In the February 1968 issue of Word Ways, Dmitri Borgmann briefly reviewed the history of number nomenclatures. The first twenty number names, each one denoting a number one thousand times its immediate predecessor, are found in many reference works:

1. million 6. sexdecillion
2. billion 7. septillion
3. trillion 8. octillion
4. quadrillion 9. nonillion
5. quintillion 10. decillion

In the appendix of Edward Brooks' Philosophy of Arithmetic, published in 1904, one Professor Henkle devised a nomenclature which extended this list to the millionth name. Dmitri Borgmann commented on various logological inconsistencies in Henkle's list, and invited Word Ways readers to improve upon it.

In the May 1968 issue, Rudolph Ondrejka submitted an improved nomenclature which extended the list from the millionth to the billionth name. It is the purpose of this article to extend the nomenclature yet further, beginning where Henkle and Ondrejka left off.

In order to discuss extremely large numbers, it is necessary to introduce some notation. The numbers in front of the twenty names above are the periods associated with the names; more formally, the number of zeros in the number is equal to \(3 \times \text{period} + 3\). To keep track of the different number names, we associate each one with its period, as has been done in the list above. However, the numbers we will deal with are so colossal that their periods must be expressed in abbreviated notation; in particular, we write the logarithm of the period to the base ten instead of the period itself. Thus, the log period of the number name decillion is 10 to the first power, or 1; similarly, the log period of the number name vigintillion is 10 to the 1.4142 power.

lion), but replace milli-milliillion with billillion (analogous to billion),
illi-milliilliillion with trillillion (analogous to trillion) and so on.
In general, each number name with period 1 has a cognate with log per-
iod 3.

To avoid boring the reader with endless names, we present full num-
er names with log periods of 3, 30, 300, etc., corresponding to num-
er periods 1, 10, 100, etc. The prefixes of intermediate cases are briefly indicated in indented form for the first three cycles; after that time they repeat in an obvious manner.

3
3 milli-milliillion (cognate to billion)
(6 bi/, 9 tri/, 12 quadri/, 15 quinti/, 18 sexti/, 21 septi/, 24 octi/, 27 noni/)

3 deci-milliillion (cognate to decillion)
(60 vici/, 90 trici/, 120 quadragi/, 150 quinquagi/, 180 sexagi/, 210 septuagi/, 240 octogi/, 270 nonagi/)

300 /centilliillion (cognate to centillion)
(600 du/, 900 tre/, 1200 quadri/, 1500 quinquagi/, 1800 sexagi/, 2100 septuagi/, 2400 octogi/, 2700 nonagi/)

3000 millillesillillion (cognate to millillion)
30000 decillesillillion (cognate to decillillion)
300000 centillesillillion (cognate to centillillion)
3000000 millillesillillion (cognate to millillesillillion)
30000000 decillesillillion (cognate to decillesillillion)
300000000 centillesillillion (cognate to centillesillillion)

For the record, the largest number name we have devised is nona-
centiillillion, with a log period of 2700000000. To demonstrate
how far we have come, we remind the reader that Henkle's list stopped
at log period 6 (our billillion), and Ondrejka's at log period 9 (our
trillillion). Numbers as large as this have no practical use in econ-
omics or, for that matter, physics or astronomy; it is only in the
realm of pure mathematics that they can be found. For example, if
one takes a billion different objects and asks in how many distinguish-
able ways these can be arranged in a line, the answer would lie in the
general region of the largest number above.

Does any reader of Word Ways know of a specifically-named finite number which is larger than any of the ones given above? Googolplex
is often cited as a very large number, but it is somewhat less than one
quadragillillion. On the other hand, Skewes' number is not exceeded
until the nine major number names given above have been extended to
thirty-five.

A NEW LANGUAGE

RAMONA J.

In 1949, the Third New Edition of Webster's Dictionary opened with
the following note:

It was, on the whole, a beneficial experience for me to have
refined the meaning in the technical dictionary by reducing the
30,000 names in the technical section in the first edition to 20,000 names
in the third edition. By eliminating the inessential, we have
made the work easier to use.

Subsequent changes in the language (as the geop-
sake of brevity) have made it advisable to
reconsider Webster's list. By this approach, one could not only
reduce the number of names in the technical section, but also
reduce the number of pages. By doing this, the dictionary
would become more compact and more convenient to use.

World events have also contributed to the
changes taking place in the English language. The race for the emer-
ging superpowers is one of the factors contributing to the changing
sound of the English language. The increasing use of
American English is another.

In the last few years, the obsolete words of the
 Handbook of the American Diction-
ary have been increased from 1293 to
40,000 to match the increasing use of
American English. Instead of attempting
the job over,