

On Various Words

-- from *The Lives of a Cell* | Lewis Thomas | 1974

The idea that colonies of social insects are somehow equivalent to vast, multi-creatured organisms, possessing a collective intelligence and a gift for adaptation far superior to the sum of the individual inhabitants, had its origin in the papers of the eminent entomologist, William Morton Wheeler, who proposed the term Superorganism to describe the arrangement. From 1911 to the early 1950s this ranked as a central notion in entomology, attracting the attention of many fascinated nonentomologists. Maeterlinck and Marais wrote best-selling books on the presumed soul that must exist somewhere in the nests of ants and termites.

Then, unaccountably, the whole idea abruptly dropped out of fashion and sight. During the past quarter-century almost no mention of it is made in the proliferation of scientific literature in entomology. It is not talked about. It is not just that the idea has been forgotten; it is as though it had become unmentionable, an embarrassment.

It is hard to explain. The notion was not shown to be all that mistaken, nor was it in conflict with any other, more acceptable view of things. It was simply that nobody could figure out what to do with such an abstraction. There it sat, occupying important intellectual ground, at just the time when entomology was emerging as an experimental science of considerable power, capable of solving matters of intricate detail, a paradigm of the new reductionism. This huge idea--that individual organisms might be self-transcending in their relation to a dense society--was not approachable by the new techniques, nor did it suggest new experiments or methods. It just sat there, in the way, and was covered over by leaves and papers. It needed heuristic value to survive, and this was lacking.

“Holism,” a fabricated word, has been applied to concepts like the Superorganism. One wonders whether this word may not itself have scared off some investigators; it is a word with an alarming visage. General Jan Smuts, who invented it out of whole cloth in 1926, might have done better with “Wholism”; it would have served the same etymological purpose and might have been just secular enough to survive this kind of century. As it is, there is doubt for its future. Holism is in some of the scientific glossaries but has not yet made it into most standard dictionaries of English. It got as far as the Supplement volume of the new OED, which is something, but not enough to assure survival. Perhaps it will die away, along with Superorganism.

I cannot quarrel with any of this. If an idea cannot move on its own, pushing it doesn't help; best to let it lie there.

It may be, though, that the pushing was tried in the wrong direction. Colonies of ants or termites, or bees and social wasps, may in fact be Superorganisms by Wheeler's criteria, but perhaps that is the end of that line of information as far as insects are concerned, for the time being. Maybe it would work better if you tried it out on another social species, easier to handle. Us, for one.

It has long troubled the entomologists that the rest of us are always interfering in their affairs by offering explanations of insect behavior in human terms. They take pains to explain that ants are not, emphatically not, tiny mechanical models of human beings. I agree with this. Nothing that we know for sure about human behavior is likely to account for what ants do, and we ought to stay clear of it; this is the business of entomologists. As for the ants themselves, they are plainly not in need of lessons from us.

However, this does not mean that we cannot take it the other way, on the off chance that some of the collective actions of ants may cast light on human problems.

There are lots of possibilities here, but if you think about the construction of the Hill by a colony of a million ants, each one working ceaselessly and compulsively to add perfection to his region of the structure without having the faintest notion of what is being constructed elsewhere, living out his brief life in a social enterprise that extends back into what is for him the deepest antiquity (ants die at the rate of 3-4 per cent per day; in a month or so an entire generation vanishes, while the Hill can go on for sixty years or, given good years, forever), performing his work with infallible, undistracted skill in the midst of a confusion of others, all tumbling over each other to get the twigs and bits of earth aligned in precisely the right configurations for the warmth and ventilation of the eggs and larvae, but totally incapacitated by isolation, there is only one human activity that is like this, and it is language.

We have been working at it for what seems eternity, generation after articulate generation, and still we have no notion how it is done, nor what it will be like when finished, if it is ever to be finished. It is the most compulsively collective, genetically programmed, species-specific, and autonomic of all the things we do, and we are infallible at it. It comes naturally. We have DNA for grammar, neurons for syntax. We can never let up; we scramble our way through one civilization after another, metamorphosing, sprouting tools and cities everywhere, and all the time new words keep tumbling out.

