

On a 'crazy rule' of Ancient Greek

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1. The problem. 'Crazy rules' are rules that do not seem motivated by 'natural principles' (Scheer forth.). They are usually explained in relationship with their diachronic origin: a number of diachronic events telescoped and resulted in an unusual alternation. However, these explanations raise important problems for phonological computation: should phonology be able to compute such non natural alternations, or are they just inert results and accidental gaps? If they are synchronic rules, are they formally different from the changes that brought them, and what types of differences can be observed? To what extent can a rule be crazy, and can we draw a line between objects that can be arbitrarily manipulated by phonology and objects that cannot? Our communication proposes to address those three questions by looking into detail at a potential 'crazy rule' of Ancient Greek (AG), which turns all stem-initial *r*'s into geminate aspirated *rr^h*'s.

2. Why *rr^h*- is crazy. Stem-initial *r*'s in AG are predictably geminated and aspirated.

<i>a-rr^hyt^hmia</i>	'lack of rhythm'
<i>alla # rr^hakiois</i>	'but with rags', Ar. <i>Frogs</i> 1066

Its phonetics can be roughly reconstructed as [r̥]. This pattern is arguably 'crazy': the two properties of *rr^h*-, gemination and aspiration, are both highly marked, and useless for distinctivity. Among them, non-distinctive aspiration automatically attributed to geminate *r*'s does not seem to have any phonetic motivation. The second property, initial gemination, stands at the juncture between two different problems: on the one hand, stem-initial 'strong' *r* is observed cross-linguistically (as in Ibero-Romance, cf. Bradley 2001); but it does not seem to create syllable structure as it does in AG. On the other hand, if AG allows initial geminates, why does it have only one?

3. Is it a rule or an accident? The '*rr^h*- rule' is thus highly suspicious: can it be handled by phonological computation? We provide arguments suggesting a positive answer: *rr^h* arises from different diachronic sources (see §4), appears in loanwords (ex. *miso-rr^hōmaios* 'hating Romans') and is surface-true: exceptions to its application can be shown to be linguistically regular. In particular, an important parameter is variation across registers and prosodic boundaries (Stephens 1990). However, gemination and aspiration need to be distinguished as two different rules.

4. The changes are different from the rules. We thus need rules to account for *rr^h*-, and we need them to apply to a specific context: the beginning of the stem. However, sound change should not be directly sensitive to morphological structure. We reconstruct the different layers of change that resulted in the Classical pattern (from **sr*-, then **wr*-, later through the apparition of word-internal *-rr^h*-), and propose a succession of reanalyses that each of these evolutions could trigger. The different changes are shown to differ from the synchronic rules with regard to domain of application, 'structure-preservingness' and phonological content.

4. What is crazy and what is not. Although aspiration does not seem to be explainable on any ground other than diachronic, the case of gemination requires discussion. We provide evidence from Archaic Greek suggesting that other sonorants could be non-distinctively geminated stem-initially in a previous stage of the language (Chantraine 1958, Lejeune 1972):

<i>e-llabe</i>	and <i>e-labe</i>	'he took' (Class. G. <i>e-labe</i>)
<i>kata # mmoiran</i>	and <i>kata # moiran</i>	'as is right' (Class. G. <i>moira</i>)

We examine the etymological properties of these sonorant geminates and suggest that both their behaviour and their subsequent disparition may be explained if we distinguish between two different types of constraints in AG: a constraint prohibiting initial length *contrast*, and a constraint prohibiting initial geminates *per se*.