 2011, p. 111), with its own dictionary (Okrand, 1992) and translations of *Hamlet*, *Much Ado About Nothing*, *The Wizard of Oz*, and *Gilgamesh*, among others (see Okrand, 1996, 1997; Hermans, 1999). There is

also the Klingon Language Institute, which offers a "Learn Klingon" online course, has an accompanying journal (*HolQed*), and sponsors conferences and summer camps. There is even a *Duolingo* course in Klingon. The case of Klingon is interesting in part because of its intrinsic limitations; as Okrent has commented,

> *As it turns out, it is possible for an invented language to succeed even if it has no useful features at all. One of the most successful languages of the current era is neither free from irregularities nor easy to learn. It has no mission: it wasn't intended to unite mankind or improve the mind or even be spoken by people in the real world. But it suited the personal taste of a certain group of people so well that as soon as they saw it, they fell in love, clamored for more, and formed a community that brought it to life. (2009, p. 263).*

While several other television shows and movies have also made use of conlangs, perhaps the most obvious – and impressive – recent example is provided in the *Game of Thrones*. For *Game of Thrones*, David Peterson created Dothraki,[13] as well as High Valyrian and its daughter languages – indeed, he created a dozen languages altogether for Westeros and Essos (see Gándara Fernández, 2018, 2019; Peterson, 2010, 2014; Piperski, 2017). Dothraki and Valyrian were described in *The Economist*, in a reference back to Tolkien, as "the most convincing fictional tongues since Elvish" (Johnson, 2017).[14]

4. The "*Conlang* Project"

The case study reported on here took place at a research-oriented US university, in a one-term (15-week) introductory linguistics course ("Language and Linguistics") taught at the advanced undergraduate level. Students enrolled in the course come from a range of disciplinary backgrounds, primarily including English, world languages (French and Spanish), speech pathology and audiology, and education, although there are also a small number of students who enroll in the course as an open elective. Over the five years that the "*Conlang* Project" has been used, students have come to the course with a knowledge of a number of languages other than English, including varying proficiencies in Arabic, Dutch, French, German, Latin, Mandarin, Russian, Spanish, and Urdu, as well as American Sign Language. After covering the major subfields of linguistics – phonology, morphology, syntax, and semantics – as well as orthography and the evolution of literacy, students are exposed to the broad field of interlinguistics (see Blanke, 2003, 2006; Dulučenko, 1989; Fettes, 2003a, 2003b; Fiedler, 2008; Fiedler & Liu Haitao. 2001; Schubert, 1989; Tonkin, 1997). After learning about language construction, students work together in small groups of 3 to 5 individuals to create their own *conlang*. This activity takes place primarily outside of scheduled class time, although one full class period is also devoted to students working together in their groups.

The "*Conlang* Project" requires that students describe the (imagined) community in which their *conlang* is used, provide an overview of the phonology of the language, including a phonetic inventory of the vowels and consonants in the language, describe the basic syllable structure of the language, provide an overview of the morphology and syntax of the language, describe the orthography used to represent the language, and finally, provide a lexicon based on a 100-item Swadesh list (see Starostin, 2010; Swadesh, 1952, 1955) which is attached to the project report as an appendix. Students are also given access to several completed *conlangs* as exemplars, including one produced by the course instructor as an example for the assignment. There is also a grading rubric provided at the start of the "*Conlang* Project" to assist students.

There are a number of intended purposes associated with the "*Conlang* Project": (1) to encourage students to engage in and interact with the course content in a serious and meaningful manner, (2) to apply the course content in ways that require them to address linguistic questions and dilemmas, (3) to raise student awareness of and sensitivity to the complexity of human language, (4) the promote an appreciation of the diversity of human languages, as well as of the common features of all human languages, and (5) to increase student motivation in the course.

5. Discussion

The "*Conlang* Project" was piloted in the Spring 2021 semester, and since then has been offered for four semesters, in both face-to-face and online modalities.[15] It has proven to be among the more popular components of the "Language and Linguistics" course, and has led to fascinating student discussions and debates about the phonological constraints of human (as opposed to hypothesized non-human) languages, the relationship between phonemes and graphemes (and more general concerns about orthography), the nature and potential limits of Universal Grammar, and various morphological and syntactic features of languages, including the use of case in nouns and adjectives, ergativity (Dixon, 1994; McGregor, 2009), the use of affixes (prefixes, infixes, and suffixes), the concept of the dual number, and, in one case, a series of in-depth discussions of verbs of motion, inspired by Russian. Student feedback on the "*Conlang* Project" has been consistently very favorable.

