Cumulative Effects of Markedness in Phonology

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Abstract:

The essence of this research can be encoded as: "towards a dual marked/unmarked thought of language surface representations". Accordingly, this research is an attempt to offer a thorough description of a modern and highly influential theory known as the Markedness Theory, which was initiated in the Prague School of Structural Linguistics and shaped in the theories of Trubetzkoy (1939) and Jakobson (1941). As Markedness has interestingly captured different linguistic domains with rather far reaching implications in the phonological domain. So, this research seeks to reflect on its major defining principles, including universality and implicational criteria, in phonological and non-phonological terms.

The importance of markedness can be captured with regards to the pivotal role it has played in addressing many issues related to second language phonology acquisition. Thus, this paper aims at providing important stretches of Markedness Theory into Eckman's (1977) Markedness Differential Hypothesis. Likewise, it attempts to cover its major failure areas within Schmid's (1997) Naturalness Differential Hypothesis.

Keywords: markedness - universality - implication - frequency - phonology.

الآثار التراكمية للعلامتية في علم الأصوات

الملخص:

يتمحور هذا البحث حول ثنائية العلاماتية واللاعلاماتية، وهو محاولة لتقديم دراسة وصفية لمفهوم العلامتية الذي كان أول ظهور له في المدرسة البنيوية، نظرا للانتشار الواسع لهذا المفهوم في مجال اللسانيات العامة والتطبيقية وبالخصوص في مجال الصوتيات.

أهمية هذا البحث تتمحور حول محاولة تبني هذا المفهوم بأسسه الثلاث العامية والعالمية والانبثاقية في مجال اكتساب الصوتيات لغة ثانية من خلال نظرية إكمان (1977) والنظرية التفارقية الطبيعية لشميد (1997).

الكلمات المفاتيح: العلاماتية - العالمية - التضمين - التواتر - الصوتيات.

Effets Cumulatifs de la Marque en Phonologie

Résumé:

Ce travail porte sur la dualité des éléments marqués / non-marqués et son implication sur le langage. Nous essayerons de mettre la lumière sur une notion universelle à haute influence sur les études du langage, initiée par l'école linguistique de Prague suite aux travaux de Troubetzkoy (1939) et Jakobson (1941). La théorie de Marque ayant touché plusieurs domaines en linguistique, influence également le domaine phonologique d'où notre intérêt de présenter une vision sur l'impact de ses principes à savoir l'universalité et les critères d'implications en terme phonologique et non-phonologique.

L'importance de la marque peut être considérée comme résolution aux problèmes de l'acquisition phonologique de la langue seconde. Ce travail tente de démontrer l'application de la théorie de la marque dans le travail d'Eckman (1977), Hypothèse de la Marque Différentielle, ainsi que dans la théorie de Schmid (1997), la Naturalité Différentielle.

Mots clés: marque - universalité - implication - fréquence - phonologie.

Introduction

Drawing on Chomsky's (1965) Universal Grammar, one of the fundamental goals of generative phonology, has been to construct one body of grammatical principles cross-languages of the world. The motivation for such a lurk of a unified body resides initially in the field of historical linguistics and, more precisely, language typology. The latter has closely looked at the structural systems of many languages descended from different families. Based on a wide range of linguistic typological studies, languages of the world are claimed to be similarly marked with a set of universal properties. For instance, 'duality of patterning', as noted by (Hockett 1966), is a property common to the entirety of human languages. Based on this property, two structural levels are distinguished: one is meaningful, whereas the other is meaningless. In this regard, Caroll (2004) introduces the duality of phone and phonemes, among others, as being a property that is central to the distinction between the phone /p/ in words like pill and spill, and the phoneme /p/ in words as pale and nail. However, languages are taken as individual systems "unity in variety", as termed by Hall (2007), considering their various surface (grammatical, morphological, phonological and semantic) representations. Such a paradox has been the defining key term to (UG) or "Universal Grammar", which gave rise to the idea that each individual language displays the structure of 'Language' in general.

