What causes languages to be transparent?

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ABSTRACT

There is a long tradition in linguistic research (Antilla, 1972; Dressler, 2005) arguing that one-to-one correspondences between form and meaning are somehow more 'natural', 'optimal' or at least simpler than structures lacking such transparent correspondences. Also recently, it has been argued (e.g. Leufkens, 2013) that in general creole-languages adhere more to such a principle than non-creole languages.

In this paper I argue that transparency when found anywhere in languages must be considered from the perspective of learning strategies rather than from the perspective of the computational system. I first argue that transparency is not a principle of grammar. On the contrary, the mapping between the (morpho-)syntax and the phonology in natural languages is characterized by mismatches between structure and form. Consequently, the idea that a transparent mapping is somehow 'optimal' is, at least from the perspective of the grammar, misguided. This raises the question why it seems to be the case that transparency is a tendency that may be observed in contact-languages. I answer this question by invoking the Mutual Exclusivity Principle (Merriman and Bowman, 1989) known from word-learning by children, which roughly entails that forms that have been assigned a meaning by the language learner, will not be used in different meanings. *Vice versa* references that have a particular form will not be expressed by another form. This principle is perfectly in line with transparency. Recently, it has been shown that the Mutual Exclusivity Principle is also operative in other mammals, so we can safely assume that it belongs to more general rather than task-specific cognitive mechanisms. Furthermore, I claim that the Mutual Exclusivity Principle works on stored items only. Since second language acquisition plays a central role in the formation of creoles (Lefebvre et al., 2006; Veenstra, 2009; Muysken, 2013) and since, generally speaking, second language learners rely more on declarative knowledge ('storage') than on procedural knowledge ('computation') (see e.g. Blom et al., 2008), I argue that the effect of the Mutual Exclusivity Principle will be greater in second language acquisition than in first language acquisition. As a result we may see a tendency towards transparency in contact languages.

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1. Introduction

There is a long tradition in linguistic research (Antilla, 1972; Dressler, 2005) arguing that one-to-one correspondences between form and meaning are somehow more 'natural', 'optimal' or at least simpler than structures lacking such transparent correspondences. The idea seems to be that language in its purest form would not allow complexities that encumber the relation between form and meaning. In this paper, I would like to propose a different view. I claim that any observed transparency of this type results from a more general cognitive mechanism, rather than assuming that simplex one-to-one correspondences between form and meaning are part of the core of the linguistic system. Moreover, I think there are

strong indications that this general cognitive mechanism is not specific to humans. I hope to show that *grammars*, in a narrow sense to be made clear below, do not seem to care much about one-to-one correspondences between meaning and form or, more generally, between different levels of representation. This implies that if we find patterns of transparency in languages, they should result from other factors (e.g. age of onset with correlating learning strategies, nature of input, monolingual vs. multilingual context).

Chomsky (2005) distinguishes three factors in language design. The first factor is the human genetic endowment, i.e. Universal Grammar (UG, hereafter). The second factor is experience, which may lead to variation within relatively narrow limits defined by UG (i.e. informally speaking, differences between 'languages'). Thirdly, Chomsky separates language-external factors among which "principles of data-analysis that might be used in language acquisition" and "principles of structural architecture […] including principles of efficient computation, which would be expected to be of particular significance for computational systems such as language" (Chomsky, 2005: 6). I submit that 'transparency', in as far as it is true of languages (see the discussion in Section 2), is a principle that belongs to the third factor and is required to allow some computational efficiency.

Leufkens (2013), who proposes to separate the notion 'transparency' from the much broader notion 'complexity', finds that contact languages are more transparent when compared to languages that do not share their particular histories of origin. If transparency is not part of UG, the question is what the source is for this apparent force towards more transparency and why this force leaves its marks particularly in contact languages. I submit that the Mutual Exclusivity Principle[1] (Merriman and Bowman, 1989) which is known from research in child word-learning, plays a crucial role in the explanation. This principle roughly entails that children (or other subjects) will not use forms with previously assigned meanings to refer to something new, and, *vice versa*, references that have been given an expression will not be expressed by another form. This principle does not seem specific to language and is not part of the first factor, but seems a far more general learning principle part of the third factor. Moreover, the principle is also not human-specific, since it has been found to be operational in dogs (Pilley and Reid, 2011).

