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Gobbo, F.

Link to publication

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Federico Gobbo [a,b,c,*]

[a] ACLC – Amsterdam Center of Language and Communication, Faculty of Humanities, University of Amsterdam, Spuistraat 134, 1012 VB, Amsterdam, The Netherlands
[b] University of Milano-Bicocca, Italy
[c] University of Torino, Italy

A R T I C L E   I N F O

A B S T R A C T

Supporters of languages planned for international communication, like Esperanto, often claim that these languages are less complex and therefore easy to learn as compared to natural languages. To what extent does this claim have empirical support? In this contribution, planned languages will be presented from the perspective of learnability. In particular, the question of language complexity will be addressed. Almost all planned languages show a high degree of morphological regularity, obtained by a drastic reduction of allomorphy and suppletion. While these morphological traits can help learners acquire the basics of the planned language more easily as compared to standard natural languages, other factors should be taken into account in order to assess the learnability of these languages, in particular their sociolinguistic status.

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1. Introduction

There is no general, universally accepted definition of linguistic complexity in the specialized literature. Most probably it will never appear, as there are too many factors hidden by the word 'complexity', which are often mixed up with transparency and ease of acquisition, as noted by Leufkens (2013).

The main hypothesis of this contribution is that complexity is a multifaceted concept that should be captured by different factors. The case studies of planned languages (which will be defined below) will be the testbed for the conceptualization of complexity that is proposed here. For the purposes of this contribution, we will consider complexity from the point of view of a prototypical adult learner of a second language. This choice is motivated by the fact that in general the majority of learners of planned languages are adults, living within speech communities that use *other* languages on an everyday basis. This unusual sociolinguistic situation helps us to understand the role of the different factors defining linguistic complexity presented here below. These factors are divided in two groups: internal and external.

The internal linguistic factors refer to the structural traits of the grammar and lexicon of the target language, compared to the languages already known to the learner, i.e. his or her linguistic repertoire. On the other hand, it is the speech community (the society formed by L1 speakers) which maintains and develops the normative grammar and the current used lexicon. Ultimately, this leads to authority and ownership of the language. Therefore, from the learner's perspective, we can distinguish between an individual level (the learner himself) and a community level (L1 speakers). However, it is important to note

* ACLC – Amsterdam Center of Language and Communication, Faculty of Humanities, University of Amsterdam, Spuistraat 134, 1012 VB, Amsterdam, The Netherlands.
E-mail addresses: F.Gobbo@uva.nl, federico.gobbo@unito.it.

that external factors also play a decisive role in assessing the level of linguistic complexity of a specific learning context. In fact, on the community level the external linguistic factors refer to the sociolinguistic profile of the target language, and they are beyond the control of the second-language learners. For instance, key community-level external factors include native speakers' attitudes toward the second-language learners. We can divide these external factors according to the setting in which the language is learned. In particular, it is important to take into account the presence and level of activism on the part of educational or training institutions in offering formal second-language learning – generally structured in terms of learning objectives, learning time and learning support, which normally leads to certification. On the other hand, sometimes non-formal learning resources, which are still structured but typically do not lead to certification, play a substantial role, such as through courses for the target language freely available on the web. It is important to note that availability of supporting institutions is a luxury: in a world-wide perspective, only few languages have them.

There are also external factors strictly connected to the learner. At an individual level, there are motivations and goals in second language-learning and the qualitative and quantitative exposure of the learner to the target language. Acquisition can also happen in informal setting, leading to non-structured language learning, such as during everyday activities related to work, family or leisure. Fig. 1 shows the classification of the factors in assessing the linguistic complexity of second-language learning from the point of view of a prototypical adult learner.

In this contribution, we deal mainly with internal linguistic factors, in particular the degree of regularity in morphological paradigms. Morphology is of particular interest in studying planned languages. In fact, proposers and supporters of planned languages often claim that morphological regularity is a decisive factor for language learnability, speeding up the whole process. On the other hand, we will also refer to the sociolinguistics of planned languages, i.e. all the external linguistic factors that concur to facilitate – or not – adult second-language learners.

We define morphological regularity on the basis of the quantity and productivity of morphological paradigms. In particular, we will delve into the derivational morphology that leads to a change in grammatical category. Following the work by Tesnière (1965, 2015), a transfer occurs, for instance, when a derivational morpheme transforms the verbal character to a nominal one, as in the case of the English suffix -*ation*, of Latin origin, attached to verbs: *explore/exploration*; *quote/quotation*, and so on.

Having more than one morpheme in order to fulfil a particular grammar character transfer is an index of morphological complexity. For example, an English L1 speaker learning Italian will quickly realize that there are three verbal paradigms, according to the penultimate vowel of the infinitive: -*are*, -*ere*, -*ire*. Unfortunately for the learner, many frequently used verbs do not completely follow that paradigm. For instance, the verb *andare* ('to go') shows in the second person singular of the indicative present tense *vai,* which is a fossil of the Latin verb *vădĕre*. Instead, the learner could expect the form **andi*, which could exist if rules of the -*are* paradigm were followed.[1] Verbs like *andare* are normally presented to second-language learners as (morphologically) irregular, with respect to the three most productive paradigms. Similar examples can be found in nominal paradigms.

As we will see in the following discussion, language planners generally consider these phenomena that normally occur in natural language to be a source of morphological complexity, and therefore they try to avoid them in planning a language ex novo. Besides irregularity in paradigms, there are two other sources of said morphological complexity: allomorphy and suppletion. Allomorphy is found when a single morpheme is realized as two or more different morphs: for example, in English the morpheme that indicates negation when applied to adjective can be rendered at least by the morph *in-* (see the pairs *correct/incorrect*, *efficient/inefficient*), *im-* (e.g. *possible/impossible*, *mature/immature*), *un-* (e.g. *clear/unclear*, *academic/unacademic*) and *a-* (e.g. *typical/atypical*, *systematic/asystematic*). Sometimes very subtle differences arise in applying all of them: compare, for example, *moral* with *immoral*, *unmoral* and *amoral*. The last source of morphological complexity relies on suppletion, typically when a change in grammatical category occurs. In English, for example, the default corresponding adjective of *mouthy* is *oral*, not *mouthy* (which is a specialized adjective). The phenomenon that leads to this kind of 'errors', typical of child acquisition, is usually called 'overgeneralization'. For example, when English-speaking children apply the morphological rule of the plural in general, without considering the lexeme involved, they would say *foots* instead of 'feet' or *mouses* instead of 'mice'. Similarly, this can happen for verbal paradigm: *goed* instead of 'went'. These errors can be interpreted as simplification of morphological forms through the production of regularized forms that are not acceptable by the adult's normative variety, even if these ungrammatical forms are often more transparent and therefore completely understandable from the point of view of an adult native speaker. Considerations of transparency, simplicity and regularity are the starting point in the construction of planned languages.

2. Natural languages and planned languages

All natural languages are based on the historical priority of speech – or signing, in the case of Deaf communities – over writing. Lyons (1981: 12–13) observes that "[although] no human society [has been] known to exist or to have existed at any time in the past without capacity of speech [...] the vast majority of societies have, until recently, been either totally or very largely illiterate". On the other hand, languages can be invented for specific purposes by human groups. The invention of languages is old perhaps as human history, but traditionally it was difficult to keep track of them, because in general they

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[1] The **andi* form does survive, in the fixed compound *andirivieni* 'to go back and forth'.

	individual	*community*
internal	Linguistic repertoire	Normative grammar and current lexicon
external	Motivation in learning, exposure to the target language, etc.	Attitudes toward learners, facilities for formal language learning, etc.

Fig. 1. Factors assessing the linguistic complexity of learning a second-language.

were intended only for in-group communication, and were rarely written. We know at least one case, Bâl-A I-Balan, a language planned for religious purposes, in an Islamic context (Bausani, 1954). However, the vast majority of planned languages known in the relevant literature in interlinguistics come from the European context, especially in the 19th and 20th century. Unlike natural languages, planned languages are by definition based on the priority of writing over speech: they violate the priority of the spoken language over writing, one of the fundamental properties of natural languages, according to theoretical linguistics (Lyons, 1981, Section 4.2.1).[2] In fact, a planned language is initially designed from scratch in a written form by a single person. Then, after publication, the language project may subsequently be adopted by supporters through a community of practice. When committees were formed to plan a language, much debate always arose (Garvía, 2015), and in order to obtain a stable language core it is one single person who eventually has the last word in deciding the form of the language, i.e. phonetics, morphology, syntax and the fundamental lexicon. In the rest of this paper, the term 'language planner' refers to a person playing this role.

The purposes in writing a text – along with a grammar, in many cases – in a new planned language are various. Unlike the case of natural languages, there is a high degree of control of the internal linguistic factors by the language planner, while the most important external factor lies in the motivation of the learner. In fact, most planned languages do not have public support or even a speech community in order to set a context able to reinforce the acquisition of the language. Nevertheless, some interesting remarks can be made, because of the nature of planned languages as a distinct category in linguistics.

