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Discussion

On thoughts without words

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Thought about laws of form ought, perhaps, to include consideration of some troublesome questions about the form of thought. Indeed I have argued elsewhere[1] that the forms and the laws in our worlds do not lie there ready-made to be discovered but are imposed by world-versions we contrive—in the sciences, the arts, perception, and everyday practice. How the earth moves, whether a world is composed of particles or waves or phenomena, are matters determined not by passive observation but by painstaking fabrication. Species do not come pre-packaged, separated by unbridgeable gaps or inexorable dictates of nature, but depend upon the relative weight we put upon certain features for a given scientific purpose. The issue between uniformitarianism and catastrophism—over whether or not a cataclysm breaks a law of nature—is a question not of whether nature is lawful but of what generalizations we formulate and dignify as laws. The arts and sciences are no more mirrors held up to nature than nature is a mirror held up to the arts and sciences. And the reflections are many and diverse.

I do not want to argue that thesis further here; and I am not by any means suggesting that the forms thought of are the forms of thought. I shall be concerned simply with questions about the forms of thought itself—questions that strike me as no less pertinent to this conference, and sometimes rather more slippery, than questions about the form of objects, appearances, biological species, sociological groups, or mathematical concepts.

Many psychologists and analytic philosophers look upon thinking as entirely verbal, upon thoughts as always in words. This tendency has been strengthened by recent focussing of attention upon linguistics, but is sustained primarily, perhaps, by the incredibility of the alternative notion of thoughts as disembodied images floating in the mind. But on closer examination the verbal view, despite its virtues, raises some troublesome questions.

Whether or not all thoughts are in words, some surely are. We can think of all sorts of things, of tables, idiots, and Saturn's rings, of ships and cabbages,

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[1] *Ways of Worldmaking*. Hackett Publishing Co., Indianapolis, 1978.

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and kings—and of words. Words differ from the rest of these in that we can think *in* words but not in cabbages (at least in anything like the same sense). But what is it to think *in* words? Is a thought of a cabbage simply a thought of a word for (and as for) a cabbage? That won't work; for then a thought of a word involves thought of a word for a word, and so on back *ad infinitum.* Thinking *in* cannot be reduced to thinking *of.* Words we think in are somehow 'in the mind', while the cabbages or words we think of are not. But what can this mean? What sort of thing is a mind that words can be in? And how can words be in it?

The difference between what we think *in* and what we think *of* seems something like the difference between what we speak in and what we speak of. We can speak *in* words or *in* English without speaking *of* words or *of* English, and we can speak of cabbages but not in cabbages. A notable difference between the *of* and the *in* here is that speaking *of* cabbages or *of* words does not require producing them. This suggests that thinking not only is like but may actually *be* speaking, that silent thought is in words we speak to ourselves. Such a proposal has the virtue of not needing a mind for words to be in. Rather, thinking like speaking is performance.

Best known for a theory of this sort is John B. Watson, who held that all silent thought is 'subvocal speech', explained a bodily activities—especially of the laryngeal system—that approximate those of overt speech but fall short of producing an utterance. Now since speech consists of producing utterances, and utterances must be uttered, 'subvocal speech' is not speech at all. The nature of unspoken speech, or of an unuttered utterance is somewhat paradoxical, and we might even jest that what we usually regard as a theory of thought as verbal actually treats all covert thought as thought without words. But of course the paradox is rather easily resolved if we recognize that having words in mind or thinking silently in words no more implies that we have anything called a mind or words in it than having peace as a hope implies that we have anything called peace or a hope. 'Word' and 'mind' in such contexts function syncategorematically as non-denotative fragments of phrases that, under Watson's theory, denote bodily activities or states.

All this is quite in keeping with Watson's aim of making thought accessible, at least in principle, to scientific observation. He holds that not only ostensibly verbal thinking but all covert thinking whatsoever is subvocal speech. Although he mentions 'nonlanguage forms of thought' in one place, he is there merely emphasizing that nonlaryngeal covert behavior of, for example, writing, drawing, gesturing, and tracing with the eyes or fingers may be included under 'language activity and other activity substitutable for language activity'. He writes:[2]

> The term "verbal" here must be made broad enough to cover processes substitutable for verbal activity, such as the shrug of the shoulder and the lifting of the brow . . . Thinking then might become our general term to cover all subvocal behavior.

