Is a coherent Naturalness Theory possible?

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Abstract. *Naturalness Theory* is an umbrella term for functionalist linguistic approaches encompassing – most prominently – *Natural Phonology* (NP) and *Natural Morphology* (NM). In NP, the basis for explanation is phonetics, the core tenet being that natural phonological processes eliminate difficulties in articulation and perception. By contrast, in NM, whose development was influenced by NP, the basis for explanation is semiotics, the main claim being that 'good' semiotic structures (e.g., a biunique relation between a sign's signans and signatum) are more easily processed cognitively. Several scholars from within the paradigm have tried to integrate NP to a larger naturalist paradigm and connect it to other components (*Natural Syntax, Natural Textlinguistics*, etc.) by positing a semiotic metatheory suitable for all of them, while others – including Bernhard Hurch – argue for NP's independence as 'phonology is different'. In this paper, three central questions are addressed to discuss the question stated in its title: (a) Is phonology too 'different' from other levels of language for a semiotic metatheory to be able to account for it, too? (b) Are there, thus, two different strands of NP – a semiotic and a non-semiotic one? And (c) are NP's and NM's respective conceptions of *naturalness* – absolute vs. scalar and evaluative – reconcilable or is Naturalness Theory a collection of separate – if at their core related – approaches?

Keywords. Naturalness Theory, Natural Linguistics, Natural Phonology (NP), Natural Morphology (NM), extralinguistic motivation, linguistic functionalism, linguistic explanation, semiotic metatheory

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1. Introduction

Naturalness Theory is a paradigm of functional linguistics that, much like other such paradigms, interprets language as a tool for communication and cognition. Its first branch, *Natural Phonology* (NP), developed around its founder David Stampe in the late 1960s in the US. It positioned itself in sharp contrast to generativism and structuralism by taking up pre-structuralist phonological ideas by, among others, Edward Sapir; the most central of them is that phonemes are mental sound intentions shared by speakers and hearers. In a departure from rules and formal levels of phonological representation and including a categorical distinction between 'pure' phonology and morphonology, NP's core tenet is that there exist phonological processes that are being applied to eliminate phonetic – articulatory as well as perceptual – difficulties encountered by speakers and hearers. As they are determined by human physiology, or human 'nature', they are termed *natural* phonological processes, lending the approach – and the entire paradigm it eventually spawned – its name.[1]

Then, from the mid-1970s, inspired on the one hand by NP and on the other by the work of Roman Jakobson and the Prague School – most prominently the consideration of external evidence and the (re-)introduction of semiotics to linguistics –, *Natural Morphology* (NM) developed in Europe as a second branch of Naturalness Theory,

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1   Bernhard Hurch introduced me to *Natural Phonology* in one of his courses at the University of Graz in 2014. His presentation of the approach was so convincing that I eventually decided to (try to) adapt its core tenets to an entirely different realm (the study of writing systems) in my doctoral dissertation – and asked him to be my *Doktorvater*. What fascinated me about the theory were not only its elegance and explanatory force but also the people involved in its development – and how they had met and were connected to each other. To name just two of these relationships, Bernhard was influenced by and influenced David Stampe (a fellow linguist and later friend) and Wolfgang U. Dressler (Bernhard's *Doktorvater*); in combination, their important research formed an entire – if not entirely coherent – paradigm. Bernhard's work has, naturally (every pun intended), shaped my own, and I am delighted at having this chance to dedicate this paper to him and the questions he raised in and for Naturalness Theory.

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a central figure being Wolfgang U. Dressler. Semiotic/cognitive moti-
vation was for NM what phonetic motivation had been for NP. Ac-
cordingly, one of NM's central claims is that the semiotic structure of
a sign – understood as aspects of the relationship between its signans
and signatum – bears on how we cognitively process said sign. Based
on this assumption, several naturalness parameters were described,
grounded in the features of semiotic structure and claimed to be cog-
nitively real. Language being a tool for communication means linguis-
tic behavior is a means for achieving social goals, so aside from cog-
nition, socio-communicative factors are crucial for NM. This adds an-
other layer to the analysis of signs: Their semiotic aspects can be eval-
uated not only denotatively but also connotatively since linguistic
structures always reveal (additional) information about the speak-
ers/writers producing them, information that exceeds mere proposi-
tions. That way, phonology can become a semiotic affair, too. Speak-
ing sloppily, for example, may be motivated not only phonetically, i.e.,
physiologically (for instance, due to fatigue or intoxication), but there
may also be a (socio-)semiotic motivation: If a person speaks sloppily,
the speech situation may be informal and/or they are talking to some-
one who is very familiar to them. In such a case, the phonetic output
is semiotically charged – it is a sign of variables of the speech situation
such as the mentioned relationship between interlocutors.