The literature on planned languages is abundant and diverse, written in many languages and quite often outside of the usual peer-review system (Blanke, 2003), but in comparison to natural languages there are only few specific studies addressing the complexity of planned languages from the point of view of learnability. For instance, Jansen (2012) addresses the problems of learning the reflexive pronouns in Esperanto. In his review of the doctoral dissertation of Heil (1999), who compares the grammar reduction in French-based creoles and planned languages, Haitao (2001) rightly points out that more comparative work in this field is needed, and on a more solid basis. For 'grammar reduction', authors generally refer to the fact that planned languages show evident patterns of regularity in word formation, compared to natural languages, with few allomorphs, if any. For example, in English the plural of nouns is realized with various allomorphs (cat/cat-*s*, fox/fox-*es*, etc) while in Volapük, the first planned language with a community of supporters (see Section 4 below), there is only one form (vol/vol-s, pük/pük-s, 'world/worlds', 'language/languages'), i.e. there is no allomorphy. Under the assumption that a language with less allomorphy is less complex, we conclude that Volapük is morphologically less complex than English.

An important problem in such a comparison lies in the specificity of planned languages from a sociolinguistic point of view. Language architects can be traced in the development of many natural languages, such as Pompeu Fabra in the case of Modern Catalan (Costa Carreras, 2009), or Alessandro Manzoni in the case of Italian (Gensini, 1993). Pompeu Fabra and Alessandro Manzoni reshaped existing languages, which are alive thanks to a speech community that is actively involved in maintaining and promoting them. In other words, without a speech community, no language planning is possible. This process of reshaping is called 'Ausbauization' by Tosco (2011), from the classic term 'Ausbau' introduced by Kloss (1967). The case of planned languages differs exactly because there is no speech community when the language is launched. In other words, the work of a language planner is far more radical: existing languages are taken as the source of a new language according to his linguistic repertoire and the aims of the language project. Examples of such language planners are Ludwik Lejzer Zamenhof for Esperanto (Korzhenkov, 2010), Johann Martin Schleyer for Volapük (Haupenthal, 1982) and Marc Okrand for Klingon (Okrand et al., 2011). In case of success, what is formed around the planned language is a community of practice, not a speech community in the classic sense. According to Eckert (2006), a community of practice is a regular joint activity done over time by members who share a commitment in understanding the tenets of the activity itself. This perspective is

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[2] The term 'planned language' here is used following the tradition of the literature in interlinguistics, i.e., the conscious effort of planning written languages, mainly for the purposes of human communication but not only. In this technical meaning, the term was coined by the lexicologist Eugen Wüster in German, *Plansprachen* (Blanke, 2008).

different from the speech community, which is structured by fundamental social categories, such as class, age, territory and ethnicity. An important factor in joining a community of practice around a planned language relies exactly in this fact: people are accepted regardless of their social categories of belonging (Fettes, 2013).

It is important to note, that not all planned languages follow an idea of grammar reduction and in particular of morphological simplicity, i.e. reduction of complexity, obtained through regularity and productivity of the paradigms. This is obviously an option, but it depends on the aims of the language planner. Alessandro Bausani (1974, 1970) was the first to notice that planned languages can be invented for different purposes. In fact, International Auxiliary Languages (IALs) are languages planned for international communication among native speakers of different origins (see next section for details). On the other hand, other languages are planned for literary and artistic needs. IALs are public by definition: the language planner launches his project through the publication of original and translated texts explained through a prescriptive grammar directed to adult learners, and a multilingual dictionary. On the other hands, many languages planned for other purposes are *secret*. In other words, in modern times some texts are produced to be used exclusively for communication within a certain group, only for the initiates, without the publication of an explicit grammar and dictionary – like traditional language invention such as the case of Bâl-A I-Balan already mentioned above. The ultimate goal of the planned language is important. Secret languages present different characteristics compared to IALs like Esperanto or Volapük: in order to preserve their secrecy, they often show morphological irregularities, in order not to be decrypted by the casual reader. As a consequence, secret languages do not necessarily show grammar reduction and morphological simplicity.

Gobbo (2008, 2009) further elaborates on Bausani's observation, giving a taxonomy of planned languages on two axes. Here, an update of that taxonomy is offered after Gobbo (2014a), with more planned languages put under scrutiny (see Fig. 2). The first axis represents the choice between secrecy and publicity, in other terms, between esoterism and exoterism: is the planned language secret or public? The second axis reports the purposes, with a distinctive focus on non-ethnic international communication, i.e. auxiliarity: if auxiliarity is the main purpose for the language, in other words if the language is planned for communicative, that language will be a IAL. IALs form a distinctive group. If auxiliarity is beyond scope, languages can be planned for many purposes, e.g.: fictional, literary, artistic or religious. While auxiliary languages can only be public – it makes no sense to have a secret auxiliary language – non-auxiliary languages can be secret or public (esoteric/exoteric axis). A language is secret if only texts or oral discourses are offered, without the publication of a grammar and a vocabulary of the language itself. In the last decades, Hollywood movie and TV-series producers have paid professional linguists to plan languages that appear in the plot and increase the believability of the fictional, diegetic world of reference. We will refer to them collectively as Hollywood languages (see below for details). They form a distinctive group.

In the next sections, the most important languages mentioned in Fig. 2 will be analysed (with the exception of Bâl-A I-Balan, already presented in Bausani, 1974, 1970, 1954), under the perspective of learnability and complexity from a theoretical point of view. Then, a review of the empirical experiments of the use of planned languages conducted with real-world learners of foreign languages will be given.

3. Publicity above all: the International Auxiliary Languages

The most important group of planned languages is the group of International Auxiliary Languages (IALs), a term in vogue in the first half of the 20th century to describe all languages planned for the purpose of international communication on an ethical basis, not bound to a specific ethnicity – 'neutral', to use the term of that time (Large, 1985). 'Neutrality' in this context means that the IAL does not give any special advantage to one speaker over another, because it is nobody's mother tongue. However, this claim is not valid in all cases, as an IAL is based on one or more carefully selected natural languages. In other
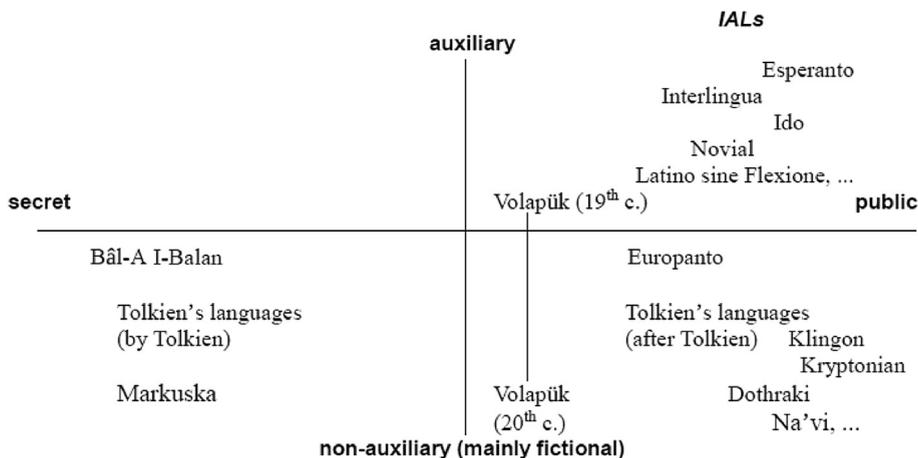

Fig. 2. A taxonomy of planned languages.

words, learners who already know the selection of natural languages used as sources for the IAL will have a certain degree of advantage as compared to learners who do not know them.

The case of Latino sine Flexione is exemplary for these different degrees of advantage. This IAL was planned by the Turinese mathematician Giuseppe Peano (1858–1932) after the publication of the unpublished works of Gottfried Wilhelm Leibniz by the philosopher and mathematician Louis Couturat (1903), where a project of reforming Latin for scientific, written purposes was illustrated by Leibniz. Peano, who was already famous for the axiomatization of arithmetic (the so-called Peano axioms), decided to do in practice what Leibniz had only dreamt of. He explicitly started from considerations of learnability. The difficulty in acquiring foreign languages – according to Peano – lies in two aspects: the intricacies of grammar (in modern linguistic terms: morphology and syntax) and the memorization of the lexicon. In the early days of the 20th century, a good knowledge of Latin for educated people, and scholars in particular, was common. Peano's goal was to circumvent the problem of grammar learning through the elimination of inflection – hence the name Latino sine Flexione, meaning 'Latin without Inflection'. In his mind, users of this language did not need to memorize the lexicon, as they could rely on their knowledge of Latin.

