Does one size fit all?

If one had to define the notion of template, then certainly the idea of there being a total amount of room would be pivotal. In the classic examples from Semitic, for example, all forms of a certain grammatical category occupy the same amount of room. The lexical material of the root can vary somewhat in size, but still has to fill up a template of a given length. From a (Classical) Arabic root such as √*ktb* we can build *kataba* 'he wrote'; the root √*sm*, with only two radicals, spreads the second radical and gives *samama* 'he poisoned' (McCarthy 1981), which, crucially, has the same size (and shape) as *kataba*.

This, however, might as well only be the starting point for a broader view on templates. Superficially, languages like English, Estonian or Italian do not seem to have anything in common with Arabic. English *do* and *drink* hardly have the same size, in spite of both being infinitives. However, there is a sense in which the notion of "total amount of room" also plays a role in those languages. This is the idea I want to pursue in my talk, with my theoretical framework being a further development of Government Phonology (GP; Kaye, Lowenstamm & Vergnaud 1985, 1990; Kaye 1995) as presented in Pöchtrager (2006).

The Italian forms in (1) illustrate a trade-off in length: the more room is taken up by the consonant (higher number of Cs), the less remains for the preceding vowel (smaller number of Vs) and vice versa. The total amount of room is the same. This is also true for Estonian (2), except that here the total amount of room available seems to be bigger than in Italian.

(1) Italian:		*fato* ['fa:to] 'fate'	*casa* ['ka:za] 'house'	V V C
		fatto ['fat:o] 'done'	*cassa* ['kas:a] 'till'	V C C
(2) Estonian:	i.	[ge::b] 'it boils'	[si::d] 'silk (nom.sg.)'	V V V C
	ii.	[ge:b:] 'cape (nom.sg.)'	[gi:d:] 'thanks (nom.sg.)'	V V C C
	iii.	[geb::] 'stick (nom.sg.)'	[jud::] 'story (nom.sg.)'	V C C C

This trade-off is restricted to the stressed nucleus and what immediately follows it. Preceding material, for example, plays no role; Italian *strato* 'layer' behaves just like *fato* in (1). Put differently, not the entire word has to conform to a size restriction, only part of it. It is as if the template in such languages was only part of the word, not all of it.

Interestingly enough, a parallel case can also be made for English, though this again is not immediately obvious. The data in (3) from (New York City) English illustrate "pre-fortis clipping", known from the literature (but usually deemed phonologically irrelevant), cf. e.g. pioneering work by Peterson & Lehiste (1960).

(3) English:	*bid* [bɪ:d]	*bead* [bi::d]
	bit [bɪt]	*beat* [bi:t]

Before voiceless consonants (*bit*, *beat*) the vowel is shorter than before neutral ("voiced") ones (*bid*, *bead*). This runs into problems with GP's "non-arbitrariness principle" stating that there must be a direct relation between a phonological event and its context (Kaye, Lowenstamm & Vergnaud 1990: 194). The seemingly arbitrary interaction in (3) fails non-arbitrariness (what is the connection between vowel length and voicelessness?), suggesting that the difference between English voiceless and neutral consonants should not be seen as melodic (qualitative), but rather as structural (quantitative): a *d*, say, is the short version of a *t*. As a result, the trade-off in (3) parallels (1) and (2): The more room is needed by the consonant, the less remains for the preceding vowel (and vice versa), cf. (4). The only difference to Italian and Estonian is that in English there is the additional factor of lexical length (*bit* vs. *beat*), but the trade-off can be observed *independently* of that:

(4) English	*bid* [bɪ:d]	V V C	*bead* [bi::d]	V V V C
(reinterpreted):	*bit* [bɪd:]	V C C	*beat* [bi:d:]	V V C C

Such a reinterpretation of the English facts has several consequences. Firstly, it brings languages together that are usually claimed to be very different. After all, Estonian is generally seen as having an exceptional three-way system of length, cf. e.g. Hint (1973); Lehiste (1960, 1965); Posti (1950); Prince (1980); Tauli (1973), while English or Italian make do with a (more mundane) distinction between short and long (English *fit ≠ feet*, *full ≠ fool*, *bet ≠ bait* etc.). (Here, the notion of phoneme and contrast have been a particular impediment to seeing the parallel.)