6. Conclusion

The goals of the "*Conlang* Project" in the "Language and Linguistics" course have all been met over a period of some five years. Students appear to be more engaged, more interested, and even excited by many aspects of the linguistic material taught in the course. Although our experience has been only with an advanced undergraduate course, it is worth noting that Adger and van Urk (2020) have suggested that comparable results can occur not only at the undergraduate level, but also with young children and adolescents in K-12 settings. As Punske, Sanders, and Fountain have suggested, "bringing *conlangs* and language invention into the classroom allows us to reach a broader student population and develop in these students the fundamental core skills of linguistics and language analysis. Using language as a pedagogical tool is an

innovative way to capitalize on the effectiveness of many modern educational approaches, such as problem-based learning, collaborative learning, and active learning, especially for a diverse cohort of learners." (2020a, p. 5)

Notes:

1. Parts of this section of the article are based on my earlier work (see Reagan, 2019).
2. The use of the word "artificial" to describe constructed languages, although not uncommon, is actually extremely problematic, and is taken by some speakers of Esperanto, for instance, to be pejorative (see Marlaud, 2013).
3. The origins of Balaibalan are fairly obscure. It may have been created by Fazlallah Astarabadi in the fourteenth century CE, or by his followers in the fifteenth century CE, or even by the Turkish Sufi Muhyî-i Güsenî in the sixteenth.
4. While not common, it is important to note that there actually are a small number of native speakers of Esperanto, called *denaskuloj* (see Bergegn, 2001; Corsetti, 1996; Corsetti et al., 2004).
5. See Garvía (2015, pp. 21-43) for an in-depth discussion of Volapük. I have written about Volapük in the past tense here, which is perhaps not entirely accurate: there are still a tiny number of speakers of the language. LaFarge (2000) has estimated that there are about 20 speakers of Volapük in the world. Further, there is in fact an unbroken succession of *Cifals* (Volapük language "Leaders," which began with Fr. Schleyer himself) (see Golden, 1997).
6. Perhaps not surprisingly, in Esperanto the word *volapukaĵo* refers to something completely incomprehensible or that makes no sense, as in *Ĝi estas por mi volapukaĵo* ("For me it's Volapük"), from the *Proverbaro Esperanta* (Zamenhof, 1925). Similarly, a recent scholarly journal article addressing the problems with interdisciplinary research in the European Union was entitled, "Overcoming interdisciplinary Volapük" (see Rittberger, 2008).
7. The assumption that conflict (and even war) are the result of a lack of communication and understanding, while it was an understandable idea prior to the First World War, is one that would have little credibility today. There are innumerable examples of conflicts where language is absolutely not the problem, even in the weakest sense. The case of the breakup of Yugoslavia and its aftermath is an excellent case in point here (see Calic, 2018; Judah, 2009; Lampe, 2000; Meier, 1995).
8. In one US television situation comedy, for instance, a character challenges another person by exclaiming, "What was *that – Esperanto*?"
9. Claims about the "Jewish" nature of Esperanto are based on a number of factors. Zamenhof himself was Jewish, and a not insignificant number of speakers of the language (a disproportionate percentage probably) are also Jewish. In addition, lexical items from Yiddish were indeed incorporated into Esperanto (see Gold, 1980, 1982). In Nazi Germany, Esperanto was dismissed both for its universal nature and its perceived ties to Judaism, while in the USSR it was at times (especially during the years of Joseph Stalin) condemned as "cosmopolitan" (a euphemism for "Jewish") (see Lins, 2016, 2017).
10. It should be noted that there is an important difference between artificially created languages designed to represent alien languages for fictional purposes (such as those discussed here) and the possible study of *real* non-human, alien languages that may be possible in the future (see Vakoch & Punske, 2024).
11. Henning has provided a partial list of more than 1,150 constructed languages, which includes philosophical languages, international auxiliary languages, and artistic languages as well as "personal" languages (2020, pp. 291-383). It is important to note, however, that this list is based only on a claim or mention of a particular language; many of these conlangs are no doubt minimalist in nature.
12. Okrand et al. (2011) stress that prior to Okrand's involvement, the first words of Klingon, spoken in the 1979 film *Star Trek: The Motion Picture*, were actually created by James Doohan, the actor who portrayed Montgomery Scott (Scotty) in the original television series.
13. The selection of Peterson to create Dothraki was the result of a competition sponsored by the Language Creation Society – what Tharoor called "a form of linguistic trial by combat" (2013). Peterson "spent twelve to fourteen hours a day, every day, for two months working on the proposal that landed him the *Thrones* job. When he was finished, he had more than 300 pages of vocabulary and notes detailing how the Dothraki language would sound and function" (Martin, 2013).
14. In *A Song of Ice and Fire*, the fantasy novels by George R. R. Martin on which *Game of Thrones* and its prequel, *House of the Dragon*, are based, High Valyrian is presented as a language playing a role similar to that of Latin in Medieval Europe – a language of culture and learning used by the educated élite, but not used in daily communication (where languages such as Astopori and Meereenese Valyrian, which are descended from High Valyrian, are spoken) (Sperling, 2022). Dothraki, on the other hand, is a language used by a nomadic people.
15. The course was historically a face-to-face course, but the COVID pandemic in Spring 2020 led to all classes at the university being moved to online modality shortly after the semester began, as was the case at virtually all US universities (see Vyortkina et al., 2023). Since that time, the course has sometimes been offered in a synchronous, online modality, and sometimes as a traditional face-to-face course. This has been the case with many of the courses offered in the department in which "Language and Linguistics" is taught.