Prior to the universality principle according to which languages cross the world are governed through a set of universal properties, Chomsky & Halle (1968) approach language in terms of a set of possible specific interactions of processes shaped by a rule ordering view. The latter indicates that the output of one rule constitutes the input of the next such as: feeding and counterfeeding rules, bleeding and counterbleeding rules. Later on, this rule-based theory was bitterly criticised as it had in vain provided no principle around which the order of these applied rules is governed. Instead, a Constraint-Based Approach was launched in the 1970s to adjust these rules interaction to a set of universal constraints. In this constraint-based approach, requirements are exerted on the surface forms, and any form that does not conform to these constraints is ruled out and substituted by a form that does. These constraints are of two types: well-formedness or markedness constraints and faithfulness constraints, which are in a constant conflict being reconciled by the specific language constraints hierarchy that optimizes for the output or optimal form. What seems common to a rule-based theory and constraints-based approach is that they both bear on the view of the universal properties of these rules and constraints cross-linguistically.

The notion of universality has further been identified under the light of Markedness concept. The latter has predominantly been the focal point within the field of Structural Linguistics as expounded in (Trubetzkoy 1939; Jakobson 1941) and Natural Phonology (Stampe 1972; Hooper 1976). Besides, regarding the far reaching implications of the concept of markedness for second language

phonology acquisition, its first roots, defining criteria (phonological and non-phonological), and its potential stretches into Eckman's (1977) Markedness Differential Hypothesis will be tackled. Likewise, its major failure areas within Schmid's (1997) Naturalness Differential Hypothesis will also be addressed.

1.1. Markedness Roots

The concept of markedness can be traced back to the Prague School of Linguistics and is shaped in the theories of Trubetzkoy (1939) and Jakobson (1941). Contrast is set as the organizing principle of this concept and was notably developed by Trubetzkoy (1939). Markedness as a concept was initiated within a large scope of cross-linguistic studies on phonological oppositions "oppositions in which one member is characterized by the presence of a certain feature and the other by its absence are called privative oppositions" (Trubetzkoy, 1939, p.75). For instance, oppositions between the marked voiced vs. unmarked voiceless, the marked rounded vs. unrounded vowels. Subsequently, Jakobson (1956) developed the pairwise and feature ordering approaches to set distinctive features using (minuses and pluses) instead of Trubetskoy's notion of privative opposition. For instance, the unmarked value of voicing is encoded as [+voiced] or [-voiced], [+high] or [- high].

As for the former approach, it heavily lies on comparing the distinctive properties of phonological elements that fall in oppositions so as to identify the contrast (Dresher, 2008). However, this approach was prone to skepticism as it fails in many cases to determine which phonological features are contrastive. On the other hand, the latter approach makes a central use of markedness to set for the distinctive features of a given inventory, a hierarchy by means of which the targeted phonological contrast is achieved. According to Dresher (2008), "one value of a feature is marked as positive and the other is unmarked *(negative)*" (p. 71). For instance, oral vowels are less marked than nasalized vowels. In comparison to the former approach (the pairwise approach), the feature ordering approach was more adequate as it can provide actual phonological patterning for the determination of contrastive specifications.

1.2. Markedness Underlying Criteria: Universal, Natural and Implicational Relationships

The basic claims formulated around markedness adhere to the theories of Structuralist Linguistics (Hjelmslev 1935, Trubetzkoy 1939 & Jakobson 1941), Generative Phonology (Chomsky & Halle 1968, Kean 1975 & Kisparsky 1985) and Natural Phonology (Stampe 1972 & Hooper 1976). They regard the concept of markedness as universal in the way that cross-linguistically all types of structures are assigned with two values: marked or unmarked. Unmarked values are in some definable ways: basic, frequent and more natural than the other members whereas "marked values are cross linguistically avoided and used by grammars only to create contrast" (Kager, 1999, p.2).

For instance, open syllables (CV) are common to all languages as they constitute the basic syllable structure for more complex structures such as, (ccvc, ccvcc, cvcc, etc.). Likewise, segments with coronal place features (e.g., /t, /d, /n) are cross-linguistically unmarked with respect to labial and dorsal sounds (e.g., /m, /f, /s) (Paradis & Prunet, 1991).

The natural attribute of markedness is an indication that the marked and unmarked features of a given structure are processed until the unmarked features emerge, and this phenomenon is referred to by McCarthy & Prince (1994) as "the *emergence of the unmarked*" (p.10). A substantial account for the markedness natural attribute can be observed in the German neutralization of final obstruents; the voiced obstruents of the opposed elements are devoiced. So, what appear as data of German Language are the unmarked voiceless obstruents.

