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More crosslinguistic evidence on fillers in the late single-word period

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Peters' Note highlights the tight interconnection between phonological advances and the child's discovery of morphosyntactic structure. Taking a constructivist view, or assuming no advance knowledge of what linguistic principles or parameters may be expected, investigators like Peters & Menn (1993) or Veneziano & Sinclair (in press) come to the conclusion that children must begin with the surface regularities of language, only gradually familiarizing themselves deeply enough, through use, with the make-up (as well as the situational cooccurrences) of commonly heard words and larger lexical patterns or constructions to begin to develop multi-level linguistic knowledge, i.e., to discover morphosyntax. In commenting on Peters' stimulating note on filler syllables we would like to draw on our cross-linguistic data for the late single word period to attempt to derive some further hints as to the difference input prosody may make and the kinds of transitional phenomena one may find.

We begin by referring to the findings reported in Vihman, DePaolis & Davis (1998), based on acoustic analysis of the disyllables produced at the end of the single word period by nine children acquiring American English and five acquiring French. In this study it was found that some of the children acquiring English produced a substantial number of iambs, as did most of the French children. Close analysis revealed that the first syllable of American children's iambs, but not those of the French, tended to be onsetless and extra-short, globally echoing the iambs most common in the input, namely, unstressed function words with reduced vowels, followed by a (typically monosyllabic) noun.

As Peters observes, the addition of a filler preceding a recognizable content word has been documented for French as well. Veneziano & Sinclair (in press; hereafter, V & S) include among the phenomena of the premorphological period disyllabic vowel-initial forms that fail to match the vowel of the apparent disyllabic target, but which match the target in length in syllables ('additional elements': e.g. [eʃõ for /buʃõ/ *bouchon* 'bottlecap'; VCV productions whose initial vowel more closely matches that of the target – [oʒi] for /buʒi/ *bougie* 'candle' – are categorized separately, as bearing 'non-

additional elements'). In defense of their interpretation of the non-matching initial syllables as fillers, the authors point out that the child had produced these words in earlier sessions as monosyllables, reflecting only the accented final syllable of the target word. (It is not clear whether or not the words with 'non-additional elements' had also been previously produced as monosyllables). They pursue this analysis in impressive detail, over the period in which the child shifts from producing only single word monosyllables, harmonized forms, or reduplications to producing VCV disyllables and eventually consistently identifiable grammatical morphemes (some seven months after the first VCV forms appear).

The question raised in our minds by Peters' review as well as by V & S was whether this shift to VCVs could fairly be seen as a cause or a result of the child's sensitivity to morphological structure – the addition of 'premorphemes', in Peters' terms – or neither. It has been suggested (K. Bleile and D. Ingram, personal communication, 6/00) that children who produce onsetless words (words with no onset consonant, against the universally 'optimal' CV syllable) do so for morphological reasons. We explored this hypothesis by looking at our data in as theory-neutral or child-centred a way as possible.

We analysed the following factors independently:

- word tokens produced with vowel onsets
- word tokens produced with extra preposed functor-like syllables (vowel- or glottal-consonant-initial)

for five children at the 25-word point (based on spontaneous words produced in a 30-minute video session, corresponding to 50–70 words cumulative vocabulary: Vihman & Miller, 1988) from each of four language environments: English, French, Japanese, and Welsh (the children ranged in age from 1;3 to 1;11). In contrast to V & S, we used number of syllables and phonological shape or 'onset status' rather than vowel quality to categorize an initial syllable as a potential premorpheme (V & S's 'additional element'). That is, in order to be considered a potential premorpheme, a syllable could NOT:

- potentially represent a target syllable (that is, it had to be 'extra' in relation to the target word),
- begin with a supraglottal consonant; initial segments were V, ʔ, h, or a syllabic consonant (almost always nasal).

The results are given in Table 1.

Contrary to expectations, the language group which used the highest proportion of onsetless word tokens (Welsh) used the smallest proportion of preposed syllables. Conversely, the group which produced the most preposed

TABLE 1. *Relationship between onset consonant production and inclusion of 'premorphemes'*

Language	% onsetless word tokens	% preposed syllables
English	26·4	8·2
French	22·4	10·6
Japanese	23·3	5·3
Welsh	32·8	0·5
Mean	26·2	6·2

syllables (French) produced the fewest onsetless word tokens. This is an especially striking finding because our requirement that premorphemes lack a supraglottal onset should have biased the analysis in the other direction.

For Welsh, a motivating rhythmic factor for the omission of initial consonants may be the (phonetic) lengthening of the medial consonant of accented bisyllabic words. In a recent study of early Finnish phonetic development and phonological systematization we found a high proportion of VCV early-word patterns, which we were able to trace to the presence of medial geminates in the input (Vihman & Velleman, 2000). In Welsh, additionally, the Celtic system of initial consonant mutation means that initial consonants – especially stops, the most commonly targetted initials cross-linguistically (Boysson-Bardies & Vihman, 1991) – are unstable or unreliable cues to word identity for the child learner (although they will later provide important cues to grammatical structure). In short, onsetless initial syllables may reflect either phonological or morphological characteristics of the input language. But for children learning English or French, the onsetless syllables in any case provide a good foundation for later producing the grammatical morphemes of the input language.

Peters & Menn (1993) report a misanalysis – or 'initially phonological approach to what is in fact a morphological phenomenon' (p. 756) – by Menn's son Daniel, who produced final [s] or [z] on a large number of monosyllabic and disyllabic words (subject to certain phonological constraints) for a period of about two months, in the absence of any functional motivation (i.e., neither plural, possessive nor present tense marker was appropriate in most cases). A similar case – involving what Peters might accept as an instance of a 'consonantal filler' – has been reported for Estonian. In this case, the child had been making regular use of consonant harmony in single-word and single-morpheme production, with final consonants rarely occurring in disyllabic stems. From 1;7 on she began to include in her production the final consonants which in Estonian mark case inflections on the noun and person on present tense forms of the verb. Use of harmony for the nominative plural marker /-t/ was rare, although it did

occur, but the third person present tense marker /-p/ was first harmonized to the place of the medial consonant and then later represented as [-t] (the second-person singular marker) (for example, *proovib* 'tries' [po:pip], *magab* 'sleeps' [makak], *istub* 'sits' [it:ut], later *hüppab* 'jumps' [hüp:at]: Vihman, 1978, p. 320). The first productions of the third-person singular as [p], regardless of the preceding stem, came at 1;11, or four months after the first 'filler' productions. Like Camille (in V & S) and Daniel Menn, this child appears to have noticed a morphological marker and analysed it at first phonologically.

What ties all of these examples together is that, in each case, a misanalysis or child phonological template, although innocent of grammatical function at first, may nevertheless have served to promote grammatical advance. The template itself will be prompted, in part, by the structure of the input language; in some cases, prosody is a useful clue to morphosyntax (e.g., in English and French) but sometimes it is not (Finnish and Welsh; see Morgan & Demuth, 1996, for a wealth of evidence both for and against 'prosodic bootstrapping'). Production, or repeated use, of the observed but not yet analysed sound or sequence may in any case lead to further focus on the relevant forms and then to reanalysis, as appropriate.

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