What Isn't in a Name?: Terminological Misapprehensions Between 20th-Century Linguistics and Biology

ICHoLS 10 (UIUC; September 2005)

Richard D. Janda*†, Megan Daly*, John V. Freudenstein*, Brian D. Joseph*, Chris P. Randle, J. Marshall Unger*, John W. Wenzel***

* = Ohio State U., ** = Kansas U., † = College of William & Mary

What's in a name?
That which we call a rose
By any other name would smell as sweet.
(Wm. Shakespeare, *Romeo and Juliet* II.ii.47-48)

ABSTRACT: Linguistic historiographers treat terminological differences — and similarities — cautiously. The use of different terms by two contemporary scholars or in two time-periods may mask fundamental identities between the various concepts referred to, while identical terms may hide substantial differences. In this sense, one must agree with Shakespeare's observation that a rose's name does not determine its smell, and we may legitimately wonder: what's in a name?

Yet the Bard apparently overlooked the fact that the aroma of a rose named, e.g., *Scarlet Skunk* is unlikely to be intentionally inhaled by many people. Names are (like) handles, so that an off-putting name for some notion discourages serious consideration of the latter, while a pleasant or neutral name may attract such attention.

In this paper — a collaboration between linguists and biologists — we focus on two examples of the abovementioned sort which relate to the frequent interdisciplinary cross-checking done by historical linguists and evolutionary biologists since 1950.

First, linguistic typology — which nowadays compares the properties of languages without attempting to assign to each language a unique OVERALL classification (for which genetic relationships are invoked) — would have had much to offer biologists arduously promoting the transition to cladistics (cf. Hennig 1950/1966), since modern typological linguistics allows one to express both similarities and differences without making classification dependent on them. Yet biologists were unlikely to be attracted by typology in linguistics when considerable opprobrium had already accreted onto typology in biology, given its connections with discredited notions like archetypes and essences.

Second, the apparent transparency and superficial conceptual appeal of biologists' "punctuated equilibrium" (extensively surveyed in Janda & Joseph 2003) has led many historical linguists to apply that notion in ways that must be characterized as mutated vis-à-vis its use in biology (where the punctuational part refers to rapidity in geological time, not human time).

I. PRELIMINARIES

1. What's in a name?

a. Would you smell a rose named, e.g., *Scarlet Skunk*?

b. How fresh are the vegetables marketed under the label *Fresh-like*?

2. Shared terminology between linguistics and biology: *morphology*, *genetic* ***code***, ***syntax*** *of DNA,* ***grammar*** *of life, ….*

3. Chomsky: linguistics as a branch of the biological sciences

4. Problematic terminology and their underlying concepts: *typology* and *punctuated equilibrium*

II. CASE-STUDY 1: *TYPOLOGY* vs. *TAXONOMY* — positively- vs. negatively-valued by linguists; negatively- vs. positively-valued by biologists

1. *Typology* as a laudable goal in linguistics:

a. From the Research Centre for Linguistic Typology (RCLT, La Trobe University) mission statement: "putting forward inductive generalisations about human language".

b. From Association for Linguistic Typology mission statement: "the scientific study of … cross-linguistic diversity and the patterns underlying it".

c. Existence of societies like the Association for Linguistic Typology, journals like *Linguistic Typology* or *Sprachtypologie und Universalienforschung*, and research centers devoted to typology (RCLT, some of the Max Planck institutes (e.g., at Nijmegen and at Leipzig), etc.)

2. *Typology* as a tainted term (and concept) in modern biology.

a. In most 20th- (and 21st-) century biology, *typology* invokes the **typological species-concept**, an **essentialist** notion that, along with many other scholars, Mayr 1982 holds responsible for delaying the proposal, defence, and acceptance of legitimate evolutionary ideas prior to Darwin's 1859 *Origin of Species*.

b. Mayr 1982:256: In "the **essentialist species-concept**, ... each species is characterized by its unchanging essense (*eidos*) and separated from all other species by a sharp discontinuity. Essentialism assumes that the diversity of inaminate as well as of organic nature is the reflection of a limited number of unchanging universals (...[cf.] Hull 1975). This concept ultimately goes back to Plato's concedpt of the *eidos*, and this is what later authors had in mind when they spoke of the essence, or 'nature', of some object or organism. All those objects [that] belong to the same species ... share the same essence" (emphasis added).

c. The link from essence to type is made as follows; cf. Mayr 1982: 256: "The presence of the same essence is inferred on the basis of similarity. Species, thus, were [once] simply defined as groups of similar individuals that are different from individals belonging to other species. Species, thus conceived, represent different **'types'** of organisms. Individuals... do not stand in any special relation to each other; they are merely expressions of the same *eidos*. Variation is the result of imperfect manifestations of the *eidos*" (emphasis added).

3. *Taxonomy*/*taxonomic* as a frequent term of reprobation in linguistics.

a. Recall Chomsky's 1962, 1964 attacks on Post-Bloomfieldian American structuralist phonemics as involving, not (usually) the *classical* or *autonomous* phonemic level, but the *taxonomic* phonemic level. Here, the intended criticism is rather explicit.

b. Only implicit, though, are criticisms like those that we both heard from our own (ca. 1975) linguistics-professors, exhorting us not to act like Post-Bloomfieldian American structuralists; e.g.: "Make generalizations going beyond the original set of facts that you were given; don't just re**arrange** the data!" (emphasis added) — recall that Greek *taxo-nom-ía* originally involved, literally speaking, the '**arrangement**-law-…', or 'law of **arrangement**...'.