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References

Adams, M. (Ed.). (2011). *From Elvish to Klingon: Exploring invented languages*. Oxford University Press.

Adger, D., & van Urk, C. (2020). Three conlang projects at three educational levels. In J. Punske, N. Sanders, & A. Fountain (Eds.), *Language invention in linguistics pedagogy* (pp. 49-68). Oxford University Press.

Bador, D. (2020). Étude et enseignement des langues elfiques inventées par J. R. R. Tolkien [Study and teaching of the Elvish languages invented by J. R. R. Tolkien]. *Cahiers du Centre de Linguistique et des Sciences Du Langage*, (62), 117–139. https://doi.org/10.26034/la.cdclsl.2020.951

Barnes, L., & van Heerden, H. (2006). Virtual languages in science fiction and fantasy literature. *Language Matters, 37*(1), 102-117. https://hdl.handle.net/10520/EJC59736

Berardi-Wilshire, A., & Petrucci, P. (2015). Bringing linguistics to life: An anchored approach to teaching linguistics to non-linguists. *Te Reo, 58*, 59-75.

Bergen, B. (2001). Nativization processes in L1 Esperanto. *Journal of Child Language, 28*(3), 575-595. https://doi.org/10.1017/S0305000901004779

Blanke, D. (2003). *Interlinguistic und Esperantologie* [Interlinguistics and Esperantology]. Deutscher Esperanto-Bund e.V., Geschäftsstelle.

Blanke, D. (2006). *Interlinguistische Beiträge: Zum Wesen und zur Funktion internationaler Plansprachen* [Interlinguistic contributions: On the creation and function of international planned languages]. Peter Lang.

Calic, M. (2018). *History of Yugoslavia*. Purdue University Press.

Corsetti, R. (1996). A mother tongue spoken mainly by fathers. *Language Problems and Language Planning, 20*(3), 263-273. https://doi.org/10.1075/lplp.20.3.05cor

Corsetti, R., Pinto, M., & Tolomeo, M. (2004). Regularizing the regular: The phenomenon of overregularization in Esperanto-speaking children. *Language Problems and Language Planning, 28*(3), 261-282. https://doi.org/10.1075/lplp.28.3.04cor

Dedè, F. (2022). Tolkien and comparative historical linguistics: Some insights from the earliest works on Elvish languages. *RiCognizioni: Rivista di Lingue e Letterature straniere e Culture moderne*, *9*(18), 65-76. https://hdl.handle.net/2434/961677

Dixon, R. M. W. (1994). *Ergativity*. Cambridge University Press.

Dulučenko, A. (1989). Интерлингвстика: Снщность и проблемы [Interlinguistics: Challenges and problems]. *Interlinguistica Tartuensis, 6*, 18-42.

Eco, U. (1994). *La serĉado de la perfekta lingvo* [The search for the perfect language]. Edstudio.

Elgin, S. (1984). *Native tongue*. DAW Books.

Fasold, R., & Connor-Linton, J. (2014). Introduction. In R. Fasold & J. Connor-Linton (Eds.), *An introduction to language and linguistics* (2nd ed.) (pp. 1-13). Cambridge University Press.