However, the above phenomenon of the emergence of the unmarked seems to be unviable for some languages, notably for the under resourced languages. For instance, Ait Aissa (2010) noted that in cases of borrowing between Tamazight Dialect (a dialect of Spoken Algerian Arabic) and French, devoiced labial consonant /p/ is replaced by voiced labial consonant /b/, henceforth, French words like 'post', 'police', and 'bureau' are rather realised as: [Ibosta], [Ibulis], [Ibiru] (p.27).

Moreover, the universality of markedness is, according to Kager (1999), explained by means of the articulatory and perceptual systems. This claim is well backed up by Hayes (2009), "the effect of phonetic knowledge has on the typology of the world's sound system stems from the fact that certain basic conditions governing speech perception and production are necessarily shared by all languages, experienced by all speakers, and implicitly known by all" (p.2). In this regard, he gave an example of certain phonological processes that are rooted in articulatory forces. Accordingly, he maintained that cluster simplification, place assimilation, lenition, vowel reduction and tonal reduction stem from demands of articulatory simplification (p.9).

Further support for the articulatoy-based motivation for markedness can be inferred from Martinet's (1957) treatment of Jakobson's notion of binarism (as alluded to in section 1.1). Given that distinctive features (features according to which segments are distinguished from one another by means of one different feature. e.g., /s/ is different from /z/ in terms of voicing feature) are central to the initiation of markeness (as aforementioned in section 1.1), Martinet's acceptance of pairs like [p: b], [t: d], [f: v] is explained in terms of articulatory reasons. In this regard, he (1957) pointed out, "...notions for pairs in which it is easy to see a sort of articulatory additive difference: p: b=t: d=f: v can often be easily interpreted as the addition of voicing to voiceless phonemes" (p.437). An extended work on the opposition between marked and unmarked forms has been systematically developed into two main categories where (a) list represents markedness terms with non phonological criteria (natural markedness (Anderson,1985), while (b) stands for phonological criteria or structural markedness as termed by Bybee (1985):

a. Marked with	non Phonological	b. Unmarked with Phonological Criteria
Criteria		
less natural		more natural
more specific		more general
more complex		simpler
less common		more common
unexpected		expected
not basic		basic
less stable		stable
appear in fewer grammar		appear in more grammars
later in acquisition		earlier in acquisition
implies unmarked features		implied by marked feature
harder to articulate		easier to articulate
perceptually more salient		perceptually less salient
early loss in language deficit		later loss in language deficit

Table 1: Markedness terms with non phonological criteria (De Lacy 2007)

Marked	Unmarked
subject to neutralization	result of neutralization
unlikely to be epenthetic	likely to be epenthetic
trigger of assimilation	target of assimilation
remain in coalescence	lost in coalescence
retained in deletion	lost in deletion

Table 2: Markedness with phonological criteria or structural markedness (De Lacy 2007)

The above markedness vs. unmaredness dichotomy terms were initially drawn from De Lacy (2007), and have extensively been employed to account for many phonological rules (ordered or hierarchical) and phonological processes (assimilation, deletion, epenthesis, etc.). Moreover, they have constituted the core to second language phonology acquisition theories, more precisely the Markedness Differential Hypothesis (MDH).

Within the framework of Markedenss Differential Hypothesis, the role of markedness in addressing different issues raised in second language phonology acquisition will be discussed in the following section.

In addition, markedness has been introduced by Trubezkoy in terms of implicational correlations. This relationship is clearly attested through the typological structure of markedness defined along with the distributional principles that govern linguistic representations cross-linguistically. i.e., the presence of a given member implies the occurrence of the other member of the opposition. Hence, universal generalizations on human languages are basically determined by means of implicational relationships. The scope of this notion was extended in the work of Greenberg (1976), and can be summarized according to Gundel et al. (1986) and Eckman's (2003) contention, "a structure is typologically marked relative to another structure, Y is typologically unmarked relative to X, if every language that has X also has Y, but every language that has Y does not necessarily have X" (p.3). To take a concrete example, if a language has a complex syllable structure CCCVCC, then it necessarily has an open CV, but not the vice versa. Under this view, the typological markedness as he stated, "has asymmetric, irreflexive and transitive attributes" (p.4).

Another aspect of typological markedness that has made it a particularly distinctive theoretical toolkit is its crucial role in addressing different issues raised in second language phonology acquisition. Thus, in the following section, we will look into Eckman's (1977) major claims of Markedness Differential Hypothesis with regards to the implicational markedness correlates.