Secondly, we find yet another case of a trade-off in length, suggesting that size restrictions are far from absent in (at least some) non-Semitic/non-Afro-Asiatic languages. This might well be the crucial property to establish a satisfactory definition of template and bring us closer to an understanding of how linguistic variation is restricted. To the extent that such trade-offs as described here can be found in many more languages, the question would then shift from "Why do only certain languages have templates?" to "What does the template look like in the particular language under scrutiny?".

Thirdly, there is the interesting question of how morphology ties in with all this. In templatic languages of the Semitic type, templates carry morphological information. What about the trade-offs observed here? A closer look at such diverse languages as Northern Saami (Anttila 1975) or (Austrian) German dialects shows that these trade-offs, too, can be exploited by morphology: Upper Austrian German [fi:S] 'fish' has a plural [fiS:], where plural is marked by a different distribution of length. In other words, we find that properties that the Arabic template is famed for can well be found in other, seemingly unrelated languages, too.

References

ANTTILA, Raimo (1975): The Indexical Element in Morphology. *Innsbrucker Beiträge zur Sprachwissenschaft. Vorträge 12.* Innsbruck: Institut für Sprachwissenschaft der Universität Innsbruck. — HINT, Mati (1973): *Eesti keele sõnafonoloogia I. Rõhusüsteemi fonoloogia ja morfo-fonoloogia põhiprobleemid.* Tallinn: Eesti NSV Teaduste Akadeemia. Keele ja kirjanduse instituut. — KAYE, Jonathan, LOWENSTAMM, Jean & VERGNAUD, Jean-Roger (1985): The internal structure of phonological elements: a theory of charm and government. *Phonology Yearbook*, **2**, 303–328. — KAYE, Jonathan, LOWENSTAMM, Jean & VERGNAUD, Jean-Roger (1990): Constituent structure and government in phonology. *Phonology*, **7, 2**, 193–231. — KAYE, Jonathan (1995): Derivations and interfaces. In: Jacques Durand & Francis Katamba (eds): *Frontiers of Phonology: Atoms, Structures, Derivations.* Longman Linguistics Library. London, New York: Longman. 289–332. — LEHISTE, Ilse (1960): Segmental and Syllabic Quantity in Estonian. In: Indiana University Committee on Uralic Studies (ed.): *American Studies in Uralic Linguistics,* Bloomington: Indiana University Publications. 21–82. — LEHISTE, Ilse (1965): The function of quantity in Finnish and Estonian. *Language*, **41, 3**, 447–456. — MCCARTHY, John (1981): A Prosodic Theory of Nonconcatenative Morphology. *Linguistic Inquiry*, **12, 3**, 373–419. — PETERSON, Gorden E. & LEHISTE, Ilse (1960): Duration of Syllabic Nuclei in English. *The Journal of the Acoustical Society of America*, **32, 6**, 693–703. — PÖCHTRAGER, Markus A. (2006): *The Structure of Length.* Ph.D. thesis, University of Vienna. — Posti, Lauri (1950): On Quantity in Estonian. *Suomalais-Ugrilaisen Seuran Aikakauskirja/Journal de la Société Finno-Ougrienne.* **54, 2**, 1–14. — PRINCE, Alan S. (1980): A Metrical Theory for Estonian Quantity. *Linguistic Inquiry*, **11, 3**, 511–562. — TAULI, Valter (1973): *Standard Estonian Grammar. Part I. Phonology, morphology, wordformation.* Uppsala: Almqvist & Wiksell.