PHONOLOGICAL PROCESSES VS. MORPHONOLOGICAL RULES IN L2 ACQUISITION

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0. Among the basic assumptions of Stampean Natural Phonology one finds a distinction between a notion of a process and a notion of a rule. Rules apply before processes and are differentiated from the latter by the lack of direct phonetic motivation. In L1 acquisition, language-specific processes are acquired through suppression, limitation and ordering of universal process types, available to the child from the very beginning. Rules, on the other hand, have to be learned.

A question arises how the acquisition of L2 processes and rules proceeds: how far the procedures of L2 acquisition match or to what extent they overlap with these of L1 acquisition.

The knowledge of both L1 and L2 manner of acquisition of phonology could, in turn, be used to validate of verify the process/rule distinction.

Below, I will use the terminological distinction "process vs. rule" to signify a distinction between a phonological vs. morphonological rule (PR vs. MPR is Dressler 1985). A manner of acquisition could become another one among the descriptive criteria for the differentiation among PR, MPR and MR established in Dressler (1985).

1. Remarks concerning L1 acquisition are based on the observation of my three-year old daughter throughout her speaking life and, as far as morphonology is concerned, her speech in recent months.

I concentrate on the data demonstrating the non-application of rules. Some examples of phonologically conditioned deviations from the adult norm are also supplied.

1.1 First, consider the following examples.

Example	*Correct form*	*Infinitive*	*Gloss*	*Magda's base form*
płaka (3 Per., Sg, Pres)	płacze	płakać	"cry"	płakać
płakam (1 Per., Sg, Pres)				
bram (1 Per., Sg, Pres)	biorę	brać	"take"	brać
zapisa (3 Per., Sg, Pres)	zapisuje	zapisywać	"note down"	zapisać
dawa (3 Per., Sg, Pres)	daje	dawać	"give"	dawać
ręki (Nom., Pl)	ręce	–	"hand"	ręka

/continued...

Example	*Correct form*	*Infinitive*	*Gloss*	*Magda's base form*
grudn (Nom., Sg)	grudzien	-	"December"	w grudniu
grudzienia (Gen, Sg)	grudnia	-	- " -	grudzień
odebrz (Imper. Sg)	odbierz	odbierać	"regain"	odebrać
spłuknij (Imper, Sg)	spłucz	spłukać	"rinse"	spłukać
upieczyła (3 per., Sg, Past)	upiekła	upiec	"bake"	upieczone
nalaj (Imper. Sg)	nalej	nalać	"pour"	nalać
krzyczyła (3 per, Sg, Past)	krzyczała	krzyczeć	"shout"	krzyczy
księdz (Nom. Sg)	ksiądz	-	"priest"	księdza
ksiedzenie (Nom, Pl)	księza	-	"priests"	księdz
wzień (Imper. Sg)	weź	wziąć	"take"	wzięła
odpiń (Imper. Sg)	odepnij	odpiąć	"unfasten"	odpina
obciń (Imper. Sg)	obetnij	obciąć	"cut"	obcina
oprzyję się (1 per., Sg, Fut)	oprę się	oprzeć się	"lean"	oprzyj się
stoić (Infin.)	stać	stać	"stand"	stoi
rozbierze się (1 Per., Sg, Fut)	rozbiorę..	rozbierać	"undress"	rozbierz..
posólać (Infin)	posolić	posolić	"salt"	posól
wiesi (3 Per., Sg, Pres)	wisi	wisieć	"hang"	powiesić

All the examples above demonstrate the absence of rule-governed consonant and vowel alternations, some of them very much of a morphonological nature, e.g. ręka - ręce [rɛ̃ŋka~rɛ̃ntsɛ]. How to account for this irregularity?

The child assumes those forms as basic which take precedence in her perception: she preserves her base form in other derivatives. The base form predominantly takes the shape of a word. Therefore, the child's word-formation system seems to be a word-based one. It can develop into a stem or root-based one only when she reconstructs the latter on the basis of various other representatives of a particular category: in this way she could learn consonant and vowel alternations present in roots and/or stems.

This base form preservation procedure can be supported by at

least three among Dressler's 1985 descriptive criteria for the differentiation of PRs, MPRs and AMRs, namely: iconicity, biuniqueness and the default value or rule property. Firstly, the absence of alternation leads to higher iconicity relation between an input (base form) and an output (its derivative). Secondly, it allows for a maximum recoverability of the input. And, thirdly, it means the preservation of the default value of otherwise alternating segments. Such high scores suggest process-like behaviour (PR-like in Dressler) i.e. the child's treatment of perceived inputs as inputs to processes only. This, in turn, agrees with NP assumption about the availability of natural process types to the child and the natural endowment with the capacity to manipulate them (process matching, cf. Dressler 1985, Ch. 5).