These different types of motivation within the two approaches –
phonetics in NP, semiotics/cognition in NM – reflect fundamental dif-
ferences between phonology and morphology and result in varying
understandings of the central concept of *natural* in the theory's vari-
ous approaches. While NP does not define the eponymic *natural* as
explicitly as NM, it is implied that naturalness is interpreted abso-
lutely: In other words, everything that is, in the end, phonetically re-
alized by humans must be phonologically natural since for it to have
been produced, it has to have gone through several phonological pro-
cesses that effectively eliminated 'unnatural' obstacles. In NM, on the
other hand, naturalness is a scalar, gradual concept: On each parame-
ter, different degrees of naturalness can be evaluated ranging from
more to less natural, for example, biuniqueness (most natural) –
uniqueness – ambiguity (least natural) (cf., for many examples, Crocco
Galèas 1998). A phenomenon or element x is thus always evaluated in
relation to another phenomenon y with respect to parameter z. *Natu-
ral*, in this broad gradual sense, basically means 'easier to process for

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humans', which includes physiology (in NP), cognition (in NM), and social factors (in both).

Notably, the use of the term *natural* as a linguistic technical term and part of the designation of linguistic approaches, partially due to its evaluative colloquial meaning, is not unproblematic as it is prone to being misinterpreted. And indeed, *natural* has been widely used in vague pre-theoretical ways: as a synonym of 'commonplace', 'expectable', 'normal', among other attributes, which has contributed to a vicious circle in which it never quite managed to divorce itself from its everyday language equivalent (cf. Dressler 2000: 288; Dotter 2005: 48f.). Patricia Donegan and David Stampe explain their understanding of the term in stating that NP, the approach they developed,

> is a *natural* theory [...] in that it represents language (specifically the phonological aspect of language) as a natural reflection of the needs, capacities, and world of its users, rather than as a merely *conventional* institution. It is a natural theory also in the sense that it is intended to *explain* its subject matter, to show that it follows naturally from the nature of things [...]. (Donegan & Stampe 1979: 127, emphasis in original)

All aspects captured in this definition are arguably constitutive not only of NP, but of Naturalness Theory in general: It is a paradigm that focuses on explanation, aiming specifically at explaining how language reflects human needs and is shaped by human capacities. Notably, the passage "specifically, the phonological aspect of language" clearly implies that NP's – and Donegan & Stampe's – focus lies on phonology,[2] and thus, within NP, "naturalness is a matter of phonetic motivation" (Donegan & Stampe 1979: 141). However, given eventual extensions in the form of additional theoretical components such as NM (but also *Natural Textlinguistics, Natural Syntax*, and others), this relatively straightforward claim raises a central question that is addressed in this paper: Can the conceptions of naturalness stemming from different components of the theory and originating in different kinds of extralinguistic motivations be reconciled to form a truly coherent Naturalness Theory, or is the latter merely an umbrella term

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2   Cf. also Donegan (1992: 73), who writes that the object of NP "is phonology in the traditional sense: regular linguistic behavior that is phonetically rather than morphosyntactically conditioned".

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for related but ultimately distinct functional and explanatory approaches to studying language?

2. Issues in conceptualizing a coherent cross-component cognitive Naturalness Theory

The leading figure of a cross-component Naturalness Theory (sometimes also referred to as 'Natural Linguistics') is Wolfgang U. Dressler. Having successfully launched NM as a second naturalist enterprise together with other linguists (cf., exemplarily, Dressler et al. 1987)[3] and later another, less-received one, *Natural Textlinguistics* (cf., exemplarily, Dressler 1989), Dressler strives to find the common denominator that links these components to original NP, focusing on how naturalness can be explained coherently across all of them. For NM and Natural Textlinguistics, the answer is: Naturalness is determined cognitively as well as communicatively (or 'sociopragmatically', to use Dressler's terminology). What serves as a metatheory for both of these branches is Peircean semiotics, with the – very simplistically phrased – core axiom that the 'better' the semiotic relation between a signans and a signatum, the 'better' the cognitive fit and the 'more natural' a linguistic sign. What Dressler (1984: 29) ultimately envisions is a "bridge theory" between the components, and his aim is to

> provide NP with a semiotic foundation which represents a metatheoretical basis, in contradistinction to those other phonological theories which have none; the same metatheoretical basis is valid for Natural Morphology as well.

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3   After the establishment of NP, NM was developed as the second sub-branch of Naturalness Theory. It would eventually become the most widely spread – its "most significant achievement" and "the one which has been best worked out" (Gaeta 2006: 8). Its founders are the Austrian linguist Wolfgang U. Dressler and the German linguists Willi Mayerthaler and Wolfgang U. Wurzel. There are different accounts of when exactly NM was first established, but Dressler himself (cf. Dressler & Kilani-Schoch 2016: 356; Dressler 2006: 539) dates the theory's inception to 1977 and states that it is based on a chapter in Mayerthaler (1977). The official and public 'birth' of the theory is said to have taken place at the LSA Summer Institute of 1979 in Salzburg (cf. Kilani-Schoch 2001: 234).