Obviously, these choices gave a spectacular advantage to people who already knew Latin. Peano did not care about this aspect, as his target was cultivated people, scholars and scientists of his time. But knowing Latin turned out not to be enough. In practice, Peano did not accept just any Latin words, but only those words that, in a form or another, had survived in major European languages. For example, 'river' became *fluvius* instead of *flumen*, 'horse' became *caballus* instead of *equus,* 'and' will be *et* instead of *atque,* 'but' became *sed* instead of *autem*, and so on, as already noted by Guérard (1921: 165). In short, Peano compared the lexicons of different European languages, mainly the Romance ones, in order to find the "living" forms of Latin. From those forms, he could build the dictionary of Latino sine Flexione, with specific attention to the mathematical terms, mathematicians being the first users of the language (Gobbo, 2010).

After Peano reduced Latin grammar to inflexible roots, Peano claims that *toto grammatica latino evanesce*, "all Latin grammar evaporates", as if grammar consisted solely of inflection! This is of course not the case: every language has a grammar (i.e. as system of combining words into phrases which are further combined into sentences), and Latino sine Flexione is no exception. What happens in practice is that many traits, in particular word order, are borrowed from Italian, as this short fragment can attest (Peano, 1909: 1). The translations in Italian and English are provided immediately below:

Jam	*numeroso*	*auctore*	*scribe*	*in*	*forma*	*intelligibile*	*post*	*pauco*	*studio.*
già	numerosi	autori	scrivono	in	forma	intelleggibile	dopo	poco	studio.
already	many	authors	write	in	form	intelligible	after	little	study.

While Latino sine Flexione circumvents inflection, it nonetheless fails to achieve a consistent result of real simplification. How to choose between *vive* and *vita* for 'life', in Latino sine Flexione, according to the simplification rules? Or between *permitt* and *permiss* for 'permission'? Couturat, himself being the main promoter of Ido, already pointed out this problem in a letter to Peano (Luciano and Roero, 2005: 64).

The claims of neutrality should also be carefully reconsidered: on the one hand, it is true that Latin and therefore Peano's creation were ethnically neutral because – in Peano's time – there had not been any native speakers of Latin for centuries. On the other hand, Italians and more generally speakers of Romance languages were indubitably in a better position than any others in using Latino sine Flexione.

However, in the panorama of IALs, Latino sine Flexione is quite an exception: most of them are based on many source languages, not just one. Lindstedt (2009) rightly argues that they can be considered contact languages, even though they are the creation of single language.

In his analysis of Esperanto, Lindstedt (2009) notes that the lexicon is mainly borrowed from Western European languages, in particular Latin and Romance languages, (*libro*, 'book'; *pluvi*, 'to rain'; *akvo*, 'water'; *tamen*, 'nevertheless'; *kvankam*, 'although') with a special role played by French (*kajero*, 'notebook'; *krajono*, 'pencil'; *trudi*, 'to impose'). The presence of Germanic elements is also relevant, in particular from German and English (*vorto*, 'word' but also *Wort*; specifically from English, *rivero*, 'river'; specifically from German, *knabo*, 'boy'). Sometimes the source can be also identified in Yiddish form of the word (*fajro*, 'fire', *hejmo*, 'home'), though this is highly debated in the literature (Kiselman, 1982). Finally, few words are borrowed from Russian (*pravi*, 'to be right'; *vosto*, 'tail'; *krom*, 'besides') and Polish (*groŝo*, 'penny'; *klopodo*, 'trouble, difficulty'; *pilko*, 'ball'). The linguistic repertoire of the learner highly influences the effort to learn the Esperanto lexicon: a monolingual French native speaker will quickly recognize a lot of roots, while a monolingual Chinese native speaker will have to learn all of them. Multilingual learners having Western European languages in their repertoire (in particular French, German, English, and Latin) will find the lexicon of Esperanto quite familiar, with a possible positive impact on motivation in learning.

It is worth noting that Zamenhof, the planner of Esperanto, had some command of all these languages. If we turn our attention to the structural parts of the language, the equilibrium between Western and Eastern European languages is reversed: the particle *ĉu* for polar questions comes from the Polish *czy*, and the fact that the adverbs of manner are placed before the main verb is clearly a Slavic feature. For these reasons, Lindstedt (2009) argues that Esperanto is Western European with respect to the lexicon and Eastern European (and Jewish) with respect to its structure.

The idea behind contact planned languages for international communication like Esperanto is to emphasize the *similarities* between the different source languages. In this way, any learner can find something familiar when approaching the language, and on the other hand can learn traits that belong to other languages the learner is not (yet) familiar with. This emphasis on

similarities between geographically related languages leads us to the concept of Einbau introduced by Fishman (2008) as the opposite of Ausbau. In Europe, cases of "Einbauization", i.e. processes that move two language varieties towards a common form, or to avoid two varieties splitting into two different languages, are rare: an example is Flemish and Dutch with respect to literacy, guaranteed by the *Nederlandse Taalunie*, the Dutch Language Union.

I argue that the planning efforts behind IALs are moved by the same desire of "Einbauness" with respect to international communication. When a native speaker of X-ish meets a native of Y-ish, they will build a shared space of communication which is 'third' between the X-ish and the Y-ish culture, especially if they use a third language, i.e. neither X-ish nor Y-ish. Fiedler (2011) illustrates this idea of "third space" in relation to the uses of English as a lingua franca, with some interesting remarks in comparison with Esperanto. The most striking difference between the use of English among non-natives and Esperanto and other IALs lies in the duration of the third space. In fact, while in the case of non-native English it does not last beyond the immediate communicative situation, in the case of Esperanto it forms the cultural basis that sustains the community of practice behind the planned language since the beginning.

This is one of the fundamental ideas behind the Artificial Language Movement (Large, 1985). This Movement was formed by the communities of practice behind 'classic' IALs, i.e. since the launch of Esperanto (1887) until the launch of IALA's Interlingua (1951), the last serious competitor of Zamenhof's creation. All the members of the Artificial Language Movement have the idea that a contact language facilitates the construction of this third space – which is ethnically neutral – because the various actors of the communication process have something in common to share. From the point of view of learners, a contact language is not necessarily easy to learn, even if it shows a high degree of morphological regularity, as in the case of most IALs. In fact, learners of a second-language have to compare linguistic features at any level (phonological, morphological, syntactic, and lexical) to the languages that they already know.

The linguistic repertoire of the learner is a crucial internal individual linguistic factor. In the case of a contact language, it is quite likely that learners will compare the features of the IAL with their own linguistic repertoire. This comparison is more complex compared to non-contact IALs such as Latino sine Flexione, because the target language shows features of different languages at the same time. For instance, the impersonal pronoun *oni* in Esperanto is borrowed from the French *on*, but its use approximately corresponds to the German *man*. Unlike speakers of French and German, an English-speaking learner of Esperanto should learn how to use the pronoun *oni* correctly without any direct reference to English. On the other hand, it could be argued that the familiarity French and German speakers have with the pronoun *oni* compensates the complexity of the comparison.

Language planners of that time (1887–1951) were aware of the role played by the linguistic repertoire, so they carefully chose the source languages from which structural features and the vocabulary should be borrowed. Interestingly, all IALs proposed after Esperanto downplayed the role of Eastern European languages in favour of Western European ones. On the other hand, they had to confront themselves to the fact that Esperanto succeeded in forming a living community of practice, at least since the year 1905 (Forster, 1982). This means that, besides natural languages, in many cases these languages have Esperanto as one of the source languages, or at least some features were considered good enough to be incorporated in the new language project. After the First World War, many supporters of IALs competing against Esperanto were ex-Esperantists, who believed that the failure of Esperanto being recognized officially as an international language lay in the structural 'defects' of the language, rather than in extra-linguistic factors, above all political (Large, 1985).

All competitors of Esperanto followed the dream of "immediate readability", which means the ability of reading a text written in the IAL without any previous study. This concept, often used in the interlinguistic literature of the time, is bound to the internal linguistic factor of the learner: if the learner has already acquired a reasonable level of proficiency in the languages used as a source by the language planner, evidently it would be straightforward to read a text in that language. It should be noted that the competitors of Esperanto were mainly directed to educated people in Europe: between the two World Wars a reading competence in Latin, French, German, and English was normal among scholars, academicians, and scientists. Nonetheless, scientific communication was far from easy, because new scientific languages were emerging, in particular Russian (see Gordin, 2015). As an example, let us take the statement by Guérard (1921: 260), himself being a modern humanist, who compared different IALs of that time. He concludes that: "a *reading* knowledge of Esperanto or Ido is a matter of a few hours: for any educated European, a reading knowledge of Interlingua or Romanal is a question of a few minutes." But reading is only one of the four proficiencies a learner should have in order to master a language, the others being listening, speaking, and writing. Furthermore, reading is a passive proficiency, while an IAL should prove itself as a means of production. In other words, users should not only be able to read texts but also to write and to speak without too much effort. The difference between languages like Esperanto and Ido vis-à-vis Interlingua and Romanal is the fact that the latter reduce considerably the linguistic source to the Romance language league (*Sprachbund*), with a special additional consideration of English. In order to obtain this result, the morphological complexity of this Romance-like IALs is considerably higher compared to schematic languages like Esperanto and Ido. Let me explain this point using a comparative text written in that period.