2. Markedness Differential Hypothesis (MDH)

Under the frame of Interlanguage Phonology, Markedness Differential Hypothesis came as a reaction against the Contrastive Analysis Hypothesis (CAH) proposed by Lado (1957), who argued that learners rely on their native language in order to access the target language. This reasoning was overlooked by many linguists and the point of focus went beyond the segment. It was applied to syllable structure (Broselow 1984) by introducing the Syllable Structure Hypothesis, which mainly stands in line with the following principle: if the target language permits syllable structures that are not permitted in the native language, then learners will make errors which involve altering these structures to those which would be permitted in the native language.

However, the current hypothesis has failed to resolve many problems related to learners using second language's strategies that are not attested in their first language in order to adjust them to those of second language. Instead, the Markedness Differential Hypothesis (MDH) seems to be more viable to address the problem. Eckman (1977) launched the Markedness Differential Hypothesis (MDH), by means of which he arguably identified its main principles, with regards to the construct of typological markedness. By doing so, he was able to incorporate the current

hypothesis into the realm of second language acquisition in general, and into second language phonology acquisition in particular. The general statement underlying the hypothesis is stated with respect to the difficulties learners face when acquiring a second language as reported by Eckman (1977).

- Those areas of the target language which differ from the native language and are more marked than the native language will be difficult;
- 2. The relative degree of difficulty of the areas of difference of target language which are more marked than the native language will correspond to the relative degree of markedness:
- 3. Those areas of the target language which are different from the native language, but are not more marked than the native language will not be difficult. (p.321).

These claims have largely been manifested in many cross-linguistic studies according to which issues related to second language phonology have been successfully addressed. For instance, Schmid (1997) argued for the above concepts with an instance of Germans learning voiced final obstruents. German learners of French have difficulties in pronouncing French forms ending with voiced obstruents while French learners of German have no problem with devoicing the final German devoiced obstruents. In markedness terms, this can be explained by the fact that universally devoiced obstruents are less marked than voiced ones. Furthermore, similar findings were noted by Alezetes (2007) and Galal (2004) who reported that learners' errors are predicted on the basis of the markedness differences in syllable structures between Eastern Spoken Dialects of Arabic (Egyptian Cairo Dialect and Iraqi Spoken Dialect) and L2 (English). Due to the markedness differences in the dialects syllable structure and in English, more specifically coda and onset relative markedness differences, Cairene and Iraki learners of English have difficulties in pronouncing English syllables with final consonants cluster. Thus, they resort to epenthesis as a repair strategy so that to maximize the onset that is less marked than the coda principle, and adjust it to that of the Cairene and Iraki dialects syllable pattern. Consequently, forms like, [fi.lo:r], [guruub], [kila:s] as variants of the English words 'floor', 'group' and 'class' are pervasive among speakers of the dialects. Further evidences for Eckmans' markedness differences claims can be drawn from the language contact situation in Algerian learning context. As a result of the borrowing effect between Spoken Algerian Arabic (SAA) and French, as assumed by Haoues (2008), Algerian learners of French as a second language tend to accommodate their pronunciation of French words, containing syllables with consonant clusters, to the recipient language (Spoken Algerian Arabic) specific phonological pattern. What results from this, is a set of French borrowed words marked with epenthetic (/a/ insertion) and deletion effects. For instance, the French words: 'veste', 'carte', 'valise', 'place', 'lampe', 'éscalier' and 'électricité', among others, are realized in the Spoken Algerian Arabic, respectively, as [fista], [k~arta], [faliza], [blasa], [lamba], [skali] and [trisiti].

Markedness Theory has widely contributed to address many issues related to the realm of second language phonology acquisition and has given rise to the foundation of Eckman's Markedness Differential Hypothesis. However, its major defining features including, implicational and frequency features are notorious to skepticism, especially when evaluated with respect to Schmid's (1997) Naturalness Differential Hypothesis.

3. Markedness Failure Areas

There are a number of problems arising in the phonological area related to featural markedness domain, where frequency and implicational attributes are presented with a high degree of instability and variability cross-linguistically. Besides, markedness failure can also be marked in terms of naturalness as being a substitute to markedness in second language phonology acquisition.

First, the featural markedness area deals notably with the emergence of the unmarked feature. Underlyingly, the marked features contrast against each other until the unmarked one emerges. As illustrated in (section 1.2), unmarked features are basically epenthetic segments, target of assimilation and neutralization, lost in coalescence and deletion. However, this view counts invalid when considering the variation in vowels and consonants contrasts that different languages display, as, cross-linguistically, the resulting unmarked feature is not always common, as assumed by De Lacy (2007).