The words themselves are marvels, each one perfectly designed for its use. The older, more powerful ones are membranous, packed with layers of different meaning, like one-word poems. "Articulated," for instance, first indicated a division into small joints, then, effortlessly, signified the speaking of sentences. Some words are gradually altered while we have them in everyday use, without our being aware until the change has been completed: the *ly* in today's adverbs, such as *ably* and *benignly*, began to appear in place of "like" just a few centuries ago, and "like" has since worn away to a mere suffix. By a similar process, "love-did" changed itself into "loved."

None of the words are ever made up by anyone we know; they simply turn up in the language when they are needed. Sometimes a familiar word will suddenly be grabbed up and transformed to mean something quite strange: "strange" is itself such a word today, needed by nuclear physicists to symbolize the behavior of particles which decay with peculiar slowness; the technical term for such particles now is "strange particles," and they possess a "strangeness number(S)." The shock of sudden unfamiliarity with an old, familiar word is something we take in stride; it has been going on for thousands of years.

A few words are made up by solitary men in front of our eyes, like *Holism* out of *Smuts*, or *Quark* out of *Joyce*, but most of these are exotic and transient; it takes a great deal of use before a word can become a word.

Most new words are made up from other, earlier words; language-making is a conservative process, wasting little. When new words unfold out of old ones, the original meaning usually hangs around like an unrecognizable scent, a sort of secret.

"Holism" suggests something biologically transcendental because of "holy," although it was intended more simply to mean a complete assemblage of living units. Originally, it came from the Indo-European root word *kailo*, which meant whole, also intact and uninjured. During passage through several thousand years it transformed into *hail*, *hale*, *health*, *hallow*, *holy*, *whole*, and *heal*, and all of these still move together through our minds.

“Heuristic” is a more specialized, single-purpose word, derived from Indo-European *wer*, meaning to find, then taken up in Greek as *heuriskein*, from which Archimedes was provided with *Heureka!*

There are two immense words from Indo-European, *gene* and *bheu*, each a virtual anthill in itself, from which we have constructed the notion of Everything. At the beginning, or as far back as they are traceable, they meant something like being. *Gene* signified beginning, giving birth, while *bheu* indicated existence and growth. *Gene* turned itself successively into *kundjaz* (Gernanic) and *gecynd* (Old English), meaning kin or kind. Kind was at first a family connection, later an elevated social rank, and finally came to rest meaning kindly or gentle. Meanwhile, a branch of *gene* became the Latin *gens*, then gentle itself; it also emerged as *genus*, *genius*, *genital*, and *generous*; then, still holding on to its inner significance, it became “nature” (out of *gnasci*).

While *gene* was evolving into “nature” and “kind,” *bheu* was moving through similar transformations. One branch became *bowan* in Cermanic and *bu* in Old Norse, meaning to live and dwell, and then the English word *build*. It moved into Greek, as *phuein*, meaning to bring forth and make grow; then as *phusis*, which was another word for nature. *Phusis* became the source of *physic*, which at first meant natural science and later was the word for medicine. Still later, *physic* became *physics*.

Both words, at today’s stage of their evolution, can be taken together to mean, literally, everything in the universe. You do not come by words like this easily; they cannot just be made up from scratch. They need long lives before they can signify. “Everything,” C.S. Lewis observed in a discussion of the words, “is a subject on which there is not much to be said.” The words themselves must show the internal marks of long use; they must contain their own inner conversation.

These days it is reassuring to know that nature and physics, in their present meanings, have been interconnected in our minds, by a sort of hunch, for all these years. The other words clinging to them are a puzzlement, but nice to see. If you let your mind relax, all the words will flow into each other in an amiable sort of nonsense. “Kind” means a relation, but it also means “nature.” The word for kind is the same as the word for gentle. Even “physics,” save us, is a kind of “nature,” by its nature, and is, simultaneously, another kind of kind. There are ancient ideas reverberating through this structure, very old hunches.

It is part of the magic of language that some people can get to the same place by the use of totally different words. Julian of Norwich, a fourteenth-century hermitess, said it so well that a paragraph of hers was used recently by a physicist for his introduction to a hard-science review of contemporary cosmological physics: “He showed me a little thing, the quantity of an hazelnut, in the palm of my hand, and it was as round as a ball. I looked thereupon with eye of my understanding and thought: What may this be? And it was answered generally thus: it is all that is made.”