In 1931, especially because of the engagement of Otto Jespersen, the research of the most convenient form of an IAL was on the agenda of the Second International Congress of Linguistics, held in Geneva. Besides Jespersen, linguists like Edward Sapir and William Edward Collinson took up the debate (Juul et al. 1995). The following text (Berger, 1992) is the translation in Interlingua of an article originally written in Latino sine Flexione by Szilágyi (1931). The translator, Ric Berger, has been a prominent supporter of Interlingua. Further translations in English, Esperanto and Italian are my own. Readers are invited to compare the different versions, that show how much Interlingua is close to English and Romance languages such as Italian, much more than Esperanto.

Interlingua: Del puncto de vista del Sociologia, es a observar que le vita in un gruppo interlinguiste presenta exemplos classic pro le studio de gruppos organisate. Hic nos vole dar alicun indicationes a iste thema. Volapuek, le adherentes del qual forma un secta satis fanatic debe perir pro le persona troppo sever de su ductor. Le character de clemente patre de su autor rende possibile pro Esperanto de superviver un 'reforma'; e iste ultime presenta imagines characteristic de omne reformationes, concipite secundo schemas de insurrection contra le patre. Cetero, apud Esperanto, nos pote sequer optimemente le analogia con un movimento religiose; e on observa etiam le genese de un ritual, ceremonial e, usque a un certe grado, de mytho. Altere systemas de Interlingua, benque proviste de perfecte motivationes rationalistic, debe perir a causa del impaternal persona ducente, e pro particularitate de ultra-individualistic adherentes qui non pote identificar se in modo sufficiente, con le ductor.

English: From a sociological point of view, we should observe that the life of an interlinguistic group presents classic examples for the study of organized groups. We want to offer some specifics on this topic. In the case of Volapük, the supporters formed a fanatic sect that should perish due to the leader's overly severe personality. The characteristics of a good father of the author of Esperanto enables the language to survive a 'reform'; and this reform presents the features typical of all reforms, conceived according to the schema of insurrection against the father. Furthermore, in the case of Esperanto, the analogy with a religious movement can be adopted; and we also observe the birth of ritual, ceremony, and, until a certain degree, a myth. Other interlinguistic systems, even if provided by perfect rationalistic motivations, should perish because of the non-paternal attitudes of the leaders, and in particular of the hyper-individualistic followers who cannot identify themselves enough with the leader.

Esperanto: El sociologia vidpunkto, oni povas noti, ke la vivo de interlingvistika grupo prezentas klasikajn ekzemplojn por la studo de la organizitaj grupoj. Tie ĉi oni volas doni kelkajn indikojn pri tiu ĉi temo. Volapuko, kies subtenantoj formas fanatikan sekton, devas perei pro la troa severeco de la gvidanto. La karaktero de bona patro de la aŭtoro de Esperanto ebligis al la lingvo pluvivi 'reformon'; tiu ĉi lasta prezentas la tipajn karakterojn de ĉiuj reformoj, t.e. skemo de insurekto kontraŭ la patro. Cetere, koncerne Esperanton, oni povas optimume sekvi la analogion kun religia movado; kaj oni observas eĉ la naskiĝon de ritaro, ceremoniaro, kaj, ĝis certa grado, de mito. Aliaj interlingvaj sistemoj, kvankam ili estas plenaj da perfekte raciaj kialoj, devas perei pro la nepatrema konduto de la gvidanto, kaj aparte pro la krom-individualismemo de la subtenantoj kiuj ne povas sufiĉe sin identigi kun la gvidanto.

Italian: Dal punto di vista della sociologia, va osservato che la vita di un gruppo interlinguistico presenta un esempio classico per lo studio dei gruppi organizzati. Qui si intende fornire alcune indicazioni su questo tema. Il volapük, i cui aderenti formavano una setta fanatica, dovette perire per l'eccessiva severità del suo leader. Il carattere di padre clemente del suo autore ha reso possibile all'esperanto di sopravvivere una 'riforma'; e quest'ultima presenta i tratti caratteristici di ogni riforma, concepita secondo gli schemi dell'insurrezione contro il padre. Tra l'altro, a proposito dell'esperanto, possiamo seguire ottimamente l'analogia con un movimento religioso; e possiamo osservare anche la genesi di rituali, cerimoniali, e, fino a un certo punto, del mito. Gli altri sistemi di interlingue, benché provvisti di perfette motivazioni razionali, sono destinati a perire a causa dell'atteggiamento poco paterno della loro guida, e in particolare per via degli aderenti ultra-individualisti che non possono identificarsi in maniera sufficiente con la guida stessa.

It is clear that Interlingua is quite similar to Italian, while Esperanto shows non-Romance traits, for example in the word formation – compare for instance *puncto de vista* with *vidpunkto* for 'viewpoint'. For sure, the Esperanto text is not readable for an English speaker, unless there is some previous exposure or study of Esperanto, while the Interlingua text is to a certain extent readable by an Italian without any previous knowledge of Interlingua.

On the other hand, this shift towards the Romance prototype comes at a price. First, it gives a considerable advantage to learners having a Romance language as their first language. Second, in order to achieve this goal, the morphological structure is less regular and therefore more complex, because it is forced to introduce allomorphy so as to mimic the source languages. For example, in Interlingua there are three infinitive endings (*cre-ar* 'to create', *leg-er* 'to read', *dorm-ir*, 'to sleep') while in Esperanto there is only one (*kre-i*, *leg-i*, *dorm-i*). Interlingua forces all learners of non-Romance languages to learn which paradigm is correct. Furthermore, some irregularities were introduced so that the language would not appear "too artificial", as in the case of the series of positive – comparative – superlative adjectives. Compare the examples below with Esperanto, where there are no exceptions in the adjectival paradigm, regardless of the root used. Italian is also provided for comparison with a Romance language.

	positive	comparative	superlative
Interlingua	bon	melior	optime
English	good	better	best
Esperanto	bona	pli bona	la plej bona
Italian	buono	migliore	ottimo

Morphological regularity is the main argument in favour of the 'easiness' in the acquisition of Esperanto. Interlingua to a large extent regularizes derivational morphology of Latinate origin, but it inserts some irregularities as well with a preference towards the English form whenever possible, as stated in the first grammar of the language (Gode and Blair, 1951): *confusion,*

negation, devastation, exhibition, progression, are Interlingua words obtained from a verbal–nominal transfer (*confunder*, *negar*, *devastar*, *exhibir*, *progressar* are the corresponding verbs), and they are identical to English, and also to French (Gode, 1951).

Esperanto has a morphological system which is original and debated by linguists and scholars from the point of view of lexicology in particular and word formation in general (at least Jansen, 2013; Duc Goninaz, 2009; Kiselman, 1991). No particular language in the repertoire gives a special advantage to the learner in this respect, but this is compensated by the high degree of regularity in the morphological system. For example, Interlingua, like Italian, uses many derivational suffixes to derive an abstract noun from an adjective far more than in the case of English. In comparison, Esperanto uses only one.

Interlingua	*Italiano*	*English*	*Esperanto*
malad-e / malad-ia	malat-o / malatt-ia	ill / ill-ness	mal-san-a / mal-san-ec-o
ver / ver-itate	ver-o / ver-ità	true / truth	ver-a / ver-ec-o
liber-e / liber-tate	liber-o / liber-tà	free / free-dom	liber-a / liber-ec-o
frigid-e / frig-or	gelid-o / gel-o	frost-y / frost	frid-a / frid-ec-o
alt-e / alt-itude	alt-o / alt-ezza	high / height	alt-a / alt-ec-o

In the case of Esperanto, Zamenhof devised a set of affixes such that each of them should fulfil only one function, so that the vocabulary can be generated by the users via agglutination of the derivational morphemes. Of course, even the most strict language planner cannot decide in detail all the grammatical features of his creation, and how learners will use them, and Esperanto is no exception. It is the community of practice which acts as a collective self-regulator of the evolution and standardization of the language (Fiedler, 2006). Therefore, the actual use of the Esperanto suffixes slightly changed as the language acquired more and more users, thus suggesting a language change: for instance, 'to water the flowers' was *akvi la florojn* for the pioneers, while in modern Esperanto the expression would be *akvumi la florojn*, with the use of the suffix *-um*.

Beside these strictly linguistic structural aspects, there is also an external, sociolinguistic factor to be taken into account: fluent speakers often have an attitude towards Esperanto that is extremely positive, and this reinforces the belief that the language is 'easy to learn'. The community actively sustains this idea which is also part of the Esperanto identity. In practice, this attitude acts as a facilitator in the acquisition of the language, reducing its complexity on an external level. Fiedler notes in particular:

> Thus the majority of Esperanto users do not consider the language to be foreign. Speakers report a degree of self-confidence and comfort with the language that approaches native levels. This is due to Esperanto's almost unlimited adaptability, the consistency of its rules which enable its speakers to acquire perfect mastery over the language, and due to the fact that the language is applied without the constraints imposed by a native speaker (Fiedler, 2006: 86).