1.2

Example	*Correct Form*	*Nominative*	*Gloss*	*Magda's base form*
[pafa] (Gen. Sg)	[pavja]	[paf]	"peacock"	[paf]
[krefa] (Gen. Sg)	[krfi]	[kref]	"blood"	[kref]
[sxapu] (Gen. Sg)	[sxabu]	[sxap]	"pork"	[sxap]
[mjuta] (Gen. Sg)	[mjodu]	[mjut]	"honey"	[mjut]
[ɕneka] (Gen, Sg)	[ɕnegu]	[ɕnek]	"snow"	[ɕnek]

The three criteria referred to above (iconicity, biuniqueness, the default value) appear to work here again. This fact, however, questions the status of final (word or syllable-final; word-final in Polish) obstruent devoicing as a natural process matching a universal preference. Magda seems to apply the same procedure with [pafa]-examples as with those presented in 1.1; she selects a base form and derives other forms from it, e.g. [ɕnek --> ɕneka]. The adult underlying intention for a voiced obstruent which undergoes devoicing in word-final context is not hers. In her rendering, the process might be taken as an absolute, uncoverable neutralization. Since absolute neutralization is of a doubtful or, at the most, disputable status within phonology, and there is no place for it in a concrete-type model like Natural Phonology, one can classify a [ɕnek ~ ɕnegu] voice contrast as a phonologically conditioned productive stem-consonant alternation.

One still has to account for the consistent absence of voiced obstruents word-finally in Martha's speech: what applies in this position is a phonetically motivated phonotactic preference[2] for a voice agreement within an obstruent cluster and an obstruent clustered with a pause. This preference is obeyed in Polish; it is partly violated, for instance, in German or English[3].

1.3

Example	Correct form	Nominative	Gloss
[kjat] (Nom. Sg)	[kfjat]	[kfjat]	"flower"
[gjazda] (Nom. Sg)	[gvjazda]	[gvjazda]	"star"

Initial consonant-cluster reduction may be dictated by ease of articulation (a syllable onset is improved, in Vennemann's terms). A secondary feature of palatalization gets switched to the remaining initial consonant.

1.4

Example	Correct form	Nominative or Inf.	Gloss
[doknij] (Imper. Sg)	[dotknij]	[dotknõnt$]	"touch"
[θpoɲ:e] (Nom. Pl tant.)	[θpodɲe]	[θpodɲe]	"trousers"
[θ:taɲ] (Imper. Sg)	[fstaɲ]	[fstat$]	"stand up"
[θ:alonɨ] (Adj, Nom)	[stsalonɨ]	[stsalonɨ]	"integrated"
[fontse/θontse] (Nom, Sg)	[swontse]	[swontse]	"sun"
[woɲ] (Nom. Sg)	[swoɲ]	[swoɲ]	"elephant"
[otkiefka]	[žotkiefka]	[žotkiefka]	"radish"

Generally, consonant cluster reduction is very common in Magda's speech, in particular - word-initial cluster reduction which is often compensated by the lengthening of the remaining consonant. Thus, no matter the reduction, the prosodic length of a word is maintained.

As for prosody, there are also examples to show that a penultimate stress is maintained despite the indications to the contrary, e.g.: USA [u'esa] (correct: [ues'a]), kakao [ka'kaw] (correct: [ka'kao]).

1.5

Example	*Correct form*	*Nominative or Inf.*	*Gloss*
pana kraca (Gen. Sg)	Pankracego	Pankracy	personal name
grek (Nom. Sg)	igrek	igrek	"Y"
[masina] (Nom. Sg)	ma syna	mieć/syn	"(she) has a son"
czepki (Gen. Sg)	przyczepki	przyczepka	"trailer" (dim.)

The above examples demonstrate the lack of stability in the placement of known morphonological boundaries (i.e. word boundaries). Magda 'manipulates' the transparently placed boundaries, the reason for this being her incomplete feeling for linguistic and, especially, lexical redundancy. She does not, however, manipulate intra-word morphemes: these require learning through examples.

1.6 If one were to posit a hierarchy for the acquisition of phonology/morphonology of a first language, it could be as follows:

I. The natural endowment the child is born with consists of phonetically motivated preferences of the shape of "default rules". Their phonetic motivation is both articulatory and perceptual. Here belong: allophonic processes, the most iconic among phonostylistic ones, and segment-formation processes.