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This raises crucial questions: Are a shared metatheory and explanation for all components including phonology necessary? And are they possible? Dressler (1996: 41) believes so, even claiming that "it is no longer possible to develop Natural Phonology 'in splendid isolation'" and that the goal is "to devise both a consistent metatheory and compatible methodologies for all of [the components of Naturalness Theory, D.M.]". This – per Hurch & Nathan (1996: 231) 'secondary' – revertive application of principles from other such components to NP is justified by the assumption that "if cognitive, psychological and sociopragmatic bases play a role in NM [= Natural Morphology], NS [= Natural Syntax], and NT [= Natural Textlinguistics], it is highly unlikely that they were negligible in NPh [= Natural Phonology]" (Dressler 2009: 34). Following this line of argument, advances in these other components should be made available to NP as Naturalness Theory's branches should not exist "in mere peaceful coexistence" (Dressler 1996: 51). Auer (1990: 13) agrees, positing that "[o]nly if we see naturalness in a broader, cognitive sense, it is possible to develop a unified theory of naturalness comprising all levels of linguistic structure". He argues that for prosody, a domain intricately connected to phonology, "merely perceptual and articulatory explanations of the low-level kind are not enough to distinguish natural from non-natural phenomena" (Auer 1990: 14).

Indeed, whether not only phonetic but also cognitive explanations should be permitted in NP is a question central for the assumption of a coherent Naturalness Theory encompassing components beyond just NP. Whereas Dressler (1984, 1996, 2009) and Auer (1990), among others, are in favor of incorporating a cognitive dimension into NP, "Stampe and his closest followers have never considered this issue" as "American Natural Phonology has not been interested in the parallels with other levels" (Hurch & Nathan 1996: 238). Indeed, Hurch & Nathan (1996), as followers of the original Stampean branch of NP, contend that explanation in NP should remain a solely phonetic matter. And yet, interestingly, scholars like Rhodes (1973: 530, my emphasis) speak of natural phonological processes – as the explanatory cornerstone of NP – as "physiologically *and mentalistically* motivated", underlining that the mental domain does play a role in conceptualizing phonemes and processes in NP. In Donegan & Stampe's (2009: 1f., 1979: 126) original formulation, processes are also "categorical mental substitutions" (Donegan & Stampe 2009: 1f.; cf. also Donegan &

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Stampe 1979: 126) motivated by "mental constraints on speech perfor-
mance" (Wojcik 1976: 47). In other words, while processes are physical
reactions to phonetic constraints, they are fundamentally mental (cf.
Donegan 1985a: 3), pointing to the possibility that a cognitive meta-
theory is also capable of subsuming NP.

Against this background, several questions arise that will be ad-
dressed in the following sections: (a) firstly, whether "phonology is
different from the other components of grammar" (Hurch & Nathan
1996: 231); (b) secondly, whether one should histori(ographi)cally
posit two distinct schools of NP, original Stampean NP or *Standard
Natural Phonology* (SNP, cf. Dziubalska-Kołaczyk 2006: 4) on the one
hand and what has sometimes been called *Modern Natural Phonology*
(MNP, cf. Dziubalska-Kołaczyk 2007: 72) on the other, implying that
NP has not fundamentally changed but that a separate, distinct branch
has been developed; and (c) thirdly, whether the apparently absolute
naturalness concept of NP is reconcilable with the scalar evaluative
(and comparative) naturalness concept first proposed in NM and later
secondarily applied to NP, or whether the differing readings of natu-
ralness have become "disparate and perhaps partially incompatible"
(Hurch & Nathan 1996: 231).

2.1. Is phonology different?

Hurch & Nathan (1996: 235, 245) argue that "phonology is different"
than other levels of language, which they mainly justify with the ob-
servation that "it is the only one that has direct physical conse-
quences" (242). Importantly, they do not object to the use of semiotics
as a metatheory in the naturalist treatments of other "more abstract
levels of language" (245) like morphology and syntax. What they dis-
agree with are attempts to place NP in that same category. By contrast,
Dressler (1984: 35) interprets phonological "processes and rules as
signs" and highlights that semiotics is a fitting explanatory framework
for phonology by claiming, for example, that "the distinction between
foreground [= achieved by fortitions or, per Dressler, foregrounding
processes, D.M.] and background [= the result of lenitions or back-
grounding processes, D.M.] corresponds to the semiotic distinction
between figure and ground, a distinction which sharpens the contours
of what is to be perceived" (33). Hurch & Nathan (1996: 235) strongly
disagree, maintaining that "phonology per se is non-semiotic". Pro-
cesses, they argue, do not have a signaling function, and NP instead

