HOW MANY IS/ARE ZERO?

by Walter P. Allen

In answer to the question "How many pages had Jefferson written?" a student wrote "Zero page."

I reached out my pen to add -s to *page*, and then I stopped. Why add -s? Why did I feel that plural was correct for a number less than one? What is the number of *zero*? How would I explain that -s to the student?

The ultimate reason for the existence of such questions is that the speakers of our proto language who worked out the number system which eventually came into English did not have the concept of *zero*. Their counting system started with *one*. According to the Oxford English Dictionary *zero* did not appear until 1604, via French and Italian from Arabic. This was much too late to affect the English concepts of singular and plural.

Of course the speakers of our proto language understood a lack of *one*, which has been expressed since the time of Old English as some form of the modern *none*. However, this was not conceived as a count unit. Even today, children learn to count starting with *one*. The OED reports that *none* is commonly treated as plural, and the first citation of this usage is from King Ælfred dated 888. Thus the usage of *none* as plural goes back a long way into the early history of the language.

Although *zero* and *none* are rather different concepts, they are related. The literature on the question of number largely ignores *zero*, but it does discuss usage of *none*, so the following comments are perforce concerned with the latter.

Possible explanations

The Concise Oxford Dictionary states that number agreement with *none* should be according to the sense required, with "none of them" followed by either *is* or *are*. Other examples listed include

none of this concerns me;
none but fools have ever believed it;

where *this* and *fools* bring out the number

sense intended. Another example in the same list puzzles me as to its sense of number:

are none so fond of him.

Quirk, et al. (1972, p. 360) explain that grammatical concord may not only be affected by notional concord, as above, but also by proximity, which could also apply to the first two examples from the COD above. Quirk, et al. give the example

none of them are . . . (1972, p. 365).

Neither sense nor proximity really explains* "Zero pages."

Another possible explanation may be found in the theory of marked/unmarked pairs, which has been applied to many aspects of language. Generally stated, the marked member of a pair contains a feature which sets it off from the category more generally included in the unmarked member (Pearson, 1977, p. 205). In tense, the more limited past is considered marked as opposed to unmarked present, which can be used for any time:

present: She is at home;
past: The enemy advances;
future: We leave tomorrow.

Most writers using the notion of markedness list plural as marked as opposed to singular (one example, Wardhaugh, 1977, p. 164). Although it is true that plurals are marked by the addition of -s, notionally singular is far more limited (only one number, whereas plural is infinity only excepting *one*), so that singular can be considered marked. This application of the markedness theory would classify *zero* as plural, since it is not *one*.

The markedness theory has many useful applications, but English is full

*Number concord with *either/neither* is a related problem. *Explain* (plural) would be chosen by many.

of apparent exceptions to this binary view. For example, *woman* is presented as marked as opposed to unmarked *man*, which (before women's lib) could refer to all humans as well as to only masculine humans. But this general rule does not explain such pairs as *king/queen* and *duke/duchess*. Nor is it possible to establish a similar marked/unmarked relationship with the names of some domestic animals:

> horse—mare/stallion;
> pig—sow/boar;
> chicken—hen/rooster.

A recent experiment with recall confusion of five quantifiers indicates that the theory of binary marked/unmarked pairs does not explain the relationships between *all, many, some, a few,* and *none*. One conclusion which Holyoak and Glass came to was that the human brain may have "an internal quantity scale" for the concepts they were testing (1978, p. 262). Other non-binary sequences are found in adjectives:

> good/better/best;

and in the numerical series

> 1—A guest arrived;
> 2—Both guests arrived;
> 3 or more—All guests arrived.

These examples give evidence that the brain has available multiple methods of coding the meanings expressed in language.

Zero can be plural

The variations in classifying *zero* or *none* as either singular or plural are evidence of conflicting rules governing our language.

A speaker following the rule conceived in the days of *zero*-less math considers *zero* as singular. This idea is reinforced if the speaker thinks of singular as being unmarked (that is, every number that is not plural). However, common usage as attested by the dictionaries supports the definition of plural as all numbers not *one* (that is, plural is unmarked), which permits *zero* to be understood as plural.

My impulse to add *-s* to "Zero page" shows my preference for the definition of plural as all numbers other than *one*. Now I can tell my student that the singular form is based on the definition of plural as more than one, but that common usage, dating back to King Ælfred, supports the definition of plural as numbers other than one, resulting in "Zero pages."

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