"There is not a single universally unmarked consonant or vowel in phonological terms. Instead, which feature of a class patterns as least marked depends, to some degree, on other factors. In particular, the contrasts within an inventory may be implicated in determining unmarked patterning". (p.86).

For instance, in many languages including English, central vowels (e.g., long /i:/ vowel) are taken as unmarked as they are the results of epenthesis, assimilation and neutralization processes. Nonetheless, drawing from a variety of under resourced spoken languages, there appears a little agreement on the unmarked value of structural (phonological) surface representations undergoing epenthesis. For example, in the case of noun diminutives formation reported in Jijilian Spoken Arabic (JSA), a spoken dialect of Algerian Arabic, Azieb & Mahadin (2015) noted that the derivation of feminine noun's diminutives is realized by means of vowel epenthesis process. For instance, in stems like [ta:qa] (window) and [huta] (fish), the long /i:/ vowel is inserted so that to form the marked complex (cci:cv) syllable pattern. As a result, the stems with unmarked syllable structure (cvcv) are realized at the surface level, respectively, as [twi:qa] and [hwi:ta].

Second, the frequency (as mentioned in section 1.2) stands as a constitutional factor for the establishment of the opposition between marked and unmarked forms, but the latter seems to require further considerations in terms of the counting criteria which seem to be inconstant and which "must be firmly established" (De Lacy, 2007, p.95). As there is no general consensus on the criteria governing the frequency, he further stated that the marked segment has lower text-frequency (p.95).

Third, implicational relations that are largely used to set markedness relations also seem to face some complications. Implication (as explained in section 1.2) points to the idea that the presence of one feature which is marked implies the presence of the unmarked feature. Recalling from the aforementioned example that central vowels are unmarked, one would predict other places features (front, back) to be marked and by which the central place is implied. Instead, this implicational relation has been divergently explained by Greenberg (1976), suggesting rather a diachronic view. In this regard, he provides the instance of short vowels which are marked when compared to long vowels. In markedness terms, the long vowels are unmarked because they tend to be more frequent than short vowels. However, the reason behind their unmarked status is attributed to the formation of long vowels as being the contraction of diphthongs. In parallel with the diachronic view, Hayes (2009) also argues that the account for markedness relations (implicational) is underlyingly pertained to linguistic change, more specifically the area of sound change discussed within the field of historical linguistics. In this respect, Hayes (2009) points out, as a language evolves, it is subjected to dozens or even hundreds of sound changes, until it takes" on a form that would be unintelligible to the original speakers" (p.224). He went on stating, "sound change is connected in a curious way to phonology. Basically, sound change results from the fact that throughout history, a language has a large number of phonological rules" (p.224).

Taking the historical view of sound evolvement in consideration, it can be said that the establishment of marked and unmarked features should be diachronically evidenced rather than "the inherent nature of the feature as such" (Greenberg, 1976, p.87). For example, Hayes (2009) holds for a sound change account for the contrastive English voiced consonant /l/ vs. the voiceless / 1 /. He inferred that if all the words in 1300 were articulated with a voiceless/ 1 / and realized as voiced /l/ in 1500, that means throughout this time, the language has witnessed a diachronic sound change from the voiceless/ 1 / to the voiced /l/ (p.224).

Another relevant example of a diachronic justified view of the marked vs. unmarked distribution can be reflected by the widely spread phenomenon of epenthesis. The latter is regarded as an unmarked phonological repair strategy. Paradis and La Charite (1997) compared it to deletion which is marked as many languages attested. However, Pierce (2007) takes on a diachronic

explanation for epenthesis and he arguably defined it as being the insertion of any segment that does not exist at an earlier stage.

Fourth, some problems related to implications arise when language learning and acquisition is at play. In this regard, De Lacy (2007) addresses the issue by pointing to children phonological language acquisition. He claims that a child who produces only unmarked forms is not necessarily aware of these implications. That is to say, he/she is unconscious of the existence of marked forms because his/her primary input source is actually the language available to him/her. In this regard, he points out, "the child does not know, for instance, that a dental or alveolar stop appears in almost all languages while a uvular stop occurs in only some languages." (p.95). He continued arguing, "as the child has input only from the language to which he/she exposed, no direct source is available to inform her/him that uvulars imply dental /alveolars. Similarly, acquiring a language with only voiceless stops may not be aware of the existence of voiced stops" (p.95).