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asks "what gestures, acoustic impressions and so on are available in the first place" (235), a question that is *not* semiotic but purely articulatory and perceptual. Singh (1996b: 246) aptly sums up their point in remarking that "[s]emiotics may not provide the right calculus for interpreting 'hardware' matters". For some linguists (and naturalists), such as Gaeta (2006: 9), the difference between phonology and other linguistic levels is so evident that it is not questioned at all:

> The crucial difference is evidently given on the one hand by the notion of sign, and on the other by the strictly phonetic motivation underlying phonological markedness. Therefore, the other levels entirely lie within the realm of semiotics, whereas phonology is only indirectly connected with it.

Naturalness in general can be defined both in physiological/cognitive and sociopragmatic terms, a two- or threefold[4] conception also echoed in Dressler's broader naturalist enterprise. It is the first (or first two) of these, the physiological and cognitive basis/bases of naturalness, where Stampe's (encompassing Hurch and Nathan's) and Dressler's views diverge: Phonology, as the 'lowest' abstract level of language and simultaneously the link to its concrete material realization (in the form of speech), is mainly governed by articulation and perception, whereas other levels such as morphology or syntax are governed both by cognition, and, secondarily (what Gaeta calls an indirect connection), by virtue of double articulation and the fact that morphemes have a phonological representation, also by articulation and perception. It could be argued, thus, that phonology can be a matter of cognition and, for that reason, subject to semiotic analysis, too – granted, however, that it is studied specifically through the lens of another linguistic level, most importantly morphology. Against this background it is important to highlight, however, that morphonological rules, while being studied in NP, are not regarded as natural and are sharply distinguished from natural processes (cf. Section 2.3.).

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4   Whether it is interpreted as two- or threefold depends on whether cognition is also seen as a part of human biology in a narrow sense. If it is, it can be categorized together with physiology and we have physiological and cognitive explanation as 'biological explanation' on the one hand, and sociopragmatic explanation on the other.

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If we turn to the other basis of naturalness fundamental in Naturalness Theory, namely sociopragmatics, then phonology is not so different, after all. Importantly, although they are in principle universal, natural phonological processes do not always apply,[5] and as Dressler (1984: 33f.) points out, the phonetic output can vary greatly depending on the degree of formality of a given communicative situation: In casual speech, there is a tendency for more lenitions, while in formal speech, hearers' needs are central, leading to fortitions by speakers. Thus, *when* a natural phonological process applies, Hurch & Nathan's (1996: 235) arguments are valid, and, for example, "the process of devoicing obstruents is an expression of the purely physiological fact that it takes extra effort to maintain voicing during obstruent production". This does not make the process or the phonemes that take part in it signs, they rightly argue. However, the question of *whether* a process applies can definitely be of semiotic nature, and, consequently, the application or non-application of a process can become a sign signaling characteristics of the speech situation or even index the speaker and hearer themselves. Biologically, NP is different from the other components, but sociopragmatically, it is similar in important respects.

2.2. Are there two distinct strands of NP?

The answer to the related question of whether NP changed significantly over the course of time or whether a second subbranch splintered from it[6] depends on the perspective taken. Since, as mentioned above, Stampe and his followers never truly concerned themselves with NP's possible parallels with other components of language, they

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5   They are, in this sense, optional (cf. Bjarkman 1975: 67), whereas rules are not. Because processes apply "in real time" (Donegan & Stampe 2009: 10), their application is sensitive to factors such as tempo or other external conditions (Donegan & Stampe name fatigue, drunkenness, objects in the mouth, injuries, but also lack of attention or care, situations of high redundancy, very frequent words, etc.), to which one can also count sociolinguistic variables.

6   The latter is a view that, e.g., Wurzel (1988: 99), as a founding member of NM, adheres to, stating that NM "increasingly developed its own theoretical profile which – by the way – also applies to natural phonology in Europe pursued in close connection with natural morphology".

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did not incorporate into their own works the findings that resulted from NP's integration into the broader context of Naturalness Theory proposed by Dressler and others. Accordingly, in their 2009 paper *Hypotheses of Natural Phonology*, Donegan & Stampe reiterate the principles that had shaped the theory from its inception decades earlier. From this perspective, thus, NP did not 'change' into something different. By contrast, Dressler and, most vocally, Dziubalska-Kołaczyk probably interpret their extensions of NP as developments of the traditional Stampean formulation. However, as Hurch & Nathan's (1996) above-mentioned objections show, phonology and thus NP are – at least in part – different, warranting the assumption of two separate versions of NP that Dziubalska-Kołaczyk herself calls *Standard Natural Phonology* and *Modern Natural Phonology*, respectively. Notably, Dressler et al.'s modifications are not necessarily more modern (even if 'modern' is to mean 'more recent') as their crucial difference with respect to Stampe's NP is the attempt of a semiotic explanation. Thus, something along the lines of *Semiotic NP* would be more fitting, whereas – as the original branch – Stampean NP should simply (if vaguely) be referred to as *Natural Phonology* without any additional attributes.[7]