4. Yet *taxonomy* has long been an extremely positive term in modern biology (and the one positively evaluated use of *type* in biology involves **type specimens**, which are employed taxonomically!).

a. *Taxonomy* is often employed synonymously (e.g., by Mayr) with *systematics* (and/or *classification*): "The terms *systematics* and *taxonomy* are considered by me as approximately synonymous...[; i]n America...[,] the term *taxonomy* seems to be preferred...[; i]n the rest of the world...[,] the term *systematics* seems to be more widely used" (Mayr 1942/1982: 6n.1).

b. And, as for the importance of *systematics*: "It is the basic task of the systematist to break up the almost unlimited and confusing diversity of individuals in nature into easily recognizable groups, to work out the significant characters of these units, and to find constant differences between similar ones. Furthermore, [(s)]he must provide these units with 'scientific' names which will facilitate their subsequent recognition by workers throughout the world.... Even this 'lowest' task of the systematist is of tremendous scientific importance. The entire geological chronology hinges on the correct identification of the fossil key species. No scientific ecological survey should be carried out without the most painstaking identification of all the species of ecological significance. Even the experimental biologist has learned to appreciate the necessity for sound, solid identification work" (Mayr 1942/1982: 9).

III. CASE STUDY 2: *PUNCTUATED EQUILIBRIUM*

1. Punctuated Equilibrium (P.E.): a term employed by a surprising number of contemporary linguists on the basis of a string of publications in biology that was started by Eldredge & Gould 1972; in biology, this notion has to do with the claim that most speciation occurs in rapid temporal bursts which punctuate long spans of relative evolutionary stasis — but the attention that P.E. has received in linguistics (especially diachrony) is all out of proportion to the attention that it has received in biological theorizing and practice.

a. For many linguists, popularizing works on biology written for the layperson — especially those published in large numbers by Stephen Jay Gould — have been the sole point of reference regarding P.E. and its importance in biology; but note the following statement by the eminent biologist John Maynard Smith (as part of a November 1995 review article in the *New York Review of Books*, later cited approvingly by Dawkins 1998: 207):

> "Gould occupies a rather curious position, particularly on his side of the Atlantic. Because of the excellence of his essays, he has come to be seen by non-biologists as the preeminent evolutionary theorist. In contrast, the evolutionary biologists with whom I have discussed his work tend to see him as a man whose ideas are so confused as to be hardly worth bothering with, but as one who should not be publicly criticized because he is at least on our side against the creationists. All this would not matter, were it not that he is giving non-biologists a largely false picture of the state of evolutionary theory."

b. Yet Dixon 1997 draws heavily on Gould (& Eldredge) alone in a short book that fervently embraces (Dixon's version of) Punctuated Equilibrium, and Lass 1997 in turn endorses Dixon's application of P.E.; much more recently, Henning Andersen's comparative discussion of language and biology presents liberal (perhaps even excessive) quotes from Gould (and relatively few other biologists), thus indirectly exaggerating the centrality of punctuated equilibrium in biology.

c. Other linguistic works (like Lightfoot 1999) have ignored the fact that the relevant punctuations are brief only in **geological time**, for which a 10,000-year-long process counts as virtually instantaneous.

d. Thus, indeed very much like speakers who unknowingly distort words borrowed from another language, linguistic diachronicians often replicate attractive biological concepts in garbled form — thereby unwittingly get all bollixed up.

2. This is actually not a surprising result, as cross-discplinarity is inherently fraught with problems: it is easy to get things wrong when one borrows across disciplines, since field X proceeds at its own pace, while practitioners of Field Y who cross over into Field X, immersed as they are in Y, cannot always keep up with the latest in X, or — even if they do hear about the latest developments in X — do not always possess the requisite critical and evaluative sense of the other field that would allow them to avoid jumping on the wrong bandwagons.

IV. A CONCLUSION of an unusual kind; linguistic historiography's new close?

1. We end with some observations on what history is; this is, after all, a conference on the **history** of the language sciences, so that our talking about present-day uses, misuses, understandings, and misunderstandings of terminology and concepts across disciplines — from recent biology by linguists, and vice versa — could seem out of place.

a. We would argue, in our defense, that HISTORY is (or at least can be) NOW! That is, what better way is there, for determining the methods and successes, or lack of successes, of cross-disciplinarity involving linguistics, than to record and study, more or less contemporaneously, what is going on now, in that regard?

b. In a similar way, historical linguistics has tended to look at language change in the past, at developments that are over and done with, that we can only speculate about, however enlightenedly. Yet students of language change over the past 40 years or so have come to realize that the study of language change **in progress** is crucial to understanding how language change works.

2. The same, we suggest, is true of the instances of borrowing across disciplines – which is, in a sense, a type of paradigm change, for some linguists -- that we have documented here.