

MATHMANSHIP

By Nicholas Vanserg

In an article published a few years ago, the writer¹ intimated with befitting subtlety that since most concepts of science are relatively simple (once you understand them) any ambitious scientist must, in self protection, prevent his colleagues from discovering that *his* ideas are simple too. So if he can write his published contributions obscurely and uninterestingly enough no one will attempt to read them but all will instead genuflect in awe before such erudition.

WHAT IS MATHMANSHIP?

Above and beyond the now-familiar recourse of writing in some language that looks like English but isn't, such as Geologese. Biologese, or, perhaps most successful of all, Educationalese², is the further refinement of writing everything possible in mathematical symbols. This has but one disadvantage, namely, that some designing skunk equally proficient in this low form of cunning may be able to follow the reasoning and discover its hidden simplicity. Fortunately, however any such nefarious design can be thwarted by a modification of the well-known art of gamesmanship³.

The object of this technique which may, by analogy, be termed "Mathmanship" is to place unsuspected obstacles in the way of the pursuer until he is obliged by a series of delays and frustrations to give up the chase and concede his mental inferiority to the author.

THE TYPOGRAPHICAL TRICK

One of the more rudimentary practices of mathmanship is to slip in the wrong letter, say a *y* for a *r*. Even placing an exponent on the wrong side of the bracket will also do wonders. This subterfuge, while admittedly an infraction of the ground rules, rarely incurs a penalty as it can always be blamed on the printer. In fact the author need not stoop to it himself as any copyist will gladly enter into the spirit of the occasion and cooperate voluntarily. You need only be trusting and not read proof.

STRATEGY OF THE SECRET SYMBOL

But, if by some mischance, the equations don't get badly garbled, the mathematics is apt to be all too easy to follow, *provided* the reader knows what the letters stand for. Here then is your firm line of defense: at all cost *prevent him from finding out!*

Thus you may state in fine print in a footnote on page 35 that V^x is the total volume of a phase and then on page 873 introduce V^x out of a clear sky. This, you see, is not actually cheating because after all or rather before all, you *did* tell what the symbol meant. By surreptitiously introducing one by one all the letters of the English, Greek and German alphabets right side up and upside down, you can make the reader, when he wants to look up any topic, read the book backward in order to find out what they mean. Some of the most impressive books read about as well backward as forward, anyway.

But should reading backward become so normal as to be considered straightforward. You can always double back on the hounds. For example, introduce μ on page 66 and avoid defining μ until page 86.* This will make the whole book required reading.

* All these examples are from published literature. Readers desiring specific references may send a self-addressed stamped enveloped. I collect uncanceled stamps – N. Vanserg.

THE PI-THROWING CONTEST OR HUMPTY-DUMPTY DODGE

Although your reader may eventually catch up with you, you can throw him off scent temporarily by making him *think* he knows what the letters mean. For example every schoolboy knows what π stands for so you can hold him at bay by heaving some entirely different kind of π into the equation. The poor fellow will automatically multiply by 3.1416, then begin wondering how a π got into the act anyhow, and finally discover that all the while π was osmotic pressure. If you are careful not to warn him, this one is good for a delay of about an hour and a half.

This principle, conveniently termed pi-throwing can, of course be modified to apply to any other letter. Thus you can state perfectly truthfully on page 141 that F is free energy so if Gentle Reader has read another book that used F for *Helmholtz* free energy, he will waste a lot of his own free energy trying to reconcile your equations before he thinks to look for the footnote tucked away at the bottom of page 50, dutifully explaining that what you are talking about all the time is Gibbs free energy which he always thought was G. Meanwhile you can compound his confusion by using G for something else, such as "any extensive property." F, however, is a particularly happy letter as it can be used not only for any unspecified brand of free energy but also for fluorine, force, friction, Faradays, or a function of something or other, thus increasing the degree of randomness, dS. (S, as everyone knows stands for entropy, or may be sulfur). The context of course, will make the meaning clear, especially if you can contrive to use several kinds of F's or S's in the same equation.

For all such switching of letters on the reader you can cite unimpeachable authority by paraphrasing the writing of an eminent mathematician;⁴ "When I use a letter it means just what I choose it to mean - neither more nor less ... the question is, which is to be master - that's all."

THE UNCONSUMMATED ASTERISK

Speaking of footnotes (I was, don't you remember?) a subtle ruse is the "unconsummated asterisk" or "ill-starred letter." You can use P^{**} to represent some pressure difference from P, thus tricking the innocent reader into looking at the bottom of the page for a footnote. There isn't any, of course, but by the time he has decided that P must be some registered trademark as in the magazine advertisements he has lost his place and has to start over again. Sometimes, just for variety, you can use instead of an asterisk a heavy round dot or bar over certain letters. In doing so, it is permissible to give the reader enough veiled hints to make him *think* he can figure out the system but do not at any one place explain the general idea of this mystic notation, which must remain a closely guarded secret known only to the initiated. Do not disclose it under pain of expulsion from the fraternity. Let the Baffled Barbarian beat his head against the wall of mystery. It may be bloodied, but if it is unbowed you lose the round.

The other side of the asterisk gambit is to use a superscript as a key to a real footnote. The knowledge-seeker reads that S is -36.7^{14} calories and thinks "Gee what a whale of a lot of calories" until he reads to the bottom of the page, finds footnote 14 and says "oh."

THE "HENCE" GAMBIT

But after all, the most successful device in mathmanship is to leave out one or two pages of calculations and for them substitute the word "hence" followed by a colon. This is guaranteed to hold the reader for a couple of days figuring out how you got hither from hence. Even more effective is to use "obviously" instead of "hence," since no reader is likely to show his ignorance by seeking help in elucidating anything that is obvious. This succeeds not only in frustrating him but also in bringing him down with an inferiority complex, one of the prime desiderata of the art.

** April fool. See what I mean?

These, of course, are only the most common and elementary rules. The writer has in progress a two-volume work on mathmanship complete with examples and exercises. It will contain so many secret symbols, cryptic codes and hence-gambits that no one (but no one) will be able to read it.

References:

1. Vanserg, Nicholas. *How to Write Geologese*, Economic Geology, Vol. 47, pp. 220 – 223, 1952.
2. Carberry, Josiah. *Psycoceramics*, p. 1167, Brown University Press, 1945.
3. Potter, Stephen, *Theory and Practice of Gamesmanship or The Art of Winning Games without Actually Cheating*. London: R. Hart-Davis, 1947.
4. Carroll, Lewis. *Complete Works*, Modern Library edition, p.214.