2.3. Is the notion of *natural* absolute or scalar and evaluative?

> This view, that phonology per se is natural, stands in complete contradiction to most current grammatical theories. (Hurch & Nathan 1996: 233)

The final question is probably the most pressing: Is *natural* an absolute notion, referring to the mere possibility for a structure/a phenomenon/an element to be processed by humans and thus to exist in language, or a gradual, evaluative notion capturing differences in the

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7   Labelling the two branches *American Natural Phonology* and *European Natural Phonology*, respectively (which Hurch & Nathan 1996 appear to do when calling Stampe's branch 'American'), is also not entirely accurate, since this distinction may correctly grasp where the two branches originated, and 'synchronically', it may express a tendency, but it is not to be understood absolutely: Take Hurch, for example, who is a European linguist but identifies himself as a Stampean – 'American' – naturalist.

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physiological/cognitive/social ease involved in the processing of different linguistic structures/phenomena/elements? Hurch & Nathan (1996: 232) seemingly believe the former to be true, claiming that "all that is phonological is natural" and "whatever is phonologically natural is natural to the same degree" (236). In the same vein, Hurch (1988: 10) cites Stampe's observation that heuristically, it is pointless to rank the naturalness of permissible forms,[8] and in a footnote, Donegan & Stampe (2009: 6) also reject the interpretation of *natural* as an evaluation device that survives in "European naturalness theory" (= which was referred to as *Modern NP* or *Semiotic NP* above). However, although they generally express themselves sparsely on this topic, Donegan & Stampe (2009: 6) mention that in morphology, thanks to "semiotic criteria", *natural* can indeed be used as an evaluation device.

The belief that the absolute and gradual readings are incompatible falls prey to a lack of precision in *what* is to be considered natural (and in what context): processes or products? Larger chunks of linguistic elements or segments? Entire systems or parts of those systems? In an absolute reading that heuristically is indeed rather pointless, everything in language must be natural. In other words, everything we observe in language must meet our human needs in some way, otherwise it would not exist in the first place. This, of course, subsumes all existing language systems including all of the structures, phenomena, elements, etc. found in them. And indeed, *all* phonological processes are treated as natural in NP, as are all the phonetic realizations that result from them. Interestingly, although processes are reflections of difficulties speakers experience in articulation, Hurch & Nathan (1996: 236) claim that a "speaker of German does not find it easier to pronounce an [i] than to pronounce an [y], or an [a] easier than an [e]", alluding to the fact that segments cannot be compared with respect to the effort needed in their production. Is the same true for voiced vs. voiceless obstruents, the former of which are often substituted by the latter? If the answer is 'yes, they are equally natural', then NP obviously holds that isolated segments or phonemes cannot be compared with respect to naturalness. All of them are natural in an absolute sense and considered equal, making it unfeasible to compare or evaluate them.

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8   „Doch ist es, wie Stampe […] argumentiert hat, heuristisch müßig, die Natürlichkeit zulässiger Formen gegeneinander abstufen zu wollen" (Hurch 1988: 10).

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However, *in a given context*, one of them *must* be more natural than the other, otherwise there would not be a reason for a process (such as obstruent devoicing) to be applied, and Donegan (1985b: 26) does state that "some combinations and sequences of phonetic features are more difficult than others". It cannot be denied that this statement invokes an evaluative dimension. However, it is not located at the segmental level and is not paradigmatic: Hurch & Nathan (1996: 234) give the example of the combination of a voiceless fricative plus a voiced stop (such as /s+d/), and show that in Basque, we find progressive assimilation, resulting in voiceless /st/, whereas in Spanish, the assimilation is regressive, resulting in voiced /zd/. For NP, "both are equally natural, insofar as they eliminate a common articulatory difficulty". This proves that the question of whether /t/ or /d/ are more natural does not even arise in NP. Processes apply asegmentally (cf. Donegan 2002: 61) and all processes are natural. For NP, thus, any different naturalness 'values', for example of /t/ vs. /d/, are epiphenomenal.[9] They are merely reflections of the fact that articulatorily, *in a given context*, one element is preferred over another. Thus, sometimes, /d/ may become /t/ and this is considered natural, and in other instances, /t/ turns into /d/ and this is equally natural. In NP it is argued, in other words, that one cannot claim /t/ to *always* be more natural than /d/. As segments occurring in the phonologies of the world's languages, both are natural in an absolute sense, and that is the end of that story.[10] However, what this example emphasizes is that in phonetic terms, the sequences voiced+voiced or voiceless+voiceless are

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9   Cf. also Stampe (1977: 52) in his comments on Chapter 9 of Chomsky & Halle's (1968) *Sound Pattern of English*: "[…] marks, and markedness conventions, are mere appearances, and […] what underlies the impression of reality they bear is, in fact, the innate system of natural processes".

