

THE L2 ACQUISITION OF ENGLISH IN A NATURAL SETTING

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O. Purpose and introduction

The L2 research summarized here is embedded within a more comprehensive endeavor. Within my Kiel, West Germany, project on language acquisition we are working towards an integrated theory of language acquisition, i.e. one that is to bring within the scope of one theory both the commonalities for all acquisitional types, as well as the differences between them. The need for such an integrated theory derives from the fact that in spite of the fascinating experimentation with primates (Premack 1972, Gardner and Gardner 1969), only man can acquire a *human* language. In fact, he can acquire more than one and he can do so under various circumstances. Consequently, we attempt to provide a cross-sectional view across the various acquisitional types, like L1 monolingualism, L1 bilingualism, L2 bilingualism, and others. We strictly distinguish between naturalistic L2 acquisition and foreign language teaching. In naturalistic L2 acquisition the L2 is acquired without the help — or obstruction — from foreign language teaching.¹

We systematically trace the acquisition of selected structural areas of English and German across these types. At present we have data for the L1 acquisition of English and of German; for the naturalistic L2 acquisition of German by children with English as their L1; and for naturalistic L2 English acquired by children with German as L1. We have also just started on L2 English taught to German children in school.

The L2 part of the project is crucial for the whole endeavor. We think that a better view of man's capacity for language acquisition can be provided, if the research is not only directed towards universal strategies or principles

¹ For details cf. Wode (1974a).

in L1 acquisition as, for instance, in such studies as Slobin (1970, 1973), McNeill (1970), Bever (1970) and many others. We should also investigate the resistance of such alleged universals against manipulation, as in language teaching, as well as their impact relative to each other when two languages clash, as in the various types of bilingualism.

The main results of our L2 research so far are: naturalistic L2 acquisition follows ordered developmental sequences. These sequences partly parallel the respective L1 sequences, in part they differ. They reflect both the structure of the L2 target language as well as the L1 acquired previously. L2 children draw on the structure of the two languages in highly systematic ways. The systematicity reflects general acquisitional principles. Whether they are the same as those for L1 acquisition we do not know yet. But it will become obvious from the data summarized below that such familiar principles as overgeneralization and L1 transfer have to be given much more precision if they are to state more than the trivial and the obvious.

1. Methodology and data

The data on L2 English/L1 German to be reported here come from a field trip to northern California in 1975. I took my family there to study how our four children then aged 3,11; 5,11; 7,11; and 8,11 would acquire English as L2 the natural way. Their L1 is German. Apart from occasional two-week exposures to French during skiing trips to Switzerland they had no previous exposure to a foreign language.

The data were collected in a longitudinal day-by-day routine both by tape recording as well as by taking notes at the scene of action. From time to time I have also conducted controlled experiments to check out various structural areas.²

The methodology followed in our project differs from that adopted elsewhere in two respects. We do not rely on experimental evidence unless we have the corresponding data from the child's spontaneous development. For one thing our children tended to perform more archaically in the experiments by employing structural types that they had already stopped using in their non-experimental development. Another outstanding characteristic of children's spontaneous speech is that they avoid structures not yet within their acquisitional reach. In experiments they can be induced to give evidence relating to these constructions. In most cases, however, their behavior does not reflect their

² For further details on the design of the project, the methodology, the children, and previous results cf. Wode (1974a-b, 1976a-c, 1977a-b), Wode (in prep.), Wode and Schmitz (1974), Wode and Ruke-Dravina (1977), Felix (1976, 1977a-b, 1978a-b), Lango (1975).

linguistic competence, but rather they seem to follow their non-linguistic common sense as it relates to their understanding about the facts and usages of life. Therefore, the point at issue here is that spontaneous and experimental data are not necessarily isomorphic developmentally. This point seems to have been overlooked by researchers on language acquisition. Consequently, it seems to me, there is no justification to value experimental data higher than naturalistic material as long as we do not know to which extent both types do, or do not, mirror the same state of acquisitional development.