Fettes, M. (2003a). The geostrategies of interlingualism. In J. Maurais & M. Morris (Eds.), *Languages in a globalising world* (pp. 37-46). Cambridge University Press.

Fettes, M. (2003b). Interlingualism: A world-centric approach to language policy and planning. In H. Tonkin & T. Reagan (Eds.), *Language in the twenty-first century* (pp. 47-58). John Benjamins.

Fiedler, S. (2008). Interlingvistiko/esperantologio kiel fako en universitatoj: Spertoj el Leipzig [Interlinguistics/Esperantology as a speciality in universities: Experiences from Leipzig]. *Informilo Por Interlingvistoj, 65,* 2-25.

Fiedler, S., & Liu Haitao. (Eds.). (2001). *Studoj pri interlingvistiko/Studien zur Interlinguistik: Festschrift für Detlev Blanke zum 60. Geburtstag* [Studies on interlinguistics: Festschrift for Detlev Blanke on his 60th birthday]. Dobřichovice.

Fimi, D., & Higgins, A. (Eds.). (2016). *J. R. R. Tolkien, A secret vice: Tolkien on invented languages*. Harper Collins.

Galán Rodríguez, C. (2009). La invención de lenguas en la ficción literaria [The invention of languages in literary fiction]. *Investigaciones Lingüísticas en el Siglo, 21*(3), 103-129.

Gándara Fernández, L. (2018). Introducción a la fonética del Dothraki, Lengua de Juego de Tronos [Introduction to the phonetics of Dothraki, the language of the Game of Thrones]. *Estudios Humanísticos: Filología*, *40*, 311-328.

Gándara Fernández, L. (2019). La invención lingüística en la literatura y el cine en los siglos XX y XXI [Linguistic invention in literatura and cinema in the 20th and 21st centuries]. *Revista de Investigación Lingüística*, *22*, 275-293. https://doi.org/10.6018/ril.353151

Garvía, R. (2015). *Esperanto and its rivals: The struggle for an international language*. University of Pennsylvania Press.

Gledhill, C. (2000). *The grammar of Esperanto: A corpus-based* description (2nd ed.). Lincom Europa.

Gobbo, F. (2013). Learning linguistics by doing: The secret virtues of a language constructed in the classroom. *Journal of Universal Language, 14*(2), 113-135.

Gold, D. (1980). Towards a study of possible Yiddish and Hebrew influence on Esperanto. In I. Szerdahelyi (Ed.), *Miscellanea interlinguistica* (pp. 300-367). Tankönyvkiadó.