10   Intuitively, however, arguably not every sound (class) listed in the IPA is 'natural' to the same degree, and one could easily transfer some of Mayerthaler's (1988: 1) observations that fundamentally shaped NM also to NP (by just exchanging 'morphological structures' for 'sounds'): "Not all morphological structures are disseminated equally in natural languages; not all morphological processes and structures are learned at the same time by children; not all morphological structures are similarly affected by language changes; not all morphological structures are equally easily decoded."

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more natural than voiceless+voiced, underlining that if naturalness could be seen as an evaluation device in NP, it can only function syntagmatically.

Another interesting facet of NP is that it defines not everything in language as natural but only *what is phonological*: morphonological rules (cf. Donegan & Stampe 2009: 5), for instance, an example being umlauting as in German SG *Mann* /man/ 'man', PL *Männer* /ˈmɛnɐ/ 'men', although they are in general not treated extensively in NP (cf. Singh 1996a: 11), are not regarded natural. This could reflect the fact that NP operates solely with an articulatory and perceptual definition of *naturalness*, and an integration of morphology or even just a link between morphology and phonology would require extending the picture to include cognitive naturalness as well (cf. also Section 2.1.). To apply NP's conception of naturalness to NM (without necessarily trying to link the two via a coherent metatheory), from a morphological perspective, a morphological structure *must* be cognitively natural in order to occur in language, with its naturalness stemming not from phonetics but cognition. In other words, in NP, all that is phonological is natural, and – assumedly – all that is not purely phonological is not considered natural because it involves the contribution of cognitive abilities, which are of a fundamentally different status than purely physiological articulatory and perceptual abilities. From a view that excludes the possibility of a coherent cross-component Naturalness Theory, the same could be claimed for NM: Naturalness is determined solely by semiotics and cognition, and if other extralinguistic factors (such as phonetics) intervene, we cannot speak of a morphologically natural structure anymore.

3. Conclusion

While this short contribution cannot conclusively settle any of the raised questions, we can sum up that NP appears to be different indeed because phonology is different, justifying the rejection of a semiotic metatheory and cognitive explanations for phonological phenomena[11]

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11   Note that I have only treated segmental phonology here. As the above quote by Auer critically observes, prosody is a different story that may warrant a reevaluation of the question of whether cognitive explanation is necessary.

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– save for the sociopragmatic dimension, for which semiotics is certainly useful. However, for other 'components', meaning other linguistic levels, semiotics is adequate and cognition is relevant. To illustrate, one could invoke the "Cartesian mind/body dichotomy" (Singh 1996b: 247), with phonology belonging to the body and other linguistic levels to the mind.

Now, if (Stampean) NP is regarded as – at least partially – different from the other components of Naturalness Theory, can there even be a coherent 'Naturalness Theory', and what is the thread that holds the heterogeneous components together? I argue that yes, there can and should indeed be a comprehensive 'Naturalness Theory' that encompasses even non-semiotic (Stampean) NP. There may not be a single metatheory that holds all of them together; however, what Donegan & Stampe (1979: 127) stated when conceiving NP remains true for all subbranches of Naturalness Theory: "[it] is a *natural* theory [...] in that it represents language [...] as a natural reflection of the needs, capacities, and world of its users". While admittedly a very general definition, it does glue NP to other components such as NM (but also other more loosely related functional approaches) even if NP is different from them in fundamental ways. Wurzel (1988: 100, my emphasis) agrees, positing that Naturalness Theory "starts from the fact that the various components of the language system are coined by naturalness principles *specified for them*, which results in a relative autonomy of individual components". This, crucially, does not undermine the fact that they can all be components of the same theory.[12]

Importantly, this is certainly also not to say that the efforts at bridging the different components are futile or that these components do not share fundamental commonalities. A possible definition of linguistic naturalness that conforms to different scholars' views (including Stampe, Hurch, and Dressler) without succumbing to vagueness reads as follows: Naturalness refers to the effort involved in using language – subsuming production and perception – with respect to external constraints. On the one hand, these are the physiological and cognitive makeup of the human body, specifically the parts that are

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12   Cf. also a passage from the influential *Leitmotifs of Natural Morphology*, which mentions "the relative autonomy of the various components of the language systems" and "the tendency of each component to follow its own principles of naturalness" (cf. Dressler et al. 1987: 8).