The second aspect relates to the theoretical notions of developmental sequence vs. order of acquisition. The latter has been used, for instance, in Cazden (1968), Brown (1973), Dulay and Burt (1974a-b), Hakuta (1974) and others. The term developmental sequence as used in the Kiel project refers to the ordered set of developmental stages that a child passes through on his course towards adult-like mastery of a structure or element of the target language. The notion of order of acquisition refers to the last stage of the developmental sequence(s) of several items. It establishes in which order target elements, preferably grammatical morphemes like inflections and prepositions, are used target-like. The latter term misses: (a) the way how children decompose target structures and then rebuild them step by step; (b) the various kinds of avoidance strategies so characteristic of L1 and L2 acquisition when a target structure is still beyond the child's acquisitional reach; and (c) the acquisitional strategies employed by children in decomposing and rebuilding target structures, i.e. before target-like usage. This is all the more deplorable, since it is point (c) that, in the long run, is likely to provide the core of any theory of language acquisition.

2. Some L2 developmental sequences

2.1 L2 phonological acquisition

Our children's L2 acquisition of English phonology was not like the respective L1 acquisition, no matter whether L1 is studied in terms of Jakobson (1941), Stampe (1972), Olmsted (1971) or Ingram (1976). The main difference is: there seem to be two sets of targets involved. One set including the L2 vowels, the nasals, the stops and the continuants except /r/ and /w/, was at first substituted by elements from the children's L1 phonological repertoire. The second group, i.e. comprising /r/ and, very likely, /w/, is acquired in a developmental sequence that matches exactly the one for the acquisition of the retroflex /r/ within L1 English.

I like to think that our children's handling of the various L2 phonological targets was governed by phonetic-phonological equivalence relationships based on crucial similarity measures between the items involved. Those L2 elements that did not fall within a crucial similarity range for any of the children's L1

Tab. 1. Some substitutions of L2 segments by L1 equivalents
(based on Wode 1977b, 1978)³

| Target L2 | Child L2 | Target L2-form | Child L2-form | Time of Exposure | Child |
|-------------------|----------|---------------------|-------------------------------------|------------------|--------|
| /æ/ | [ɛ] | bat | bət | 0; 12/79 | Heiko |
| | | thank you | θɛŋk ^h ju | 0; 9/47 | Inga |
| | | catch | k ^h ɛt ^h ʃ | 1; 16/519 | Birgit |
| | | catch | k ^h ɛt ^h ʃ | 1; 16/519 | Lars |
| /ʌ/ | [a] | some one | səm wən | 0; 12/77 | Heiko |
| | | come on | k ^h əm ɔn | 0; 13/86 | Inga |
| | | this one | tɪθ wən | 0; 19/136 | Lars |
| | | shut up | ʃaləp | 0; 26/201 | Birgit |
| /w/ | [v] | sandwich | sɛ·ntvɪt ^h ʃ | 0; 7/27 | Heiko |
| | | Weaverville | vɪvəvɪl | 1; 8/337 | Inga |
| | | wet | vɛt | 1; 8/353 | Birgit |
| /θ/ | [s] | thank you | sɛŋk ^h ju | 0; 15 | Lars |
| | | three | swai | 0; 23 | |
| [l] | [l] | Bill Hill | pɪl hɪl | 0; 12/74 | Heiko |
| | | please milk | p ^h liθ mɪlk | 0; 14/98 | Inga |
| | | little | lɪtl | 0; 26/202 | Lars |
| | | cold | k ^h ɔʊl | 0; 28/236 | Birgit |
| /ə ^r / | [a] | river | rɪvə | 0; 13/88 | Heiko |
| | | (Trinity) Center | θɛntə | 0; 5/17 | Inga |
| | | (Trinity) Center | θɛntə | 0; 5/16 | Lars |
| | | Carpenter | k ^h ɔ ^p hɛntə | 0; 14/93 | Birgit |
| | | Weaverville | vɪvəvɪl | 1; 9/369 | |
| /r/ | [w] | Craig | kwa:k | 0; 5/15 | Lars |
| | | Redding | wɛdɪŋ | 1; 7/315 | Inga |
| | | ready | wɛdi | 2; 5/1021 | Birgit |

items, were acquired in a developmental sequence that matched the one for their acquisition in L1 English. Those L2 items that did fall within a crucial similarity range were substituted by that specific L1 element. The substitutions for those L2 targets that differ more or less radically from our children's German equivalents are summarized in tab. 1. The most complex and intriguing development relates to the acquisition of the — more or less — retroflex /r/. The basic regularity is that the children first started with [w] as a substitute for the L2 /r/. Only later on did they change over to the more or less retroflex target proper. With one child, however, the L1 uvular [R] was the dominant one in the beginning. She is the only child who insisted on participating in the