Gold, D. (1982). Pli pri judaj aspektoj de Esperanto [More about the Jewish aspects of Esperanto]. *Planlingvistiko, 1,* 7-14.
Golden, B. (1997). *Conservation of the heritage of* Volapük. In H. Tonkin (Ed.), *Esperanto, interlinguistics, and planned language* (pp. 183-189). University Press of America.
Green, J. (2005). A new gloss on Hildegard of Bingen's *Lingua ignota. Viator, 36*, 217-234. https://doi.org/10.1484/J.VIATOR.2.300011
Hana, J. (1998). *Two-level morphology of Esperanto*. Unpublished M.A. thesis, Charles University, Prague, Czech Republic.
Henning, J. (2020). *Langmaker: Celebrating conlangs*. Yonagu.
Hermans, J. (1999). *Klingon and its users: A sociolinguistic profile*. Unpublished M.A. thesis, Faculty of Arts, Tilberg University, Tilberg, The Netherlands.
Higley, S. (2007). *Hildegard of Bingen's unknown language: An edition, translation, and discussion*. Palgrave Macmillan.
Honegger, T. (2021). The enigmatic loss of Proto-Hobbitic. *Mythlore, 40*(1), 179-192. https://www.jstor.org/stable/48659509
Hostetter, C. (2007). Tolkienian linguistics: The first fifty years. *Tolkien Studies, 4*(1), 1-46. https://doi.org/10.1353/tks.2007.0022
Janton, P. (1993). *Esperanto: Language, literature, and community*. State University of New York Press. (Original publication in French 1973; Esperanto version published in 1988)
Johnson. (2017). The complex linguistic universe of "Game of Thrones." *The Economist* (August 5). Downloaded on September 25, 2023 from https://www.economist.com/news/books-and-arts/21725752-dothraki-and-valyrian-are-most-convincing-fictional-tongues-elvish
Judah, T. (2009). *The Serbs: History, myth, and the destruction of Yugoslavia* (3rd ed.). Yale University Press.
Kalocsay, K., & Waringhien, G. (1985). *Plena analiza gramatiko de Esperanto* [Complete analytic grammar of Espearanto] (5a ed.). Universala Esperanto-Asocio.
Klimenko, Yu. (2016). The planned international language "Volapük" in the history of interlinguistics. *Знание. 10*(1), 83-87.
Knowlson, J. (1975). *Universal language schemes in England and France, 1600-1800*. University of Toronto Press.
Köylü, Y. (2023). Teaching linguistics through language construction: A project-based approach. *Pedagogical Linguistics, 4*(2), 119-158. https://doi.org/10.1075/pl.21013.koy
LaFarge, P. (2000). Pük, memory: Why I learned a universal language no one speakers. *The Village Voice* (August 1). Downloaded on March 19, 2018 from https://www.villagevoice.com/2000/08/01/pk-memory/
Lampe, J. (2000). *Yugoslavia as history: Twice there was a country*. Cambridge University Press.
Lins, U. (2016). *Dangerous language: Esperanto under Hitler and Stalin, Volume 1*. Palgrave Macmillan.
Lins, U. (2017). *Dangerous language: Esperanto and the decline of Stalinism, Volume 2*. Palgrave Macmillan.
Maat, J. (2004). *Philosophical languages in the seventeenth century: Delgarno, Wilkins, Leibniz*. Kluwer.
Marlaud, S. (2013). Les langues artificielles sont-elles des langues? Étude contrastive de l'espéranto et de la caractéristique universelle [Are artificial languages languages? Contrastive study of Esperanto and the universal characteristic]. *Syntaxe et Sémantique, 1*(14), 85-117. https://doi.org/10.3917/ss.014.0085
Martin, D. (2013). Learn to speak Dothraki and Valyrian from the man who invented them for *Game of Thrones*. *Vulture* (April 23). Downloaded on September 25, 2023, from https://www.vulture.com/2013/04/game-of-thrones-dothraki-language-inventor.html \
McCally, K. (2010). Avatar of language. *Rochester Review, 72*(4). Downloaded on September 25, 2023 from http://www.rochester.edu/pr/Review/V72N4/04_features01.html
McGregor, W. (2009). Typology of ergativity. *Language and Linguistics Compass, 3*(1), 480-508. https://doi.org/10.1111/j.1749-818X.2008.00118.x
Meier, V. (1995). *Yugoslavia: A history of its demise*. Routledge.
Wilson, C., & Mihalicek, V. (2011). *Language files: Materials for an introduction to language and linguistics*. Ohio State University Press.
Noel, R. (1980). *The languages of Tolkien's Middle Earth: A complete guide to all fourteen of the languages Tolkien created*. Houghton Mifflin.
Nuessel, F. (2000). *The Esperanto language*. Legas.
Okrand, M. (1992). *The Klingon dictionary* (2nd ed.). Pocket Books.
Okrand, M. (1996). *The Klingon way: A warrior's guide*. Pocket Books.
Okrand, M. (1997). *Klingon for the galactic traveler*. Pocket Books.
Okrand, M., Adams, M., Henriks-Hermans, J., & Kroon, S. (2011). Wild and whirling words: The invention and use of Klingon. In M. Adams (Ed.), *From Elvish to Klingon: Exploring invented languages* (pp. 111-134). Oxford University Press.
Okrent, A. (2006). A visit to Esperantoland. *The American Scholar, 75*(1), 93-108. https://www.jstor.org/stable/41222541
Okrent, A. (2009). *In the land of invented languages: Esperanto rock stars, Klingon poets, Loglan lovers, and the mad dreamers who tried to build a perfect language*. Spiegel & Grau.
Okrent, A. (2020). Budding linguists and how to find them. In J. Penske, N. Sanders & A. Fountain (Eds.), *Language invention in linguistics pedagogy* (pp. 27-31). Oxford University Press.
Olivieri, S., & Lancioni, G. (2020). Balaibalan: An artificial Islamic language? *Eurasian Studies, 18*(1), 42-56.