Fifth, the above identified phonological markedness criteria with those of the non phonological or natural ones (section 2) do not seem to converge while according to De Lacy (2007), it is widely acknowledged that these criteria often meet to yield the same result. The evidence of the non convergence between these criteria can be attested in the field of second language phonology acquisition and more precisely in the work of Schmid (1997), whereby he supported this idea by the example of Chinese, Vietnamese and Japanese learners of English who devoice the final obstruents in their interlanguage despite the absence of final obstruents in their native language. The motivation behind this is not because of the unmarked status of the voiceless final obstruents which would imply marked voiced obstruents, and would increase the prediction of being the most frequent cross-linguistically. Yet, it is rather because devoicing is latent in their native language and can, therefore be restored in their interlanguage. Taken in this way, phonological markedness criteria and natural evidences (implication and frequency) do not support one another.

4. Markedness Limitations with Respect to Naturalness Differential Hypothesis

Instead, Schmid (1997) introduced the Naturalness Differential Hypothesis with a conspicuous avoidance of Eckman's markedness term. Instead, he used the term Natural to be a viable substitute to Eckman's 1977 Markedness Differential Hypothesis. Schmid's (1997) overall image of his natural hypothesis of second language acquisition is couched as:

- a. Those natural processes of the native language which are inhibited in the target language will be difficult to suppress.
- b. Those natural processes of the target language which are either inhibited or latent in the native language will not be difficult to activate.

c. Those natural processes which are latent in the native language and suppressed in the target language will appear in the interlanguage phonology. (p.338)

Unlike the markedness account of second language acquisition, Schmid's Naturalness Differential Hypothesis came to oust the notion of markedness in favour of natural properties of language. In this respect, Donegan and Stampe (1979), argue that all languages are governed by one universal system, and that individual language differences start to take place due to a set of residual processes that make them unique.

However, what is true about the universality attribute of markedness is that 'marked' and 'unmarked' distinction is not arbitrarily formed, as is justified by articulatory and perceptual forces. On this ground, Kager (1999) noted, "phonological markedness constraints should be phonetically grounded in some property of articulation or perception. That is phonetic evidence from production and perception should support a cross-linguistic preference for a segment to others in certain contexts" (p.11).

Conclusion

Markedness is proposed primarily to capture the main generalization, universal grammar, that was first claimed within a structuralist mode, and which defines the languages of the world with respect to the universality principle. In markednesss terms, the notion of universality is further elaborated by considering the asymmetrical distribution of elements within one category. That is to say, not all elements in a given phonological system are given the same status as one element is regarded as marked, whereas the other is unmarked. This view of opposition between marked and unmarked is further defined with the use of non-phonological or natural criteria that go mainly in tune with three central points: implication, frequency and naturalness (phonetically-grounded). In addition, this view is guided by phonological criteria. For instance, unmarked phonological elements are subject to neutralization and unlikely to be epenthetic.

Markedness as a universal concept, organizing cross-linguistic structural patterns is noteworthy taking into account the considerable contribution to second language phonology acquisition, more notably, the considerable merits (as displayed in section 2) it has gained in Eckman's Markedness Differential Hypothesis.

While markedness seems to be an influential concept for phonologists as they have widely taken it to account for many structural phonological phenomena, it has turned to be superfluous when looking at the asymmetrical and inconsistent pattern prior to the frequency feature. This can be justified by the fact that what is common, frequent and basic to one language or to language pattern and, therefore is unmarked, may not be unmarked or is less common, less frequent to another language. Besides, when issues of phonological learnabilty and acquisition have been addressed by

means of markedness, some traits of uncertainty and reluctance are raised around the child's unconscious realization of the marked and unmarked acquired forms. In addition, given the notion of language naturalness as a possible alternative to markedness, as noted in Schmid's (1997) Naturalness Differential Hypothesis (as mentioned in section 4), much of the controversies in the fields of phonology and second language phonology acquisition today crop up from different inquiries on the actual roots of markedness constraints: are they universal and innate? Or are they diachronically motivated? How can one reconcile between the natural and phonological criteria of markedness? To what extent can markedness be taken as an account for cross-linguistic structural facts and children phonology acquisition patterns and processes? How much success has markedness brought into the other substances of language (morphological, semantic and syntactic structures) or should it be abandoned altogether? These questions and other surrounded markedness issues should not be sidelined and further debates on the issue should be sooner provoked.

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