³ The transcription is basically IPA. The data of exposure is given in terms of months and days. Figures following the slanted line are project internal file numbers.

reading and writing exercises of the native first graders in school.⁴ However, the moment school recessed at the end of May, she changed over to the [w]-substitute familiar from the other children, and later she moved on to the more or less retroflex target /r/.⁵

2.2 L2 inflections

Two points have to be kept in mind. If there are inflectional allomorphs involved in the target category, then one has to determine the developmental sequence for the allomorphs. This, however, will not answer the question which form the child started from. Whether he started with the inflected target forms and then worked his way to the uninflected ones, or whether he proceeded in the reverse; or whether he started from both forms. I shall therefore distinguish the allomorph sequence, which is the sequence in which the inflectional allomorphs of a given category are acquired, from the intention sequence, which relates to what the child's intention is when he uses a form.

Plural vs. singular

The irregular plurals were acquired last. In fact, only the most advanced child got to the point where towards the end of our stay he was using a number of irregular plurals correctly and consistently.

Stage I: One form used with both plural and/or singular intention.

In the beginning, most nouns showed no morphological reflex of the plural; a few others like, for instance, *guys*, did. However, these forms were monomorphemic, that is to say, whether the children's form did or did not reflect the target plural morphologically, these child forms were monomorphemic.

Stage II: One stem occurs with two forms. Reflexes of the singular are used with both singular and/or plural intentions; forms with morphological L2 plural reflexes are restricted to plural intention only.

Stage III: The stem now has two forms. They are used target-like, that is, singular forms with singular intention and plural forms with plural intention.

Tied into these three stages is the developmental sequence for the plural allomorphs. The first to be used productively is [s], roughly during stage II; next is [əs]. [ɔz] and [z] do not occur until the children have acquired the voicing rule. It should be remembered that German does not have final voiced fricatives. English, however, does. It takes our children a long time to acquire

⁴ During the first 8 weeks of our stay the children attended the local two-school-room elementary school. The oldest boy aged 8, 11 was with grades 4–8. The oldest girl aged 7, 11 and the second boy aged 5, 11 were placed with the younger children. It was assured that no foreign language teaching was administered to the children. I owe special thanks to the two teachers, Mrs Cleo Carpenter and Mr John Cain, for their magnificent co-operation.

⁵ For further details cf. Wode (1977b, 1978), and especially Wode (in prep.).

this word-final voicing rule. And only at the time when they have mastered this phonological rule do they consistently produce the voiced plural allomorphs.

There are only very few peculiarities relating to the distribution of the L2 allomorphs as depending on the phonological properties of the stems. The first nouns to be inflected are those that require /s/: *hook-s*, *cup-s*, *hit-s*, as well as telling blunders like *feet-s*, *foot-s*, *trout-s*. At the same time the children attached [s] also to stems requiring /z/: *ball-s*, *egg-s*, *game-s*, as well as blunders like *cattle-s*. This [s] is due to the German rule to devoice final fricatives. In the experiments the children would also add /s/ to stems in /-(t)ʃ/, -(d)ʒ/: *garage-s*, *dish-s*, *judge-s*, *wedge-s*. There are no such examples in the spontaneous data.

Before [əs ~ əz] become productive, the children both in the experiments as well as spontaneously pass through an interim stage where they do not inflect nouns in /-(t)ʃ/, -(d)ʒ/ at all, even when used with plural intention: *fish-ø*, *dish-ø*, *garage-ø*. When [əs ~ əz] eventually does appear there are numerous forms that well attest the productivity of this rule: *dish-es*, *horse-s*, *switch-es*, *goose-s*, *mouse-s*, *fish-es*, *bass-es*, as well as *nuts-es*, *guys-es*. The latter two are inflected appropriately, except for the failure to identify the stem-final fricative as the plural.

Nouns in /-θ/ and /-ə ~ əʳ/ are left uninflected much longer than other stems. This was particularly noticeable in the experiments. The observation correlates with L1, i.e. German. In German nouns in *-er* are very often deverbal nouns. They take the *ø*-plural, i.e. there is no overt plural morph. For the children the L2 /θ/ at first relates to their L1 /s/. Neither English nor German have long consonants. Consequently, there is, for some time, no way to pluralize stems in /θ/ via [s].