Orwell, G. (1989). *1984*. Penguin. (Original publication 1949)
Peterson, D. (2010). Dothraki 101. HBO: Making Game of Thrones. (December 15). Downloaded on September 25, 2023 from http://www.makinggameofthrones.com/production-diary/2010/12/15/dothraki-101.html
Peterson, D. (2014). *Living language: Dothraki*. IVY Books.
Peterson, D. (2015). *The art of language invention: From horse-lords to dark elves to sand worms, the words behind world-building*. Penguin.
Piperski, A. (2017). Конструирование языков от эсперанто до дотракийского [Constructed languages from Esperanto to Dothraki] (2nd ed.). Alpina Non-Fiction.
Punske, J., Sanders, N., & Fountain, A. (2020a). Introduction. In J. Punske, N. Sanders, & A. Fountain (Eds.), *Language invention in linguistics pedagogy* (pp. 1-5). Oxford University Press.
Punske, J., Sanders, N., & Fountain, A. (Eds.). (2020b). *Language invention in linguistics pedagogy*. Oxford University Press.
Reagan, T. (2019). *Linguistic legitimacy and social justice*. Palgrave Macmillan.
Richardson, D. (1988). *Esperanto: Learning and using the international language*. Esperanto League for North America, in cooperation with Orcas Publishing.
Rittberger, E. (2008). History meets politics: Overcoming interdisciplinary Volapük in research on the EU. *Journal of European Public Policy, 15*(2), 300-313. https://doi.org/10.1080/13501760701817823
Rosenfelder, M. (2010). *The language construction kit*. Yonagu Books.
Rosenfelder, M. (2012). *Advanced language construction*. Yonagu Books.
Rosenfelder, M. (2018). *The syntax construction kit*. Yonagu Books.
Sadler, V., & Lins, U. (1972). Regardless of frontiers: A case study in linguistic persecution. In S. Ghosh (Ed.), *Man, language and society* (pp. 206-215). Mouton.
Sanders, N. (2016). Constructed languages in the classroom. *Language, 92*(3), e192-e204. https://dx.doi.org/10.1353/lan.2016.0055
Schnapp, J. (1991). Virgin words: Hildegard of Bingen's *Lingua ignota* and the development of imaginary languages ancient to modern. *Exemplaria, 3*(2), 267-298. https://doi.org/10.1179/exm.1991.3.2.267
Schor, E. (2016). *Bridge of words: Esperanto and the dream of a universal language*. Metropolitan Books.
Schubert, K. (Ed.). (1989). *Interlinguistics: Aspects of the science of planned language*. Mouton de Gruyter.
Sikosek, M. (2006). *Die neutral Sprache: Eine politische Geschichte des Esperanto-Weltbundes* [The neutral language: A political history of the Esperanto World Federation]. Skonpres.
Sperling, K. (2022). Game of tongues: The invented languages in "Game of Thrones" and its spinoffs. *Babble Magazine* (October 4). Downloaded on September 25, 2023 from https://www.babbel.com/en/magazine/the-invented-languages-in-game-of-thrones
Sprague, C. (1888). *Handbook of Volapük*. Trübner & Co.
Starostin, G. (2010). Preliminary lexicostatistics as a basis for language classification: A new approach. *Journal of Language Relationship/Вопросы языкового родства, 5*(48), 79-116.
Swadesh, M. (1952). Lexicostatistic dating of prehistoric ethnic contacts, with special reference to North American Indians and Eskimos. *Proceedings of the American Philosophical Society, 96*(4), 452-463. https://www.jstor.org/stable/3143802
Swadesh, M. (1955). Towards greater accuracy in lexicostatistic dating. *International Journal of American Linguistics 21*(2), 121-137. https://www.jstor.org/stable/1263939
Tharoor, I, (2013). Tongues of ice and fire: Creating the languages in *Game of Thrones*. *Time* (May 3). Downloaded on September 25, 2023 from https://entertainment.time.com/2013/05/03/tongues-of-ice-and-fire-creating-the-languages-of-game-of-thrones/
Tonkin, H. (Ed.). (1997). *Esperanto, interlinguistics, and planned languages*. University Press of America.
Vakoch, D., & Punske, J. (Eds.). (2024). *Xenolinguistics: Towards a science of extraterrestrial language*. Routledge.
Vyortkina, D., Collins, N., & Reagan, T. (2023). Education in a time of crisis: An introduction. In D. Vyortkina, N. Collins, & T. Reagan (Eds.), *Keep calm, teach on: Education responding to a pandemic* (pp. 1-22). Information Age Publishing,
Wennergren, B. (2005). *Plena manlibro de Esperanta gramatiko* [Complete manual of Esperanto grammar]. Esperanto-Ligo por Norda Ameriko.
Zamenhof, L. (1925). *Proverbaro Esperanta* [Esperanto proverbs] (2nd ed.). ECL.

Conflict of Interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.