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relevant for the use of language. On the other hand, psychosocial considerations of humans as sociocommunicative beings are also crucial. This perfectly corresponds with Dressler's (1980: 75, my emphasis) understanding of naturalness:

> Naturalness must be derived from considerations of the *nature of man*, who is not only a speaker-listener, but also a non-verbally communicating being conditioned by biological, psychological and social properties. Therefore[,] any 'natural linguistics' must be based on such extralinguistic considerations [...].

Maybe, as a collection of different – if connected – approaches, Naturalness Theory or a 'Natural Linguistics' is stronger if the distinct components adhere to this general definition while the component-specific details remain just that: component-specific.

4. References

Auer, Peter (1990). A note on prosody in Natural Phonology. In Julián Méndez Dosuna & Carmen Pensado (Hgg.), *Naturalists at Krems: papers from the workshop on Natural Phonology and Natural Morphology* (= Acta Salamanticensia, Estudios filologicos, 227). Salamanca: Universidad de Salamanca, pp. 11–22.

Bjarkman, Peter C. (1975). Toward a proper conception of processes in Natural Phonology. In Robin E. Grossman, L. James San & Timothy J. Vance (Hgg.), *Papers from the 11th Annual Regional Meeting of the Chicago Linguistic Society*. Chicago: Chicago Linguistic Society, pp. 60–72.

Chomsky, Noam & Morris Halle (1968). *The sound pattern of English*. New York: Harper & Row.

Crocco Galèas, Grazia (1998). *The parameters of Natural Morphology*. Padova: Unipress.

Donegan, Patricia J. [1978] (1985a). *On the Natural Phonology of vowels*. PhD Dissertation, Ohio State University. (Published 1985 in Ohio State University Working Papers in Linguistics 23.)

Donegan, Patricia J. (1985b). How learnable is phonology? In Wolfgang U. Dressler & Livia Tonelli (Hgg.), *Natural Phonology from Eisenstadt: papers on Natural Phonology from the fifth international phonology meeting, 25-28 June, 1984*. Padova: CLESP, pp. 19–31.

_____

Donegan, Patricia J. (1992). Natural Phonology. In William Bright (Hg.), *International encyclopedia of linguistics*, vol. 3. Oxford: OUP, pp. 73–75.

Donegan, Patricia J. (2002). Phonological processes and phonetic rules. In Katarzyna Dziubalska-Kołaczyk & Jarosław Weckwerth (Hgg.), *Future challenges for Natural Linguistics* (= LINCOM Studies in Theoretical Linguistics, 30). München: LINCOM, 57–81.

Donegan, Patricia & David Stampe (1979). The study of Natural Phonology. In Daniel A. Dinnsen & Stephen R. Anderson (Hgg.), *Current approaches to phonological theory*. Bloomington: Indiana University Press, 126–173.

Donegan, Patricia & David Stampe (2009). Hypotheses of Natural Phonology. *Poznań Studies in Contemporary Linguistics,* 45/1, 1–31. DOI: 10.2478/v10010-009-0002-x

Dotter, Franz (2005). Linguistische Theoriebildung am Beispiel der Natürlichkeitstheorie und der Radical Construction Grammar. In Gertraud Genk-Oczlon & Christian Winkler (Hgg.), *Sprache und Natürlichkeit: Gedenkband für Willi Mayerthaler* (= Tübinger Beiträge zur Linguistik, 483). Tübingen: Gunter Narr, 37–56.

Dressler, Wolfgang U. (1980). Naturalness as a principle in genetic and typological linguistics: introduction. In Torben Thrane, Vibeke Wingle, Lachlan Mackenzie, Una Canger & Niels Ege (Hgg.), *Typology and genetics of language* (= Travaux du cercle linguistique de Copenhague, XX). Copenhagen: Linguistic Circle of Copenhagen, 75-91.

Dressler, Wolfgang U. (1984). Explaining Natural Phonology. *Phonology,* 1, 29–51. DOI: 10.1017/S0952675700000282

Dressler, Wolfgang U. (1989). *Semiotische Parameter einer textlinguistischen Natürlichkeitstheorie* (= Veröffentlichungen der Kommission für Linguistik und Kommunikationsforschung, 21). Wien: Verlag der Österreichischen Akademie der Wissenschaften.

Dressler, Wolfgang U. (1996). Principles of naturalness in phonology and across components. In Bernhard Hurch & Richard Rhodes (Hgg.), *Natural Phonology: the state of the art* (= Trends in Linguistics, 92). Berlin, Boston: De Gruyter, pp. 41–51. DOI: 10.1515/9783110908992.41

Dressler, Wolfgang U. (2000). Naturalness. In Geert Booij, Christian Lehmann, Joachim Mugdan, Wolfgang Kesselheim & Stavros

Skopeteas (Hgg.), *Morphology: an international handbook of inflection and word-formation*, vol. 1 (= Handbooks of Linguistics and Communication Science, 17.1). Berlin, Boston: de Gruyter, pp. 288–296. DOI: 10.1515/9783110111286.1.4.288

Dressler, Wolfgang U. (2006). Natural Morphology. In Keith Brown (Hg.), *Encyclopedia of language and linguistics*. Amsterdam: Elsevier, pp. 239–240.