We can conclude that the regularity in the Esperanto morphology shows two traits that reinforce the belief that the language is easy to learn and henceforth makes the learner more confident, activating the process known in sociology as the Thomas theorem or self-fulfilling prophecy (Merton, 1995): first, on the internal level, the regularity of the morphology sustains the idea of simplicity; second, on the external level, the ideology behind the language contributes in spreading the idea that the language is nobody's foreign language – instead of everybody's foreign – and so that a native-like competence can be achieved without too much effort.

Both statements are highly questionable. On the internal level, the derivational system, even if agglutinative and regular, is far from being simple to master, as the amount of discussion on it proves (for a critical survey, see Jansen, 2013). Second, on the external level, it is not clear what a native-like competence should mean in the case of Esperanto. In fact, the norm and standardization are defined by fluent speakers – prominent members inside the community of practice who are points of reference for the others – regardless of their age of language acquisition. In other words, early bilinguals of Esperanto have no special authority in the definition of the norm of the language – see Lindstedt (2016, 2010) for an up-to-date reference on this topic. It can be said that Esperanto appears to be simpler than other languages in the eyes of most learners because of the low presence of allomorphy and a fairly regular system.

In conclusion, there is no universally acceptable optimal IAL. From the point of view of internal linguistics, the language planner must confront a dilemma between regularity and readability. In the first case, the planned language will have few elements and foster productivity, at the price of being considered unfamiliar and thus artificial to many. In the second case, it will mimic a particular set of natural languages, so as to be familiar to certain groups, to the expense of showing a lesser degree of productivity. This dilemma cannot be solved easily.

4. The strange case of Volapük: from auxiliarity to fiction

A special case among the languages planned for auxiliary purposes is Volapük. This language was devised by a Roman Catholic German priest, Johann Martin Schleyer, in 1879, for international purposes (Haupenthal, 1982). It is the first planned language that succeeded to group around itself a substantial number of supporters. In the beginning, local clubs were founded in German-speaking countries, while Volapük started to spread in France and in English-speaking countries, notably the United States, thanks to the support of August Kerckhoffs, a cryptography expert.

While Schleyer thought that the language was given to him by God, Kerckhoffs underlined the practical utility for international communication: commerce, travel, diplomacy, science and education. According to most scholars, in 1889 the

language was at its zenith (Garvía, 2015). At that time, Volapük had more than two hundred clubs and three hundred manuals for learning the language. Furthermore, twenty periodicals were published on a regular basis.

However, this success was ephemeral: after the publication of Esperanto, in 1887, some clubs turned their attention to the new planned language, particularly the club in Nürnberg, which played an important role in the early days of the Esperanto Movement (Forster, 1982). The Volapükist movement could not use the language consistently in oral practice during the congress in 1888, which was attended mainly by Germans and Swiss-Germans. This failure was perceived as a proof that a reform in the linguistic structure was needed. In particular, this was the position held by Kerckhoffs. In contrast, Schleyer maintained that the language was sacred, and therefore untouchable. This lead to a split in the movement and eventually to its extinction, at least in the form of an IAL – for more details, see Garvía (2015).

Volapük was extremely regular in its morphology, even more so than Esperanto, and its structure was rich and complex: according to Karl Lentze's calculations reported by Kerckhoffs, from a single verbal root up to 504,440 verbal forms could be obtained through the combination of prefixes and suffixes. The emphasis is on the extreme productivity obtained by morphological regularity. For example, from the root *slip* ('a sleep') you can form *slipön* (infinitive: 'to sleep'), *äslipof* ('she slept'), or *üslipol* ('you will have slept', perfect future tense). However, morphological regularity does not necessarily imply overall simplicity in the system. Another problem is transparency: the roots are so different from the source languages (mainly German, English, and Latin) that no learner can recognize them at a first glance, regardless of the linguistic repertoire. For instance, the name of the language is a compound: *vol* ('world') *a* (genitive) and *pük* (literally 'speak', but meaning 'language' as in the German *Sprache*).

From the root *pük*, many words can be derived (Kerckhoffs, 1888). Here are some examples:

pük-öf	*pük-öf-ik*	*pük-öf-av*	*pük-öf-av-ik*		
eloquence	eloquent	oratory	pertaining to oratory		
bi-pük	*de-pük*	*ge-pük*	*le-pük*	*lu-pük*	*ne-pük*
preface	contestation	answer	affirmation	chattering	silence

These words resemble a cryptic code more than they do a learnable language, e.g. *nepük* is derived as: negative + speak = silence. Apart of morphological consideration, there is another major internal problem in Volapük. It is not clear how to form the semantics of the compounds, which are not clearly based on existing languages. For instance, "the compound *nobastonacan* for 'jeweller' is formed by 'nobility' (*nob*), 'stone' (*stona*) and 'merchandise' (*can*), with the genitive ending *a* in-between" (Gobbo and Durnová, 2014).

For all these reasons, Volapük was put next to the secret language group in Fig. 1 above. In the 20th century, Volapük was mainly used for literary and fictional purposes, inside and outside the Esperanto movement, as if it were an Abstand language, which is a language defined by distance, otherness (see Kloss, 1967). However, the reform introduced by Arie de Jong in 1931 gave some strength to the Volapükist auxiliary movement in the Netherlands for some decades (Gobbo, 2015). It is interesting to note that the idiom "it's Greek to me" in Danish (and in Esperanto, perhaps from influence of the Danish Esperantists) is literally "it's Volapük to me".

Volapük proves – if there were any need of such proof – that morphological regularity cannot be the only focus in assessing the learnability of a language. Morphology can be an important factor but certainly it should not be the only factor to be taken into account, when a language planner proposes a learnable planned language system.

5. Hollywood languages: language invention becomes an industry

The definition of planned language given above also fits the invention of languages for non-auxiliary purposes. In particular, most non-auxiliary planned languages were launched in the context of fiction, where the *diegesis,* the narrative line that sustains the plot, is crucial. A planned language can support and reinforce the suspension of belief, a key aspect of the diegesis. In the 1980s, with the planning of Klingon, Marc Okrand started a new direction in interlinguistics that can be called "Hollywood linguistics": languages planned within a fictional universe, not only for diegetic purposes, as stated before, but also for extradiegetic ones, in particular for the fanclubs (Gobbo, 2014b). Until now, this production works only in blockbuster productions of feature-length films or TV series: the planned language is an added value – the core value being the diegesis itself.

The first experience in this sense is Klingon, the language spoken by a humanoid, alien race in the Star Trek universe, one of the longest and most popular science fiction TV series ever (Okrand et al., 2011). After coming into the plot in 1967 playing the role of the bad guys, they became more and more important in the diegesis of the first feature film in 1979. In that film, actors pretended to speak an alien language as if they were dubbed, but in truth they spoke English. This was rightly perceived as a weak point to be fixed in movies.

This situation necessitated a Klingon language. During the production of the third feature film, published in 1984, Marc Okrand, a linguist, was hired in order to produce a language that should sound "alien" to the fans. As most fans were American English speakers, Okrand carefully avoided any reference to the Standard Average European (SAE) in order to achieve this sense of alienness (Gobbo, 2011: 71). In fact, at the phonological level 'unusual' – from an SAE perspective – phonemes are present, involving articulatorily and perceptually complex features, for example the voiceless alveolar lateral affricate, which

is written /tlh/, as 'tl' in 'Nahuatl'. Moreover, the basic word order is OVS, with some prefixes and many suffixes (five nominal types, five verbal types) and postpositions.

It is important to note that the first dictionary and grammar was published (Okrand, 1985) as a special gift to the fans, without any consideration to the possibility that fans could actually use the language in extradiegetic contexts, as came to happen. Therefore, even if very regular in syntax, its morphology is not, allowing a high degree of allomorphy and suppletion. This is due to the fact that Klingon should appear 'alien' for the average English-speaking American Star Trek fan. For this reason, the lexicon is deliberately non-Indo-European, and no cues are offered to the casual reader in order to recognize words. In some cases, etymologies are peculiar: *mon*, 'to smile', comes after Mona Lisa, while *qogh*, 'the outer part of the ear', comes after van Gogh (Okrand et al., 2011).

We can say that Klingon was not planned to appear simple to learners: it was planned to solve an artistic problem (Okrent, 2009). The goal was to produce a language for the actors who had to learn the dialogues in the film, while the audience were presented with subtitles in English. It was not planned for people who wanted to group together around the language forming a community of practice. According to Eckert (2006), a community of practice referring to a language is based not on extra-linguistic factors such as social profile (e.g. class, gender, workplace, neighbourhood) but purely on the shared practice of using the language as a regular group activity. But in the late 1980s that was exactly what happened in the case of Klingon. A community of practice formed, as people started to learn Klingon even outside the circles of Star Trek fans, for the simple pleasure of using an alien language, but in a real, extra-diegetic, terrestrial context. Considerations of learnability arose. Paramount Pictures, the owner of the copyright, asked Okrand to deal with them and support Klingon language fans.