It is difficult to determine where exactly our children's L2 developmental sequence differed from the L1 English sequence, because the available L1 data (for instance, Berko 1958, Anisfeld and Tucker 1968) may not have focussed on exactly comparable material. Nonetheless, our L2 data agree with the L1 observations in that [-s] and [-z] are acquired before [-əz]. Forms like *bass-es*, *fish-es*, *goose-s*, etc., are also familiar from L1. Berko (1958), furthermore, points out that some few children produced forms where stems in /-(t)ʃ/ and /-(d)ʒ/ were pluralized by adding [-s] and [-z], respectively. However, to my knowledge, neither the devoicing of final fricatives nor leaving stems in /-ə ~ əʳ/, -θ/ uninflected has so far been reported for L1.

Inflected genitive

The acquisition of the inflected L2 genitive correlates heavily with the structural properties of our children's L1. In their German only proper names can be preposed to the head noun to take the genitive inflection as in *Larsis Bankkonto* (Larsi's bank account), *Heikos Zeh* (Heiko's toe). Other nouns functioning as the possessor have to be postposed to the head noun indicating

the possessum. Thus, we have *das Dach des Autos* (the top of the car), *der Schwanz der Kuh* (the tail of the cow). In English both common nouns and names can be preposed to the head noun to take the genitive inflection.

For a long time our children preposed only names. At first these names were left uninflected, but soon after they were inflected via [s]. This [s] was also attached to stems ending in /ʃ/ as in *Butch-s*, *Dutch-s*. However, names in /-s/ were for a long time not inflected at all. The reason probably is that in our children's German stems ending in /-s/ take *ø* as the genitive allomorph, excepting a few irregular cases. The paradox here is, that the children continued to not inflect stems in /-s/ at a time when they were already correctly using the plural allomorphs [əs ~ əz], i.e. when they were pluralizing nouns in /-s/.

Grading: comparative and superlative

For the acquisition of the comparative and the superlative the children also drew heavily on their L1. They had little trouble in correctly inflecting monosyllabic adjectives by adding *-er*, *-est*. At first they did not use any polysyllabic adjectives. But when they did so later on, the inflectional comparative and superlative was carried over to them. Thus, there are forms like *dangerous-er*, *expensiv-er*, *comfortabl-er*, all used instead of *more*+adjective; as well as *dangerous-est*, *expensiv-est*, *comfortabl-est*, all in place of *most*+adjective.

This correlates with German. In German both comparative and superlative are signalled by inflection. There are no comparable variants like the English *more/most*+adjective. And again, it is only the most advanced child that towards the end of our stay manages to use the syntactic comparative and superlative, that is the *most/more* variants target-like.

2.3 L2 syntax: negation

The major structural types and stages in the acquisition of negation are summarized in tab. 2. The chronology is as indicated by the numbering. The structural types numbered by Roman numerals and/or arabic numerals are developmentally ordered as indicated by the numbering. Those types that are marked with small letters are structurally distinct but co-occur at the same time as indicated by the numbering.

I shall not discuss these types in detail. Only a few comments will be in order. The main point is to illustrate the systematicity of this developmental sequence and, moreover, to show that the regularities are apparently the result of the application of general acquisitional principles.

Stage I: The first negative utterances to appear invariably involved *no*. Semantically, this was anaphoric negation, i.e. the negative relationship does not hold between *neg* and the items with which it occurs in construction.

Tab. 2. The major developmental structural types and stages in the L2 English/L1 German acquisition of negation

| | structural type | illustrative example | stage |
|---------|---|--|-------|
| I. | anaphoric: Neg | no | I |
| II. 1 | anaphoric: Neg X X Neg | no, Tiff Kenny, no | |
| 2 | non-anaphoric: Neg X no V N Adj VP | no finish no milk no cold no play baseball | II |
| III. 1 | Subj (be) Neg X that's no Adj you not N no | that's no good you not dummy Craig's mother it's no Francisco | III |
| III. 2a | Subj neg V not no | I'm not go Bett me no close the window | IV |
| III. 2b | Subj V (Pron) Neg X M neg X | I'm steal not the base Marylin like no sleepy I cannot say that word | |
| III. 2c | Imperative: don't VP | don't broke | |
| III. 2d | Imperative: V (Pron) not X | shut not your mouth hit it not over the fence | |
| IV. a | suppletive don't/didn't | no, don't | V |
| IV. b | Subj don't/didn't Aux VP Aux VP | I don't can eat anymore you didn't can that I didn't have a snag | |

Stage II: It comprises type II 2. The word order pattern is much the same as in the type II 1. *Neg* is *no*. It is placed externally. The major innovation as against stage I is semantic. The negative relationship now holds between *neg* and the lexical material with which it occurs in construction. For instance, *no play baseball* means 'I/we don't want to play baseball'.

