

## Early Templates in Acquisition of French Phonology Rethinking continuity ?

As the studies dedicated to consonant harmony, the research on the acquisition of phonology supporting a « templatic hypothesis » for non-semitic languages, raises the very exciting theoretical question of continuity *vs* discontinuity between children's and adults' grammars (Macken, 1995). In both kinds of studies, one may indeed observe systematic patterns in children's data which are not provided directly by the input and which apparently disappear when the children reach a nearly stable stage of his/her grammar approximating the adults' state. At first glance, such data rule out a strictly input-constrained and frequency-based conception of acquisition assuming a pure imitation by children of adults' surface forms, but they also argue in favour of discontinuity. Thus, the most intriguing point of the story remains unsolved : most of the babies would exhibit a temporary organization of phonological output which apparently directly reflects neither the organization of input they hear, nor the target grammar they are setting up. Thus, why and how can we argue that the output of children acquiring non-semitic languages reflects a « templatic » organization they will then give up? And if it were the case, what is, what could and what exactly should be called « templates », how abstract and how formal are they ? On the basis of French data, I will discuss the continuity / discontinuity issue for this non-semitic language. Could we support a template stage in French, and then, what does it mean, how could we understand this template stage in the developmental course, why do children use it, and how could it cast new light on the emergence of structural properties of human grammars.

First, we have to underline that the templatic analysis of children's data has mainly been proposed for non-semitic languages. Macken (1992, 1995) first explicitly connected some systematic patterns in the children's data with the autosegmental analysis of adults' internal representations, but not specifically for semitic languages. Vihman (2001), Velleman & Vihman (1989), Vihman & Velleman (2000), Velleman & Vihman (2002), Vihman & Kunnari (2006), Wauquier-Gravelines (2005) systematically develop this templatic hypothesis and provide it with data from different non-semitic languages (Spanish, English, Estonian, German, Finnish, French). And in any case, this « template » does ever explicitly refer to formal phonological models, especially to any models of semitic languages. The « template hypothesis » mainly supported by Vihman & colleagues refers to a general behavior of children which is very frequently observed in production. From the 50 words-stage, and whatever the input language, each child seems to begin with a few systematic structural shapes built on the basis of a small features' inventory, as if s/he had to match her/his incomplete segmental content onto a defined number of prosodic (syllabic ?) positions [For example, in following data (i), Sacha tends to generalize on two main templates (i.e CVC and CVCVC) with either a velar or a labial consonant melody and two vowels [a, u]]. Then the structure of those early templates grows richer and more diverse until the phonological system stabilizes.

In a way, Vihman raises the continuity / discontinuity issue by supporting an articulatory and perceptive continuity peculiar to each child. She indeed relevantly argues in favour of a continuity between babbling, perception and early words production that results in individual and specific templatic patterns and that is interpreted as an individual learning strategy. Thus the question of a possible structural continuity between children's templates and adults's grammars is not really raised up, since continuity is mainly seen as the individual continuity of a developing child rather than the structural continuity of a changing phonological system. But if a comparison of the early phonologies of several children learning the same language reveals differing starting points, they all fall within the domain of a given target language phonology and will all inevitably stabilize in a form that is more closely related to the adult system. We could also assume that it should be quite the same story for languages belonging to the same groups : many works comparing the acquisition of Romance *vs* Germanic languages, as well as

Vihman's data, show for example that French children do not apparently mostly choose early CVC-templates patterns while English, German and Estonian children do. Brulard & Carr (2001) also argue for a CVC-pattern tendency in English / French bilingual children. Thus, why do the monolingual French children show a tendency to filter the input by avoiding CVC patterns while the French input provides many CVC-words of high frequency like 'robe', 'soupe', 'dame', 'coq', 'vache'? One can assume that their templatic patterns' orientations could be influenced by the rhythm and the CV-CV syllabification of French. More generally one can assume that the parameters of variation of the children's surface forms in production could be – at least partially - typologically constrained and limited to a number of underlying structures which are authorized by the rhythmic and syllabic structure of the target language.

The focus of this paper will be to observe in French data, the reorganizational process that leads from individual templates to the emergence of a system characterized by more adult-like structures and stable segmental, syllabic and prosodic representations. An important issue will be to observe the effects of the syllabic and rhythmic structure of French on this process. I will discuss the continuity / discontinuity issue by investigating the question of the sources of systematicity and stabilization of the system, with particular focus on typological constraints deriving from the prosodic structure of French. I will argue in favour of an abstract template, resulting from generalizations of the rhythm and the syllabic structure of French. As Di Cristo (1999) argues, even if isolated words are stressed on the last syllable, French is not strictly speaking an iambic language. French is better described as a group-stressed language, organized on the basis of a last syllable demarcative group-stress and an initial group-counter-stress, both defining an « accentual arch » with shortenings and reductions inside of a group with salient edges (Di Cristo, 1999) (ii).

