Two Phonologies (the other two)

A number of authors entertain the view that the relationship between phonological and phonetic objects is arbitrary: Iosad (2012: 6ff, 2017), Blaho (2008), Bermúdez-Otero (2006: 498ff), BiPhon (Boersma 1998, 2011, Boersma & Hamann 2008, Hamann 2011). The talk reviews arguments made in this literature and adds an additional reason pertaining to the architecture of grammar: if its organization is modular, arbitrariness is a necessary consequence. This is because the communication of distinct computational systems requires a translation among distinct vocabularies, which is done through spell-out, i.e. a list-type match of a category pertaining to one system and an item belonging to the other system. At the morpho-syntax - phonology interface, in English for example past tense is converted into -ed through the lexical, language-specific and arbitrary match past tense ↔ ed. At the phonology-phonetics interface, a rhotic for example may be matched with [ʁ] (as in French) or [ʒ] (as in Polish). Lists (i.e. the lexicon) are the locus of unpredictable, i.e. arbitrary information.

A consequence of the phonology-phonetics relationship being arbitrary is that there cannot be any phonetic information present prior to spell-out (in production). That is, whatever phonological objects and computation there are, they are devoid of phonetic properties: phonology does not know how these items are eventually pronounced, or whether turning one into another is "natural" or not. This is the tenet of substance-free phonology (well, of the brand thereof that is really substance-free).

The talk takes the situation described as a starting point in order to show that there are two phonologies, i.e. two distinct computational systems in the modular sense. There are those phonological objects that have a phonetic correlate acquired upon spell-out, and those that do not. The former occur below the skeleton (melody, segments, phonemes), the latter at and above the skeleton (onsets, nuclei, codas, grid marks, phonological words, moras, a skeletal slot etc.). While the former are mentioned in the spell-out list that matches phonological and phonetic items, the latter are not: there is no pronunciation associated to "nucleus" or "phonological word". Of course an empty nucleus may be pronounced (e.g. as [ɨ]), but this is not the pronunciation of the nucleus as such – it is the pronunciation of an *empty* nucleus: the absence of melody is also a melodic configuration.

On modular standards, different sets of vocabulary (here: with and without phonetic correlate) cannot cohabitate within the same computational system. Another obvious point is the fact that items above the skeleton are the result of a computation performed over items below the skeleton: syllable structure is a function of two and only two factors, the linear order of segments and their relative sonority.

Other arguments in favour of the split of the phonological space into two distinct computational systems along the fraction line below vs. above the skeleton are produced. In a final step, the talk describes the properties and competences of both phonologies in greater detail. Melodic computation below the skeleton modifies different sets of melodic primes (e.g. turning a velar into a palatal). One thing it does not do is modifying linearity. This operation does occur in the upper phonology, though. Metathesis driven by syllable structure (e.g. French formage > fromage as a reaction against coda r) modifies the linear order of existing items, while infixation (e.g. "locate -um- after the first onset of the word") and the insertion of extra syllabic space upon stress assignment (tonic lengthening) incorporate new material into an existing linear string.

The talk is about "the other two" phonologies in reference to the idea that there is also a difference between input-output computation upon production and phonological computation

that occurs upon lexicalization, i.e. when speakers store a new item in long term memory (Faust *et al.* 2018).

References


Bermúdez-Otero, Ricardo 2006. Phonological change in Optimality Theory. Encyclopedia of language and linguistics, 2nd edition, vol.9, edited by Keith Brown, 497-505. Oxford: Elsevier.

Blaho, Sylvia 2008. The syntax of phonology. A radically substance-free approach. Ph.D dissertation, University of Tromsø.

Boersma, Paul 1998. Functional Phonology. Formalizing the interactions between articulatory and perceptual drives. The Hague: Holland Academic Graphics.

Boersma, Paul 2011. A programme for bidirectional phonology and phonetics and their acquisition and evolution. Ms, University of Amsterdam. ROA #868.

Boersma, Paul & Silke Hamann 2008. The evolution of auditory dispersion in bidirectional constraint grammars. Phonology 25: 217-270.

Faust, Noam, Adèle Jatteau & Tobias Scheer 2018. Two Phonologies. Paper presented at the 26th Manchester Phonology Meeting, Manchester, 24-26 May.

Hamann, Silke 2011. The Phonetics-Phonology Interface. The Continuum Companion to Phonology, edited by Nancy Kula, Bert Botma & Kuniya Nasukawa, 202-224. London: Continuum.

Iosad, Pavel 2012. Representation and variation in substance-free phonology. A case study in Celtic. Ph.D dissertation, University of Tromsø.

Iosad, Pavel 2017. A Substance-free Framework for Phonology. An Analysis of the Breton Dialect of Bothoa. Edinburgh: Edinburgh University Press.