The second edition of the dictionary of Klingon (Okrand, 1992) addressed this limitation explicitly. The grammar was presented in a more detailed manner, in order to simplify the acquisition of the language by the Klingonists, i.e. the fans who use the language. In fact, previously, in case of doubt, Klingonists needed to address Okrand directly, analogously to what happened with Volapük and Esperanto in their early days; but this proved not to be feasible in the long run. One of the key factors in the formation of the community of practice behind a planned language relies in the diegetic culture. In the case of Klingonists, the activity is related to the diegetic culture of the Klingons, i.e. the aliens. For example, "Klingon originally had a ternary number system [but] in accordance to the more accepted practice, the Klingon Empire sometime back adopted a decimal number system" (Okrand, 1992, Section 5.2).

For some years, the Klingon language had a considerable success: this shows that external factors in learning can overcome the unfamiliarity of the internal linguistic system. In fact, motivation in learning was supported by help from the community of practice and of Paramount Pictures as well. More texts in Klingon were provided. For example, the translation of Hamlet was completed, claiming that in truth Shakespeare was a Klingon (Wil'yam Shex'pir): a comparative analysis between the Maori and the Klingon translation of Shakespeare's masterpieces reveals interesting parallels, as in both cases some names were adapted phonologically so as to immerse them in the target culture (Kazimierczak, 2010). Other world literature masterpieces were also translated, such as Gilgamesh. Some original literature was also produced.

In the Netherlands, an original Klingon Opera, *'u'*, was written and premiered in The Hague in 2010. The libretto was written by Kees Ligtelijn and Marc Okrand, under the artistic direction of Floris Schönfeld (2011). The plot tells the story of Kahless the Unforgettable, a messianic figure in the diegetic world of Klingons, being the founder of the Klingon Empire. It is still being performed in 2015, with a tour in the United States (Schönfeld, 2015).

However, at a certain point things changed. Paramount Pictures decided to stop the TV series in 2005, even though a crowdfunding campaign was launched on the internet by the fans in order to save it. In the reboot of Star Trek, Klingons no longer play substantial roles, so the language started to decline and now it is almost a legacy. This proves that the destinies of Hollywood languages are bound to the fortunes of the fictions that begot them. A fan will learn a Hollywood language not due to linguistic considerations of simplicity or complexity, but rather due to *cultural* considerations. In other words, a Hollywood language should be rooted in an interesting culture, even if it lives only in the diegetic world of reference.

Klingon became the Latin of Hollywood languages, because it was used as a reference for all the languages proposed afterwards. In fact, especially in the case of languages diegetically spoken by humanoid alien species, all language planners should *avoid similarity* with Klingon. Three linguists launched major Hollywood languages after Klingon: Na'vi, Dothraki, and Kryptonian.

Na'vi is the native tongue of the inhabitants of Pandora, the main location of the plot of James Cameron's movie *Avatar* (2009), and it was devised by linguist Paul R. Frommer. Dothraki is a human language spoken by a nomad population very important in the diegesis of the fantasy TV series *The Game of Thrones*, also launched in 2009. The language planner is David J. Peterson, formerly a student in interlinguistics, now 'alien language and culture consultant' at the science-fiction TV channel SyFy. Finally, Kryptonian, created by the Canadian linguistic anthropologist Christine Schreyer, was planned for the reboot of Superman's story in the movie *Man of Steel* (2013).

This is not the place to present these fictional planned languages in detail: what is interesting for the purposes of this paper is to examine the strategies in supporting language learning by the community of practice. Strategies involve both the definition of the normative grammar and the expansion of the current lexicon (internal factors) and the collection of facilities at disposal to learn the language, such as free courses on the Internet, videos for pronunciation, and so forth (external factors).

It is worth noting that these languages per se give no clear pragmatic advantage to the learner in our real extra-diegetic world. First, in all cases the languages were published for free on the World Wide Web, with an abundance of material, both prescriptive (grammar and lexicon) and descriptive (texts, songs, videos, extracts from the movies, etc.). The fans are invited to join the community using the language in practice. This attention to both diegetic and extra-diegetic levels has important

consequences. The first of these concerns the very planning of the language. Frommer did not define the whole grammar from the outset, but rather let the fans extract grammatical features from the corpus, in a sort of supervised collective process. This leads us to the second consequence: the expansion of the lexicon.

In the case of Na'vi, the corpus planning was lead by the community of practice, in parallel with the definition of the grammar, with the supervision of Frommer. In fact, the lexicon of Na'vi, we can see the presence of words and concepts typically extra-diegetic. For instance, the inhabitants of Na'vi do not know writing and advanced technology so the language should not have terms like 'book', 'train' or 'TV channel'; however, these terms do exist as loans from English, respectively *puk*, *tìreyn*, *tsyänel*. It is obvious that terms like *skxaypxe* 'to skype', *Yeysu*, 'Jesus' or *tsyoklìt*, 'chocolate', *ewro*, 'euro', are extra-diegetic. In a very smart move, these were put in a separate section in the Na'vi dictionary (Miller, 2015). In the blog devoted to the language entitled *Na'viteri* ('concerning Na'vi'), authored by Frommer, an annual writing contest is held, with two categories: poetry and prose. Through the blog, Frommer still holds the stylistic norm of the language, allowing the members of the community of practice a certain degree of freedom in expanding the lexicon. Furthermore, linguistic explanations are offered, with audio samples. Two exercises in Na'vi were inserted in the fifth edition of the linguistic textbook co-authored by the language author (Frommer and Finegan, 2012), perhaps to attract more students to enrol in his course of linguistics.

Hollywood languages and linguistics seem to be fashionable nowadays. The case of Dothraki is exemplary. Its language planner, David J. Peterson, founded the Language Creation Society in 2000, and organized conferences about what they called 'conlangs', which can be considered as a synonym of 'planned languages'. Recently, he has published a book on his experience (Peterson, 2015). Peterson had already been working on Dothraki well before the TV series was in production. In fact, some elements of the language can be found in the fantasy novels of George Martin, the original author of the diegetic world behind the language. Peterson (2001) analyses some aspects of case and verbs in a conference of the Language Creation Society held in the Netherlands. However, the date of the (re)birth of the language is 9 November 2009, when the first email in the language was sent. Peterson spent two years working out the language: the post-production of the first series ended on 24 March 2011. At that moment, the language had 3034 words, a description of 177 pages and 640 audio samples for the pronunciation. One of the key factors in Dothraki's success is the clear link between the language and the diegetic culture, which makes the language sound real. In fact, Peterson interprets the Sapir–Whorf hypothesis in binding Dothraki to the nomadic and aggressive culture of the tribes speaking the language. The fundamental trait of the Dothraki culture is the horse. For example, these are the idioms corresponding to the English 'how are you?' and 'goodbye' (Littauer, 2014):

Hash	yer	dothra-e	chek?
POLAR QUESTION	*you*-SING	*to ride*-PRES	*well?*

Fonas	chek!
Hunt	*well*!

The verb *dothraat*, 'to ride' is also used as an auxiliary, and distances are calculated on the distance a horse can gallop in a given unit of time, presumably one hour. Even if the typesetting of the Na'vi and Dothraki dictionaries are similar – both having IPA transcriptions – the latter is easier for consultation, having only two separate sections, for Dothraki numbers and proper nouns. Moreover, the words created by the language planner are marked as authoritative.

The fascination of Dothraki relies in its 'flag expressions' and 'terms': the grammar is not as intricate as those of Klingon and Na'vi, from the point of view of a prototypical English American fan of the diegetic world. In other terms, the Dothraki morphology is far more regular than in the case of Klingon and Na'vi, with a less degree of allomorphy and suppletion, following the example of very regular planned languages such as Volapük and Esperanto. In the lexicon the learner can sometimes find 'hidden' references to other planned languages: in Dothraki *ido* means 'fake', a clear reference to the debacle between Esperanto and Ido at the beginning of the past century that eventually resolved in favour of Esperanto (Garvía, 2015; Large, 1985). This small remark attests that a relation between IALs and Hollywood languages can be found.

We can conclude that Hollywood languages can be complex if the language planner decides to make them so, such as by introducing irregularities into the morphology or employing unusual phonemes to create a flavour of 'exoticism' in the way the language sounds. In general, Hollywood languages share with all planned languages a high degree of regularity, especially in word derivation, compared to natural languages. However, external factors should be also taken into account in assessing the learnability of these languages. In particular, their fortunes are linked to the diegetic world they live in: whenever the television series becomes old, out of fashion, or simply ends, it is highly probable that the Hollywood language will decline and fall out of use.