My claim is that the individual early surface templates produced by children in French can be covered by a formal template which foreshadows this « accentual arch. »: the last syllable is stressed (by the demarcative group-stress) and the first one by the counter-stress. The initial and final syllables are strong positions and they are established very early by children. Unlike the first and the last syllables, the intermediate syllable (s) is (are) weak and unstable : in one sense, the edges of the unit are the first stable basis on which children build their early lexical representations, while the prosodic structure and the segmental content associated with the intermediate syllables seem to be the main locus for further modifications of the templates (adding slots, spreading vowels, spreading of consonant features, reduplication, truncation ...). Such a template offers a prosodically-structured domain on the basis of which the children can segment and organize the speech flow, in perception and then in production, and build their phonological representations. I assume that this template is both a referential and a phonological unit, that is, the domain of phonological generalization ; and that it will evolve mainly under the constraints due to the rhythmic, syllabic and prosodic structure of French towards a more and more complex structuration resulting in extracting lexical units and in bootstrapping the emergence of morpho-syntactic structures. It allows the children to deal with the linear and temporal organization of speech. In such a conception, the template stage logically takes place in a developmental course of phonology, targeting the adult's structure. This assumption, which is made here for French, rules out a conception of the template as being first and foremost a morpho-syntactic category. On the contrary it supports a bottom-up conception of an emergent object which is first a phonological object, which is prosodically and lexically constrained and which is, afterwards, possibly used (or perhaps possibly not in some languages) by the morpho-syntax.

This conception of the early template as a phonological domain filtering the input enables to rethink the continuity /discontinuity issue for the acquisition of phonology, especially in non-semitic languages such as French. Of course, this assumption shall be discussed and challenged by data from other languages.

(i) **Sacha's data**, 16.5 months (French, 2009).

kak	sac / <i>bag</i>
mak	masque / <i>mask</i>
gagak	dessert / <i>dessert</i>
kukuk	poule / <i>hen</i>
kakak	canard / <i>duck</i>
papum	chapeau / <i>hat</i>
bam	ballon / <i>balloon</i>
dam	dame / <i>lady</i>

(ii) **Accentual Arch**

“ une tendance à accentuer la syllabe initiale des mots, ce qui donne naissance à la formation de schèmes barytoniques **et d’arcs accentuels dans lesquels seules les syllabes initiales et finales d’un groupe de mot reçoivent un accent.** A Di Cristo, Le cadre accentuel du français contemporain: essai de modélisation, *Langues*, vol.2,3, p.185, 1999

(iii) **References**

- BRULARD, I & CARR, P. (2001) Consonant substitution in bilingual child : Universal Grammar vs. Production templates and strategies. *Paper presented at the 3rd International Symposium on Bilingualism*, Bristol, April
- DI CRISTO, A., (1999), Le cadre accentuel du français contemporain: essai de modélisation partie 1, *Langues*, vol. 2, 3, 184-205
- MACKEN, M. (1992), Where's phonology ?, i C.A Ferguson, L. Menn & C. Stoel-Gammon (eds), *Phonological Development*, 249-273, Timonium, MD York Press
- MACKEN, M. (1995), Phonological acquisition, in J. Goldsmith (ed) *The Handbook of Phonological theory*. Cambridge, 671-697, MA, Blackwell
- VELLEMAN, S. L., & VIHMAN, M. M. (2002). Whole-word phonology and templates: Trap, bootstrap, or some of each? *Language, Speech & Hearing Services in Schools*, 33, 9-23.
- VIHMAN, M. M. (2001), *Word Templates and the origins of Phonology*, Paper presented as part of the symposium on radical construction Grammar, 7th International Linguistics Conference, July, 26th
- VIHMAN, M. & VELLEMAN S. (1989) Phonological reorganization A case study. *Language and Speech*, 32
- VIHMAN, M. & VELLEMAN S. (2000) Phonetics and the origins of Phonology, in N. Burton-Roberts, P. Carr, P. & G. Docherty, G. (Eds.), *Phonological knowledge, Conceptual and Empirical Issues*. 305-341. Oxford: Oxford University Press
- VIHMAN, M. & KUNNARI, S. (2006) The sources of Phonological knowledge : a cross-linguistic perspectives, *Recherches Linguistiques de Vincennes*, vol. 35, 133-163, Presses Universitaires de Vincennes, St Denis
- WAUQUIER-GRAVELINES, S. (2005) *Statut des représentations phonologiques en acquisition, traitement de la parole continue et dysphasie développementale*, Habilitation à diriger des recherches, EHESS, Paris