II. The endowment under I. undergoes modifications and is supplemented in the process of L1 acquisition: the more an output departs from an input the more difficult it becomes for the child to perceive them as "keens".

The child's strategy at first is to approach all phonemic processes/alternations/rules as if they were prototypical processes, which largely amounts to ignoring them (cf. above section 1).

Gradually, the child recovers, through learning of various forms, the inputs to neutralizations, phonemic phonostylistic processes and morphonological rules.

2. My claims concerning the acquisition of L2 phonology are based on the data collected from native speakers of Polish who had been acquiring English either in a natural setting (London) or a formal one (Poland). In the extensive study I concentrated on a number of precesses, i.e. aspiration of voiceless plosives, Auslautsverhartung, nasal assimilation, noncontinuant assimi-

lation, stop deletion, phonostylistic palatalization, and some segment-formation processes.

2.1 Generally, the order of acquisition of L2 phonology is reversed with respect to that of L1: the bigger the distance between input and output the better it is for the learner, especially if the difference is manifested on the surface (MPRs, some phonostylistic ones, neutralizations).

The smaller the difference the more difficult it gets for the learner to uncover the input - never present on the surface in the same position as output (allophonic processes, some automatic lexicalized "phonostylistic" ones, segment-formation ones).

2.2 The learner's starting point for the acquisition of L2 is very different from that of the child. The learner's phonology consists of his L1-specific inputs and outputs (or, L1-specific processes), universal preferences manifested in L1, and latent universal phonology.

When confronted with L2 outputs, the learner learns first what is the easiest to perceive, i.e. morphonological rules (or, alternations introduced by them). Processes are also learned through the alternations they introduce (perceivable on the surface) - here is the turn for neutralizations and phonemic phonostylistic processes. Only then, the processes whose effects are hard to perceive by the learner because of the small structural change the introduce, have the chance to get learned: allophonic and automatic phonostylistic ones as well as segment-formation ones. The above is a probability scale (from highest to lowest) of the learnability of rules and processes in L2 acquisition.

2.3 This scale is not absolute since the learning of L2 is predetermined by the learner's already existent phonology, and conditioned by a number of socio- and psycho-linguistic factors that accompany L2 acquisition.

Under most favourable conditions, the learning procedure according to the above scale should ultimately result in a complete recovery of those universal preferences that are at work in L2. In other words, all processes go through a stage of rule-hood before regaining their status.

2.3.1 The setting of acquisition can serve to exemplify an extra-linguistic influence on the course of learning of L2. All my data strongly suggest that a formal setting of L2 acquisition (involving formal training) is a much better guarantee of success in L2 acquisition than a natural setting. What is borne out by the data follows directly from the assumption that learning is a method employed in L2 acquisition: learning is much more effective when supported by formal instruction.

2.3.2 Let us now consider the influence of L1 on the course of L2 acquisition.

2.3.2.1 As for morphonology, Polish and English differ typologically: Polish is rich in morphonological rules while English is much poorer in this respect - recognised rules operate on the lexicon of non-native origin.

On these grounds it can be predictably much more difficult for the English to learn Polish morphonologically than the other way round.

Poles learning English, on the other hand, might take up the learning procedure quite naturally on typological grounds: having exercised learning extensively in L1 acquisition they extend it to the acquisition of L2 and generalize to processes.

Simultaneously, the Polish-English typological differentiation largely prevents Polish morphonology from interfering to English in the process of acquisition (cf. Dressler 1985:102: "we may expect MPRs to be transferred only if they fit universal process types of phonology and morphological conditions in L1 and L2 are similar").

Exemplification

Poles learn English *divine ~ divinity, electric ~ electricity* rules through the mediation of lexical items affected by them. The rules become productive for successful learners. On the other hand, Polish rules do not interfere since Polish and English do not match morphologically.

2.3.2.2 The next on the probability scale of learnability are neutralizations and phonemic phonostylistic processes.

On the whole, and this refers to all phonological processes of L1, they interfere in L2 if they are utterly different of if they are similar but differently restricted in both languages.

Exemplification

A voice neutralization of the kind [ɸɲek ~ ɕɲegu] interferes in the English of the Poles as a clear word-final obstruent devoicing (cf. e.g. *dig* [dik], [diks] but [digə]). It has to be consciously suppressed (i.e. the learner has to learn not to apply it) to achieve a lack of final devoicing characteristic of English.

A phonostylistic palatalization of the kind d --> ʤ / _j (e.g. in *would you*) is suppressed in Polish; however, since it is phonemic in effect, it is easily perceivable and, thus, amenable to get learned.

