candidate for elimination on this ground, but for the moment I leave it in. The remaining 46 words I regard as candidates.

In order to have a good spread of words, I look for one whose mean is below 0.05, one in each decile up to (0.85 to 0.95), and one over 0.95.

Among those below 0.05, I dislike *impossible* and *never* because to me they suggest probability zero. Of the others, *very improbable* and *very low probability* have both higher interquartile ranges and greater discrepancy between the meta-analysis and the science writers, so they are dispreferred. Finally, as between *almost never* and *very rarely*, my choice is the former, marginally, since it is a little more stable.

The (0.05, 0.15) words, from *very unlikely* to *improbable*, present a smooth family of words, with interquartile ranges increasing as the means increase. My choice among them is *seldom*, because it has about the same meaning to both science writers and to the others surveyed in the meta-analysis, a reasonably low interquartile range, and it is in the middle of the range.

Among the next group, (0.15, 0.25), from *low probability* to *occasionally*, there are again many words that are all almost equally good. My choice is *infrequent*, because it seems slightly more stable in meaning than the others.

In the (0.25 to 0.35) range there is only one word, *sometimes*, so that has to be the choice.

From (0.35 to 0.45) there are only two left after the elimination of three because of huge interquartile ranges. Of these two, my choice is *less than an even chance*, by a slim margin.

In the middle, (0.45 to 0.55), *even chance* seems just fine.

Next, (0.55 to 0.65) offers only two choices, of which *more often than not* looks slightly better to me.

In the range (0.65, 0.75) there are four words *liable to happen*, *probable*, *likely* and *often*, after the elimination of *frequent*. They are again very close in desirability as I see them, but by a narrow margin I think *often* is the best of them.

The next decile, (0.75, 0.85) has five choices, of which *high probability* has the lowest interquartile range and good agreement among studies.

In the next-to-last group, (0.85, 0.95), *very high probability* and *almost always* offer the best combination of low interquartile range and stability.

Because of my choice of *high probability* for the previous range, *very high probability* seems the best choice here.

Finally, I am not satisfied with either *certain* or *always* for the (0.95, 1) range because both words connote probability one to me. If it were available, I would prefer *virtually certain*, which leaves some room for doubt.

In summary, my choices are:

TABLE 2
Range of probability and chosen verbal expressions

Range of probability	Verbal description
0.00 to 0.05	Almost never
0.05 to 0.15	Seldom
0.15 to 0.25	Infrequent
0.25 to 0.35	Sometimes
0.35 to 0.45	Less than an even chance
0.45 to 0.55	Even chance
0.55 to 0.65	More often than not
0.65 to 0.75	Often
0.75 to 0.85	High probability
0.85 to 0.95	Very high probability
0.95 to 1.0	(Virtually) certain

Now it's your turn.

Comment

William Kruskal

What a beautifully written, constructive, stimulating, and enjoyable article this is. As I read it, questions naturally came to mind... and most were treated in later pages of the article itself. My few remaining remarks follow.

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Translations. The article discusses briefly and comparatively two studies in languages other than English. This might be a fruitful path for further research, although there will always be the problem of confounding different meanings with different cultural contexts. Perhaps paying special attention to cognates, when possible, would mitigate the problem. Would it not be a triumph if similar results were obtained in English, Roumanian, Russian, Mandarin, Hindi, and so on? Conversely, might not differences that turn up throw light on cultural divides.

Logical relations. If *often* corresponds to probability 0.65, should *not often* correspond to 1 − 0.65 = 0.35? In a certain logical sense, yes; we might doubt it psychologically, and indeed the two empirical average probabilities do not add to one. There may be other such plausible equalities that are or are not realized; logical inequalities seem to go in the right directions. I would welcome comment from the authors on this corner of the topic. They might wish to consider the trio *even chance, better than even chance, less than an even chance.*

Behavioral responses. Would it be possible to parallel this interesting study by one in which the responses were more concrete than naming probabilities? Perhaps statements about bets, or even actual bets, might be used, following one psychological tradition in which Mosteller has been active. There is again a possible confounding problem.

Codification. I worry about the hope that this line of research will lead to useful codification in our semantic lives. In an important sense, to be sure, semantic codification is essential; without it, languages would not exist as a social creation. Yet we see and hear every day how language structures and conventions have lives of their own and rarely respond to expert, specialized pleadings. Consider the recent fates of words like "disinterested" and "gratuitous." Consider the general confusion over "signficant," "representative," and other words that arise in statistical discourse. Consider the inability of the French Academy to keep the French language pure... whatever that means.

I do not doubt that there are cases in which codification or standardization of languages have been effective—possibly Norwegian is an example; but my hunch is that they are rather rare. (By that I mean a relative frequency of roughly 9%.)

There must be a literature about all this, I said to myself as I trotted to the library and used its electronic search system. In almost no time (5 minutes, excluding travel) I had two examples: Milroy and Milroy (1985) and Woods (1985). Both are interesting books with rather different emphases.

Codifications in other domains abound: railroad tracks, lumber, clothing sizes, nuts and bolts, typewriter keyboards, side of the road, even good manners, etc. There must be fascinating similarities and differences. When and how do these codifications get made and get changed?

The doers of any such study will be grateful to Mosteller and Youtz for their present contribution, for their past papers on related topics, and for future insights that they are bound to find.

ADDITIONAL REFERENCES

MILROY, J. and MILROY, L. (1985). *Authority in Language. Investigating Language Prescription and Standardization.* Routledge and Kegan Paul, London.

WOODS, J. D., ed. (1985). *Language Standards and their Codification: Process and Application. Exeter Linguistic Studies* **9**. Univ. Exeter.

Comment: On the Possible Dangers of Isolation

Judith M. Tanur

The Mosteller and Youtz paper makes fascinating reading. The authors have done us a great service by pulling together the results of so many studies on verbal quantifiers and in carrying out what seems to be the most comprehensive study yet in terms of the number of these quantifiers considered. They will do us a further great service if they can succeed in the proposed quantification.

But I have some serious doubts about the enterprise. I believe Mosteller and Youtz give too little weight to the effects of the context in which words are used on the meaning of probabilistic expressions.

In understanding what another says or writes, we bring into play not only our knowledge of language, but also our understanding of the situation in which the words were produced and that to which they apply. In the case of a conversation with a friend or acquaintance, we also use our knowledge of that individual and of the relationship we share to interpret what is said. Similarly, in speaking with or writing for colleagues, we use specialized jargons. Thus conversations (or scientific papers) that are perfectly intelligible to the participants can sound like pure gibberish to an observer who misreads or is ignorant of the situation or not privy to the common stock of knowledge of the

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