Stage III: With all four children the structural type III 1, i.e. reflexes of target copula structures, were the first to show internal placement of *neg*.

Stage IV: Utterances containing a full verb and having *neg* internally are invariably later than strings reflecting target copula structures as in type III 1. *Neg* may be *no* or *not*. All in all, there are four major structures, III 2 a-d, that may co-occur at this stage of development.

The type III 2a has *neg*, namely *not* or, less frequently, *no*, between the subject and the full verb. This type does not become (very) productive. The type III 2b has *no* or *not* placed after the verb. This includes those strings that do not contain a full verb but have a modal auxiliary *M*, like, for instance,

can to precede *neg*. Notice that at this stage of their development the children seem to operate with a single *neg* placement rule that says: place *neg* behind the first verb no matter whether full verb or auxiliary. Consequently, during stages III—IV there are no mistakes regarding the placement of *neg* in declarative negative sentences containing an auxiliary or a form of *be*. However, the later structural type IVb clearly shows that at stages III—IV the children cannot be credited with the proper L2 *neg* placement rule, since they treat both full verbs and auxiliaries including *be* alike.

The structural types III 2b, III 2d, and IVb have not yet been reported for L1 English (Klima and Klima-Bellugi 1966, Bloom 1970). Also, I am not aware that utterances like *Craig's mother it's no Francisco* (Type III 1) have been mentioned in the L1 literature. However, I would not be surprised if such utterances turned up upon more detailed investigation.

Morphophonemically, all the structural types of tab. 2 have to relate to English. However, the word order pattern of type III 2b and III 2d relates to German and so does IVb. The type II 2 must be the children's own invention since neither German nor English afford a direct model for this word order. It seems that the children were overgeneralizing. Whether they did so by starting from their own prior structure II 1, or by starting from the corresponding German anaphoric construction, or from the L2 construction, we do not know. However, the most intriguing puzzle is why the children produced II 2 at this stage of their development, and why they did not go straight to II 1 2b, which is to become productive later on anyway. I think this has to do with general principles which seem to underlie naturalistic L2 acquisition.

3. The working of a developmental principle

We need an explanation why the children did not go straight from II 1 to III 2b; and why type III 2b wins out over III 2a. The latter development is all the more paradoxical if it is noted that the children are closer to target English via III 2a than via III 2b. In III 2a the negative item is placed before the full verb, which is at least part of the English rule. In III 2b the negative item is placed after the verb, which never happens in English. So the question to solve is why the children opt for the structure that looks like a step backwards at that particular stage of their development. For if they were to draw on their L1 *neg* placement rule, why do they do so at this stage and why not instead of II 2.

One explanation will have to be ruled out. It cannot be claimed that the children's type II 2 is due to lack of knowledge of what is a verb and what is a noun. When the child produced *no play baseball*, he knew very well that *play* was a verb and *baseball* was a noun. This can safely be inferred from numerous non-negated utterances of this time. The puzzle then is why the children do

not use their structural knowledge to place the negative item between verb and noun, which they are to do later on anyway.

I like to think that the rise of type III 1 creates the prerequisites to enable the children to bring in their L1 *neg* placement rule. That is, just like with phonology and inflections the L2 child will draw on his L1 only if crucial prerequisites are met within his own linguistic development. Such prerequisites are a sufficient degree of similarity between the structures involved. Apparently, II 2 was outside the crucial range of the German *neg* placement rule; III 1 was inside it. Namely, the *neg* placement rules of German and English are partly the same. They fully agree with respect to the placing of *neg* in relation to the copula. Blunders in copula utterances do not involve the position of *neg* in relation to the verb. With respect to full verb structures German and English differ. The children seem to experiment with both the German and the English rule. Eventually, L1, i.e. German, which happens to be the more general rule, wins out. From our project files there is additional evidence from other L2 situations and L2 acquisitional types to indicate that such developmental detours are not uncommon, and that, moreover, they seem to be due to a general principle involving word order (for details cf. Wode 1976c).

