

## Occam's Razor

A dictum of (and named after) **William of Occam**, an English Franciscan schoolman (i.e., philosopher), born *circa* 1280 C.E. at Occam (or Ockham), a town in Surrey, died 1349 in Munich. He was a leading light in the "Spirituals", a radical branch of the Franciscan order, at various times was under investigation (though never condemned or convicted) of heresy, and is known mostly for his political and theological writings. From a 20th-Century perception, his positions on these and other topics are invariably described as "modern" in their outlook.

The Razor itself is stated in Latin as:

**Plūralitēs nōn est pōnenda sine necessitate.**

the English translation is "Multiplicity should not be posited without necessity." As a heuristic rule, it discourages the formation of hypotheses, theories, and other types of explanation which require one to believe in more propositions than can be justified; in particular, it is often used to criticize scientific theories that are too complex.

Its relevance to linguistic theory can be seen, for instance, in the celebrated (and perhaps apocryphal) 19th-Century analysis of Chinese nouns as having the same eight cases as Indo-European nouns (Nominative, Ablative, Instrumental, Dative, Accusative, Genitive, Locative, and Vocative); in this analysis, however, all the case endings in Chinese were zero. Obviously, such "multiplicities" of spurious cases can be generated at will, and are posited without good cause. Since language is proverbially ephemeral, and since its grammatical bases are even more abstract and less accessible to the senses, it behooves us to be very careful about Occam's Razor. It is extremely easy to find what one expects to find in examining others' speech.

Two examples from problems we've had:

- (1) In the Amharic problem, the verb 'take' has the following forms: *wəsəda*, *məwsəd*. The second one can be analyzed as being derived from the first by switching the positions of the first consonant and vowel, and adding *m-*. This analysis, however, uses the hidden unstated "plurality" that such a phenomenon (the technical name is *metathesis*) is to be preferred over a vowel-changing analysis, which is already required for the other forms. Since a vowel-changing analysis is equally efficient (it generates all and only the correct forms), Occam's Razor mandates that one should prefer this analysis over one invoking metathesis, which is otherwise not found.
- (2) In the Lamba problem, the first column is the forms for the past tense, all of which end in *-a*, as do all of the other verb forms in the problem. You are asked to find the roots for each verb and to indicate how each different form is made. It is possible in this problem to consider the simple past tense form the root, and make all of the other forms infixes occurring before the final *-a*. This has an effect on how one analyzes the past tense morpheme; the "pluralities" here is the assumption that two different varieties of inflection are required (both zero affixation and infixation, which are very different phenomena), instead of only one (all suffixes). This is an additional complication that can be avoided and therefore, by Occam's Razor, should be.