6. Is Esperanto useful for learning other languages?

In this section we will address a topic of special interest in our discourse: the so-called "propaedeutic value" of planned languages in learning other languages. More specifically, this hypothesis emerged within the Esperanto community and was pursued by conducting a number of fieldwork experiments in the class. There has been no concrete attempt to test the propaedeutic value with planned languages – and specifically IALs – other than Esperanto. There was only one project of this sort. In his review of the history of Interlingua, Stenström (2008: 167–170) recalls Project Catena, a proposal sent to the Ministries of Education of several countries in Europe, from the Baltic area to the Balkans, in order to introduce Interlingua as

a non-compulsory subject in the secondary schools. It was never funded. For this reason we will mainly focus on the studies on Esperanto.

The first studies on the evaluation of the propaedeutic value of Esperanto were conducted right after the First World War, almost one century ago, and they are still being carried out to the present day. A survey of the most relevant studies was conducted by a specific commission for the Italian Education Ministry in the early 1990s (Ministero della Pubblica Istruzione, 1993) in order to launch further experiments in Italy. In reviewing the literature, Tellier notes that:

> Most of the early studies on the teaching and learning of Esperanto in schools appear, by today's standards, to have suffered from a number of shortcomings. Reporting was often brief or anecdotal, and studies were conducted in a wide range of educational contexts that are not readily comparable. It is evident now that many had poorly defined aims, were somewhat superficial, and lacked clear objectives or methodological rigour, all of which compromise the findings (Tellier, 2013a: 12).

One exception possibly is the set of experiments prepared in the 1920s by Edward L. Thorndike at the Columbia University on behalf of the International Auxiliary Language Association (IALA). A pool of linguists and scholars worked at that time on that project, among others Collinson, Jespersen and Sapir (Falk, 1995). Eaton (1938, 1934, 1927) reports that English-speaking children in primary schools exposed to Esperanto as their first non-native language perform better in French, Spanish, Latin or Italian than children directly exposed to these languages without the mediation of Esperanto. This happens because the regularity in word-formation is used as a semantic map by the children in building correspondences between words not evidently put into relation, as in the following example (adapted from Eaton, 1927):

Esperanto	English	Italian	Dutch
ĉeval-o	horse	cavall-o	paard
ĉeval-in-o	mare	cavall-a	merrie
ĉeval-id-o	colt	puledro	veulen
ĉeval-ej-o	stable	stalla	stal
ĉeval-ar-o	a herd of horses	mandria	een kudde paarden

According to the analysis by Eaton (1938), the regularity in the word formation of Esperanto helps not only the acquisition of Esperanto as a second language, but also clarifies the structures of the mother tongue, and therefore it enhances the metalinguistic awareness of the learners about the morphological complexity of the languages in their repertoire.

Another common finding in this series of studies is the positive effect in the less gifted children. As the emphasis is on productivity, children with low self-esteem find that they can become productive in Esperanto far more quickly than in natural languages, leading them to approach the other languages more confidently. On the other hand, the evident limit of the experience at IALA lies in the setting: all the children had English as their first language, while the final target languages to be facilitated thanks to the propaedeutic effects of Esperanto were either source languages of Esperanto, like French or Latin, or closely related, like Italian or Spanish.

In a completely different context, Szerdahelyi (1966) reports about an experiment performed under the supervision of the Eötvös Lorand University in the years 1962–63: in a middle school, three classes of Hungarian youngsters (ages 11–13) were compared, and they acquired Esperanto more rapidly than Russian, German or English. In this case, the role of the lexicon is not particularly relevant, as Hungarian is not an Indo-European language; rather, in this case it is the agglutinative morphology of Esperanto that is somehow similar to Hungarian (Duc Goninaz, 2009). Another set of experiments follows the idea of Esperanto as a tool for 'language orientation' in the classroom, i.e. learners learn Esperanto through an explicit interlinguistic comparison with languages that influenced Esperanto – on the specific levels we have seen previously. This concept of 'language orientation' was originally proposed by Helmar Frank, the founder of the so-called Paderborn Method, developed in the late 1970s and 1980s. There, Esperanto played the role of orientation in the languages of Europe, taking advantage of its character as a contact language, having a mixture of Romance, Germanic and Slavic features (Frank, 1987).

More recent experiments focus on learners' increased metalinguistic awareness, such as Corsetti and La Torre (1995), but unfortunately they lack a substantial set of empirical data supporting the research hypotheses. Pinto and Corsetti (2001) report about a pilot experiment in a middle school in Italy, where the youngsters take an Esperanto course, one hour per week, for a whole year. After one year, the metalinguistic awareness of their mother tongue (Italian) increased significantly, and this fact is claimed to have positive consequences in learning other languages – for a discussion, see also Pinto (2016).

Finally the project Springboard to Languages, still ongoing, addresses the context of children in the United Kingdom, where the position of modern languages is weak: "ideally, primary schools would offer young children an intensive language-learning experience (immersion), but this is unlikely to happen without a radical change in government policy. It is imperative, therefore, to maximize the gain that children can achieve in the limited curriculum time available" (Tellier, 2013a: 13). The project has a programme of augmenting the metalinguistic awareness of the children (8–11) through the medium of Esperanto. Tellier (2013b) illustrates that there is no consensual definition of metalinguistic awareness in L2 learning, and she is working on the development of a measure of it. Preliminary results of the empirical studies are also presented in Tellier and Roehr-Brackin (2013).

We can conclude that the positive effects of Esperanto as the first non-native language to be learned in school were proven in the restricted settings of Indo-European languages, and in particular in the case of languages directly related to Esperanto,

such as English, French, or Latin. Again, the role of the linguistic repertoire and the external learning setting – in these case studies, the school – is important in sustaining the motivation of the learners. Furthermore, it seems that Esperanto can raise children's metalinguistic awareness, in particular of their mother tongue. The morphological regularity and high productivity of paradigms behind the structure of Esperanto also play an important role, as has been confirmed by all experiments conducted in the literature. Languages that show a higher degree of morphological complexity presumably cannot have the same positive effects.

7. Secret languages in the classroom

The final class of planned languages shown in Fig. 1 consists of secret languages, i.e, languages where texts can be accessed, but without an explicit grammar. These languages are generally planned for artistic purposes. The fascination of a secret language lies in the fact that their users form a group of insiders. They can use it for the exchange of secret messages, or for writing short texts. Planning such a language for educational purposes leads the children to reflect on how languages are constructed, and it is an opportunity to use all the linguistic repertoire at their disposal. In particular, early bilingual children can use an important part of their knowledge that is normally not used in the school, because they are part of the family heritage, without any official recognition.

In a pilot experiment performed in a Montessori primary school in Milan, Italy, Gobbo (2016b, 2013) shows that a secret language developed in the classroom can reinforce the sense of belonging of the children to the class itself as a group. Two language laboratories – called "language games" by the children – were proposed in the last two years of school. The aim was not to establish a rigorous protocol, with a control group, but only to define the rules of the language games, in order to possibly replicate the laboratories in other, more structured, contexts (Gobbo, 2013; Gobbo, 2016a). There is a considerable difference between these language laboratories and the literature published to date: in this case, children learn language by doing so in a concrete manner, entering the world of language planning directly. The research question here is to test if the children will construct an 'easy' language, that is a language with no allomorphy, no suppletion, and with regular morphology and commonplace grammatical features.

The two laboratories emphasize two sociolinguistic aspects: the sense of belonging and the desire of communication. The first laboratory, described in Gobbo (2013) in its first implementation, is called Markuskica, and it is directed more towards the sense of belonging. This name comes from the secret language Markuska, elaborated by Bausani (1974, 1970). According to analysis in Gobbo (1998a), Markuska is a child's game initiated by the young Bausani – in Bausani (1974) the author speaks of "an Italian young boy", but the notebooks reveal that it was he himself. 'Markuska' means 'imperial' (*marku*, 'empire'; *-ska*, adjectival ending). This is the only poem left by Bausani in a publication (the translation in English is my own):

> kulkuvni kul odikko
> likni vo leţţil
> enpakkenţska ñagour
> ometr vo cipil

> At the window a light is turned off
> in the sky a little star.
> There is a cry which we do not understand.
> A small child died.

Bausani (1974, 1970) glosses the poem offering some explanation of the language. The lexicon is obtained through the occasional inversion of the Italian morphemes, and the language shows postpositions instead of prepositions – occasional inverted word order. In fact, *kulkuvni* means 'at the window' and it is formed by three morphemes, *kul*, *kuv* and *-ni*. The lexeme *kul*, glossed as 'light' by the author, in my opinion comes from the Italian *luc-e*, 'light', via backward reading and a shift from <c> for the phoneme [tʃ] to <k>, with a deformation similar to that found in Volapük. The lexeme *kuv* means 'hole', then a locative is added, *-ni*, evidently obtained by the simple inversion of the preposition 'in'. Literally, the compound means 'in a hole of light', that is 'at the window'. The lexeme *dikk* means 'to turn off', but also 'to close', according to Bausani (perhaps obtained through the inversion of the Italian root *chiud-* for "to close", with a phonological reduction of the diphthong). Specific verbal morphemes exist: *o-* indicates the past (also "afterwards", attached to the verb *metr*, 'to die', maybe from the Italian *morte*, 'death') while *-o* marks the passive – note that there is no marking of the person or the number. As in Italian, the indefinite article in Markuska, is borrowed from the number one: *un*, *uno* became *u-o* and then finally *vo*.