4. General outlook

In a more general way, the L2 acquisitional process as illustrated via four children turns out to be highly organized and highly systematic. We have all reasons to assume that this systematicity is due to the application of general acquisitional principles. Whether they are the same for L1 or not, we do not know yet. But we do know that such a systematicity is not restricted to these four children. Though the available data for naturalistic L2 acquisition are very scarce at present, whatever there is points to the same general direction (see summaries in Wode 1974a, Hatch and Wagner-Gough 1975). Due to this systematicity, the study of naturalistic L2 acquisition is likely to have an important impact on several other fields of research. In concluding I shall briefly point out three such areas that are particularly relevant to contrastive linguistics.

4.1 Psychology

Linguistics can do little more than describe the structures and set up the linguistic correlations between target L2, prior L1 and the child's own production. These linguistically formulated regularities demand psychological interpretations. To put it the other way, linguistic investigations will not answer the question how the child actually acquires the knowledge that his speech productions are based on. It will not do to explain such data by ref-

erence to general learning theories like behavioristic conditioning or cognitive approaches, etc. The data demand more detailed interpretations. In particular, there will have to be precise psychological constructs, rules, or principles, that reflect the formal properties of the linguistic devices as evidenced in the child's L2 behavior, i.e. in his handling of such formal properties as word order, free vs. bound forms, etc. What, for instance, are the psychological constructs involved in the L2 acquisition of negation, and in the working of the developmental principle discussed above? The problem for naturalistic L2 acquisition is no different from the one posed by naturalistic L1 data. Here, too, it is obvious that behavioristic conditioning will not explain most of the evidence. I hasten to add that cognitive approaches will likewise remain equally unsatisfying as long as they focus on conceptual maturation. Developmental psychology should get interested, much more than it has done in the past, in the cognitive correlates or prerequisites for such purely formal linguistic properties as word order, free vs. bound forms, suprasegmental vs. segmental, and the like. It is these that play an important, perhaps the dominant role in determining the child's linguistic progress, both for L1 as well as for L2 (for L1 details on this point cf. in particular Wode 1974b, 1977a).

4.2 Contrastive linguistics, error analysis, and foreign language teaching

L2 data such as summarized above clearly indicate why that branch of contrastive linguistics that purported to predict the errors students commit in foreign language teaching has largely failed. Such contrastive analyses have been limited to showing structural differences and similarities between two languages. From the point of view of foreign language teaching as well as other types of bilingualism, this amounts, at best, to stating certain aspects of the acquisitional task to be mastered by the student. What is lacking is information as to how students cope with this clash of structures. That is, for instance, how will they rely on their L1? Which structural properties of the two languages are similar enough — to the student — to substitute for each other (recall the phonological material of § 2.1)? And which of several structural properties of a complex construction is acquired first (recall the developmental sequence for negation of § 2.3)? If contrastive linguistics is to correctly predict student errors it will have to be enriched by an acquisitional component. This component will be a set of acquisitional principles which predict the range of errors students are likely to commit if faced with a clash of specific structural types.

4.3 Linguistics

I do not think that any revision of contrastive linguistics can stop at simply adding an acquisitional component. It is the linguistic theories as currently formulated that are in need of revision, before they can be used to

describe acquisitional data, i.e. non-targetlike child/student speech. These theories have been developed from the fully fledged language(s) of adults. Unfortunately, there are many descriptions of the structure of — adult — languages where the properties that learners react to first and foremost are not explicitly part of the formal statement. For instance, recall the case of /r/ (§ 2.1). The first non-zero substitute is [w] both in L1 and L2. To be able to show that these early [w]-substitutions are in any way related to English, the description of English would have to include some specification to the effect that the — retroflex — /r/ has strong affinities to [w]. In fact, these affinities are apparently so dominant that they top any others that may be involved. Consequently, the description of the retroflex /r/ — of target English — should include a [w]-feature plus a hierarchical ordering to the effect that the [w]-feature dominates the other feature(s), if any, involved in this type of /r/. Similar arguments apply to other types of /r/'s (cf. Wode 1977b for details). I do not know of such descriptions. But unless they are provided there will be no explicit way of stating that the learner's [w] is related to the target /r/.

I think that the insights derived from the case of /r/ can be generalized. Theories and models of adult languages have to be such that it becomes possible to detect and state explicitly the structural property that children/students react to acquisitionally, not only for phonology.

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