Leufkens (2013) claims that so-called creole languages are more transparent than non-creoles. Similarly, other empirical studies have appeared claiming that creole languages can be successfully separated from other languages (Parkvall, 2008; Bakker et al., 2011). For example, Bakker et al. construe phylogenetic networks on the basis of a large number of 'structural features' of a balanced sample of languages and show that the creole languages in the sample form a group. They conclude: "Whether one takes creole properties and looks for those in non-creole languages, or whether one takes a set of typological properties used for typological research, and then looks at a sample with creoles and non-creoles, the results are the same: *creoles stand out.*" (Bakker et al., 2011: 35). In the same vein Leufkens (2013) concludes: "All contact languages 'gained' transparency with respect to their source languages: many non-transparent features of the source languages are lost so that the contact languages turn out to have a higher degree of transparency compared to their sources" (Leufkens, 2013: 357). These controversial claims have been disputed in the creolist literature (Braun and Plag 2003; Kouwenberg, 2010, 2012; Fon Sing and Leoue, 2012; DeGraff 2001; DeGraff et al., 2013; Aboh, 2015, 2016), and one may wonder how we may explain such empirical results if we acknowledge at the same time that a realistic view of language should take into account that "[…] contact of some degree is ubiquitous in language" (Ansaldo, 2004: 490) and that such realistic view is contrary to the idea that passing *in toto* of a language as a system is the normal situation.

I would like to suggest that at least part of the success of empirically separating contact languages from others, might be due to the particularities of second language acquisition (henceforth: L2A) that plays an important role in the emergence of contact languages. In DeGraff's (2002: 391) L2A-L1A cascade hypothesis, for instance, "second-language acquisition and first-language acquisition play distinct and complementary roles in various stages of creole genesis, with the (substrate-influenced) output of second-language acquisition playing a key role in defining the primary linguistic data in subsequent first-language acquisition" (see also Aboh, 2015). I will suggest that there are reasons to believe that the force of the Mutual Exclusivity Principle is stronger in second language acquisition than first language acquisition due to the particularities of the former process. The idea is that if we fully understand how second language acquisition differs from first language acquisition, this will allow us to see why some principles of learning not specific to language may leave their mark on languages that result predominantly from second language acquisition.

The central reasoning of this paper runs as follows. Following work by DeGraff (2002) and Aboh (2015) I assume that in situations of contact, different types of language learners may play a role in the formation of a new language, including L2-learners and bilingual speakers (2L1) (Lefebvre et al, 2006; Veenstra, 2009). Features of both languages in contact may be chosen to be part of a newly arising grammar. Furthermore, I assume that language learning is subject to a 'critical period' in the sense that it comprises several sensitive periods, each one for a different part of the mainly inflectional system of the language (see e.g. Meisel, 2008, 2011). Once the critical window for the acquisition of some inflectional property closes, the L2-learner has to rely on general cognitive mechanisms to acquire the system in question. Consequently, such inflectional elements will be vulnerable in the transmission to later generations especially in contact situations where L2-learners play a central role in the transmission. Given these assumptions, it is to be expected that these contact languages reflect these general cognitive principles to a larger extent compared to their non-contact neighbors.[2] More specifically, if the Mutual

[1] See also Clark, 1987 for a very similar idea, called the "Principle of Contrast".

[2] Given these assumptions, we should not exclude situations of contact involving predominantly L1 learners. In these cases, we don't expect these general cognitive principles to play a more important role. Aboh (2015) argues that certain aspects of creoles can only be accounted for if we assume the presence of L1 bilingual learners who were able to acquire the target European languages, while acquiring the creole simultaneously.