Dressler, Wolfgang U. (2009). Natural Phonology as part of Natural Linguistics. *Poznań Studies in Contemporary Linguistics,* 45/1, 33–42. DOI: 10.2478/v10010-009-0003-9

Dressler, Wolfgang U., Willi Mayerthaler, Oswald Panagl & Wolfgang U. Wurzel (1987). *Leitmotifs in Natural Morphology* (= Studies in Language Companion Series, 10). Amsterdam, Philadelphia: John Benjamins. DOI: 10.1075/slcs.10

Dressler, Wolfgang U. & Marianne Kilani-Schoch (2016). Natural Morphology. In Andrew Hippisley & Gregory Stump (Hgg.), *The Cambridge handbook of morphology*. Cambridge: CUP, pp. 356–389.

Dziubalska-Kołaczyk, Katarzyna (2006). Modern Natural Phonology: the theory for the future. In Jacek Fisiak (Hg.), *English language: literature and culture: selected papers from the 13th PASE conference, Poznań 2004*. Poznań: Adam Mickiewicz University, pp. 1–10.

Dziubalska-Kołaczyk, Katarzyna (2007). Natural Phonology: universal principles for the study of language (insiders meet outsiders). In Jürgen Trouvain & William J. Barry (Hgg.), *Proceedings of the 16th International Congress of Phonetic Sciences*. Saarbrücken: University of Saarbrücken, pp. 71–75.

Gaeta, Livio (2006). How to live naturally and not be bothered by economy. *Folia Linguistica,* 40/1–2, 7–28. DOI: 10.1515/flin.40.1-2.7

Hurch, Bernhard (1988). *Über Aspiration: Ein Kapitel aus der natürlichen Phonologie.* Tübingen: Gunter Narr.

Hurch, Bernhard & Geoffrey Nathan (1996): Naturalness in phonology. *Sprachtypologie und Universalienforschung* 49.3: 231–245. DOI: 10.1524/stuf.1996.49.3.231

Kilani-Schoch, Marianne (2001). Naturalness or preference: a note on terminology in Natural Morphology. In Chris Schaner-Wolles, John Rennison & Friedrich Neubarth (Hgg.), *Naturally! Linguistic studies in honour of Wolfgang Ulrich Dressler presented on the occasion of his 60th birthday* (= Linguistica, 19). Torino: Rosenberg & Selier, pp. 233–240.

_____

Mayerthaler, Willi (1977). *Studien zur theoretischen und zur französischen Morphologie: Reduplikation, Echowörter, morphologische Natürlichkeit, Haplologie, Produktivität, Regeltelescoping, paradigmatischer Ausgleich* (= Linguistische Arbeiten, 40). Berlin, Boston: De Gruyter. DOI: 10.1515/9783111592503

Mayerthaler, Willi (1988). *Morphological naturalness* (= Linguistica extranea, 17), transl. by Janice Seidler. Ann Arbor: Karoma.

Rhodes, Richard A. (1973). Some implications of natural phonology. In Claudia Corum, T. Cedric Smith-Stark & Ann Weiser (Hgg.), *Papers from the 9th Annual Regional Meeting of the Chicago Linguistic Society*. Chicago: Chicago Linguistic Society, pp. 530–541.

Singh, Rajendra (1996a). Natural Phono(morpho)logy: a view from the outside. In Bernhard Hurch & Richard Rhodes (Hgg.), *Natural Phonology: the state of the art* (= Trends in Linguistics, 92). Berlin, Boston: De Gruyter, pp. 1–38. DOI: 10.1515/9783110908992.1

Singh, Rajendra (1996b): Some unfinished reflections on naturalness: comments on Hurch and Nathan. *Sprachtypologie und Universalienforschung,* 49/3, 246–248. DOI: 10.1524/stuf.1996.49.3.246

Stampe, David (1977). On Chapter Nine. In Michael J. Kenstowicz & Charles W. Kisseberth (Hgg.), *Issues in phonological theory. Proceedings of the Urbana conference on phonology, 1971, University of Illinois* (= Janua Linguarum, Series Maior, 74). Berlin, Boston: De Gruyter, pp. 44–52. DOI: 10.1515/9783110905137.44

Wojcik, Richard (1976). Remarks on Natural Phonology. *Columbia University Working Papers in Linguistics*, 3, 47–58.

Wurzel, Wolfgang U. (1988). The structuralist heritage in natural morphology. *Linguistische Studien A,* 188, 99–116.