The process of inversion and deformation is confirmed by other words. The lexeme *lik* means 'sky', from the Italian *ciel-o*, through inversion and simplification of the diphtong, while *leţţ* means 'star', presumibly coming from the Italian *stell-a*, with inversion and omission of the <s->. The morpheme *-il* is the diminutive suffix, and it is also found in the very last word of the poem, *cipil*, where *cip* is 'child'.

The third verse is the most complex of the poem. Bausani informs us that *ña* means 'to cry' (Italian onomatopoeia) while *go* is the causative. The morpheme *ur* means 'thing' and it transforms a verb into its action if used as a suffix. The prefix *en-* indicates the antonym, while *pakk* is 'to understand' (inversion of the Italian *cap-ire*) and *enţ* is the mark of the present participle (Bausani explains that *goenţ* is 'creator'). This construction (ANTO-understand-PRES PART-ADJ) is not immediately obvious for an Italian speaker, and suggests that the grammar of Markuska is not a calque of Italian, but rather that it has been

borrowed from other languages. The young Bausani had already studied Arabic and Farsi, so Markuska might be influenced by them; unfortunately, the linguistic material is too scarce to confirm such a hypothesis.

In the first laboratory, children have to plan a secret language derived from Markuska in class, with the help of a trained teacher. They can start from the small poem, writing similar ones, as in the thought experiment of Gobbo (1998a,b). Some new words can be extracted by reusing the original material, for example 'smile' is the antonym of 'cry', so it can be constructed with the compound *enña*. Of course, in the pilot experiment by Gobbo et al. (2016) they quickly added new lexical material from scratch, while for the grammar they needed more help by the teachers.

Let's entertain a brief toy implementation of a language similar to the Markuska, and therefore called Markuskica – *-ica* being an allomorph of *-ska* – based on the material developed in class by the children. A Markuskica is based on the main language of instruction in the class: in Gobbo et al. (2016) that happened to be Italian, but in principle it could be any language. The first step is to look at the morphological patterns inside the language and find regularities. For example, in the case of Italian, the transformation from adjective to adverb is often performed via the derivational morpheme *-mente*, as the following examples show:

veloc-e	veloc-e-mente	bell-o/a	bell-a-mente
quick	*quick-ly*	*beautiful*	*beautiful-ly*
fort-e	fort-e-mente	tranquill-o/a	tranquill-a-mente
strong	*strong-ly*	*calm*	*calm-ly*

Two paradigms can be found, according to the gender of the adjective. If it is underspecified, like in the case of *veloc-e* and *fort-e* (they end with -e) the ending will be *-e-mente.* Otherwise, the adjective will be either masculine (e.g. *tranquill-o*) or feminine (e.g. *bell-a*): in both cases the ending will be *-a-mente*. The second step is to adopt a new alphabet. In this toy example, we will use a Latin alphabet for simplicity, under the principle "one letter, one sound". So, the Italian *veloce* will be transliterated for instance as *veloçe*, <ç> representing the IPA-transcription [tʃ], while *caro* ('dear') will become *karo*, as [k] in IPA. Now, the second step is performed by reading the *morphemes* backwards. Keeping the previous examples:

e-çolev	etnem-e-çolev	e-lleb	etnem-e-lleb
quick	*quick-ly*	*beautiful*	*beautiful-ly*
e-trof	etnem-e-trof	e-lliuknart	etnem-e-lliuknart
strong	*strong-ly*	*calm*	*calm-ly*

The reader can see that the two different Italian paradigms were regularized, in order to avoid allomorphy. The idea is to keep regularity both in the morphology and syntax, so that the language is not too difficult to be used. On the other hand, the lexicon is completely encrypted, as suffixes became prefixes.

Of course, a complete list of rules for all the parts of speech should be built along with the children. When different proposals arise, as for example the number of genders (e.g. "do you want the neuter?") decisions are made democratically. In a couple of hours the outline of such a language can be constructed, with some basic vocabulary, in order to talk about the class and the school. The first use of the newly born Markuskica is to give out secret messages in the school, as if it were a treasure hunt.

Gobbo et al. (2016) observed that children spontaneously inserted lexemes from any origin in the language when they needed to invent a new word in their Markuskica, so the language quickly became a contact language. The lexicon was formed by all the linguistic repertoires used in the class, while the grammar (phonology and morphosyntax) is still based on the main language for instruction, in this case Italian. Further experiments should be performed in order to confirm the hypothesis that this language laboratory improves children's metalinguistic awareness, especially with respect to grammar.

The second language laboratory has a different purpose. Its main reference is the linguistic game called Europanto, invented by the Italian interpreter and writer Diego Marani. Marani wrote humorous articles for newspapers and even short novel in this linguistic pastiche, already analysed in Gobbo (1998b). A brief example can illustrate this secret language (translation to English by the author):

> De Europanto Bricopolitik: Que viva Belgicovo! De problems des Kossovo esse essentialmente zwei: primero, er esse tropo manige people there die speake de wrong lingua. Secundero, er est tropo manige people there die esse aan seine platz nicht. After todo es handelt van zwei banale problemas where Belgica can seine preziosa experienza put aan el service des pax (*source*: europanto.be, retrieved 15 February 2015).

> The Europanto politics-as-bricks: Long live the Belgian Egg! The problems of Kosovo are essentially two: first, there are too many people there that speak the wrong language. Second, there are too many people there that are not in the right place. After all, it is a matter of two trivial problems where Belgium can put its valuable experience to the service of peace.

The only rule to be followed in order to write in Europanto, according to Marani (in Gobbo et al., 2016) is to use at least three languages in each phrase. The result appears familiar to readers who know the original languages (in this case: Dutch, English, German, Latin). Children were invited to consult several bilingual dictionaries in order to write in their own variant of "Europantesque" – i.e. offshoots of Europanto – and, again, to make use of all the languages known in class. In doing so, early

bilinguals were valorized. Interestingly, in the first experiment they also mixed up alphabets, writing sentences with Latin, Cyrillic and Japanese writing systems all together. Gobbo et al. (2016) argue that this second laboratory is complementary to the first one: while Markuskicas are planned starting with reflecting on the structure, on the morphology and syntax in particular, the Europantesques start from the lexicon, similarly to the original Europanto seen above. The grammar of Europanto has Romance and Germanic elements put in a free, casual form, and Europantesques are no different.

Markuskica is a language planned in class, to be used secretly among the students, under the researcher's and teacher's supervision. This planning process involves the language structure at any level, from phonology to morphology and syntax up to the lexicon. On the contrary, Europantesque is planned from the lexicon, without a special attention to the grammar, and this requires less supervision. In comparison, Europantesque leads to have a higher degree of complexity in the morphology than the one found in Markuskica. In other words, Europantesque shows a considerable amount of allomorphy and suppletion, which are the normal strategies used in the planning phase. In spite of its lower degree of allomorphy and suppletion and therefore more morphological regularity, Markuskica is perceived by the students as more obscure and therefore more complex than Europantesque. This happens because of the influence of the internal individual factor, i.e., the linguistic repertoire. In the pupils' perspective, Markuskica is a secret language, while Europantesque is not. Markuskica appears similar to a cryptic code: similarly to the case of Volapük, on a first glance no word is recognizable without having access to the grammar, which is used like a decrypting code. On the other hand, words in Europantesque can be recognized quite easily, similarly to Romance-like IALs such as Interlingua, as seen above.

8. Concluding remarks

In this contribution, it was shown that planned languages are more regular than natural languages in their morphology, and that this feature can be considered a simplification of the system. In other terms, natural languages are more complex than planned ones on the morphological level.

However, more attention is paid to the reduction of complexity in the case of International Auxiliary Languages as compared to Hollywood languages and secret languages, because they are more concerned with practical utility. In particular, in the case of Esperanto, the morphology is regular in most parts, reducing the level of allomorphy to a minimum. In the case of non-auxiliary languages, complexity is not a specific issue, and allowing languages to be intricate as if they were natural, because they should appear credible. This is especially true in the case of fictional languages, in order to support the suspension of belief necessary for any diegetic world of reference.

It should be emphasized that the morphological simplification of IALs does not guarantee that the language will be 'easier' to learn: the case studies illustrated above show that on an internal linguistic level, the linguistic repertoire of the learner is important, potentially influencing external factors. However, attitudes and motivation of the learner also depend on the facilities provided by the community of practice surrounding the language. In other words, a language without support by the community will not be easy to learn, regardless of the structural traits of the language itself.

Acknowledgements

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