2.3.2.3 The last group on the probability scale of learnability is constituted by allophonic processes as well as automatic phonostylistic and segment-formation ones. The outputs of those high-iconicity processes are hard to perceive by the learner,

especially if the processes have been suppressed or restricted in L1. Some of them might be physiologically conditioned (e.g. ŋ --> m / _f, v). All the rest require learning to start functioning in the learner's L2:

first, the learner has to perceive the outputs in L2, e.g. (in English when studied by a Pole) an aspirated plosive, a plosive coarticulated across a word-boundary, or a segment [θ] - at this stage formal instruction turns out to be extremely helpful;

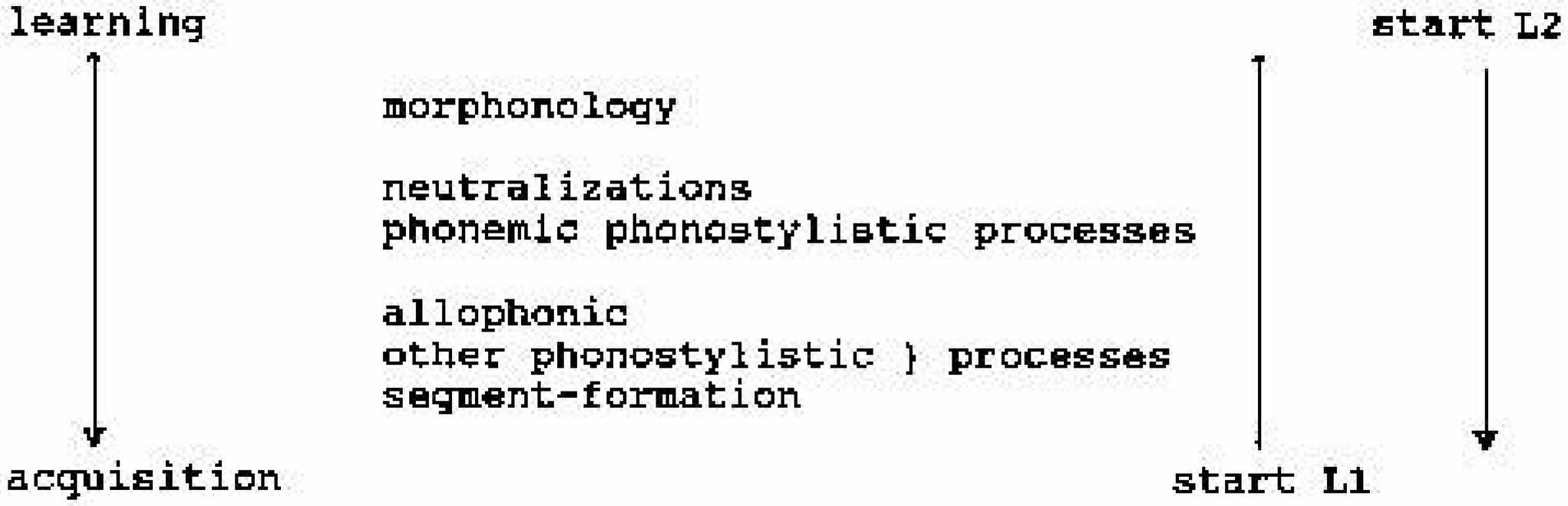
second, on the basis of the outputs the learner has to decipher the underlying intentions behind them (the inputs);

third, the learner has to associate inputs with outputs (he might be given some formal instruction to that effect) i.e. to work out the shape of processes to be applied in L2.

If the above procedure is successful, the learner might finally reactivate those processes in their original shape - they become acquired.

3. Conclusions

3.1 The order of acquisition of L2 is reversed with respect to that of L1:



3.2 There is no clear-cut border line between learning and acquisition. Therefore, it is sometimes difficult to decide whether what the learner applies is a rule or a process.

Notes

1. At this point it is interesting to reflect on the case of obstruent devoicing in German. Consider the following example:

[tak + ϕ + ϕ] vs. [tag + ϕ + e] vs. [tak + lig + ϕ]

An inflectional suffix blocks the root-final consonant devoicing ([tage]): if a rule is blocked by a morphological boundary, it

is usually a MPR (cf. Dressler 1985). A suggested classification of the devoicing as a MPR rather than a PR is supported by the fact that it is phonetically disfavoured to have a voice contrast in word-internal consonant sequences (cf. [takliç]): this contrast is, however, introduced by the rule in question, which, therefore, cannot be a pure PR.

2. The preference becomes a constraint morpheme-internally.

3. Such violations are of a morphonological character and as such they require some learning on the part of the child.

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