He is not by any means countenancing thought in pictures or images. This view of thought as exclusively verbal has been so widely accepted that any talk of pictures in the mind has become rather disreputable.

Ironically, when we make sense as we have of unspoken speech or inaudible utterances, we open the way to making like sense of undrawn pictures or invisible images. How can there be pictures in the mind? Well, how can there be words in the mind? Just as 'having words in the mind' applies to certain activities of the organism without presumption of a mind or words in it, so 'having pictures in the mind' applies to certain other activities—submanual drawing or painting, or subvisual seeing—without presumption of a mind or pictures in it. Just as some thoughts are in inaudible words, so others are in invisible pictures. Pictures in the mind and thoughts in pictures are no more and no less mythical than words in the mind and thoughts in words—a conclusion likely to shock those who pride themselves on the scientific probity of insisting that all thought is verbal.

Yet while most of us are much more practiced in speaking than in picture-making—much better at uttering or writing words we have in mind than at drawing or painting or carving images we have in mind—pictures are in general no less clear in our minds than are words. For this reason and others I think the loose formula that thinking in words or pictures involves activities approximating those of actually producing such words or pictures needs some modification.

First, a thought may involve not, or not only, activities on the way towards but rather, or also, the state of readiness for production. Second, and more important, thinking in words or pictures may often involve preparing or being ready not, or not only, to produce such words or pictures but rather, or also, to judge a word or picture produced or presented as agreeing or not agreeing with the one in mind. When I succeed in 'calling up a mental picture' of a place I saw briefly long ago my ability to produce a picture may be negligible but I am much readier than before to accept some pictures as right and reject others as wrong, and to suggest changes. And there may be various stages of readiness along the way: before I have fully in mind the word or picture I want, I may be able to reject one after another

[2] *Psychology*, second edition. J. B. Lippinott Co., 1924, p. 346. I am indebted to W. V. Quine for useful conversations about this book.

as not the right one. In such cases, where in effect the word or picture or other symbol is only circumscribed within certain classes, the thought is a vague or general notion.

The judgments called for in varied contexts may be on varied grounds. When a thought both in and of a word is in question, an utterance or inscription may be rejected as not a replica (or 'token') of that word. When a thought is not of words but of cabbages, a word may be rejected rather as not referring to cabbages, an object may be rejected as referred to not by 'cabbage' but by 'king', and a picture may be rejected either as not of a cabbage or as not the picture or sort of picture required.

Just here lies the difference between thought of a word for cabbages and thought of that word also *as for* cabbages, that is, the difference between thought of a word for cabbages and thought of cabbages. When judgment of presented utterances or inscriptions is according to how they are spelled, whether they are in English, whether they have seven letters, the thought is of a word that is indeed a word for cabbages but is not of that word *as for* cabbages. The thought is of the word as for cabbages only if the judgments are on the ground of what the word denotes. What is involved in verbal thought of the fictitious, such as centaurs, is slightly more complex: that a centaur-word—for instance 'centaur' itself—be produced or prepared for and that such compounds of that word as 'centaur-description' and 'centaur-picture' be judged by what they denote, and that presented descriptions and pictures be judged by whether they are denoted by the appropriate compounds.[3]

Even with the modification outlined, however, 'preparation for producing a judging' is still rather too narrow a formula, reflecting an obsolete view of *perception* as a purely passive process. Not since the advent of modern cognitive psychology has such a view been defensible. What and even whether we perceive depends heavily on our state of perceptual readiness.[4] Habit, context, explicit instruction, interests, and suggestions of all kinds can blind or activate our perception, conceal or reveal a mountain or a molehill. Far from merely recording what is before us, perception participates in making what we perceive; and for perception there are processes and stages of preparation. Thinking in words or pictures or other symbols may involve not only preparation for producing a judging but also for perceiving—seeing, hearing, etc.—such symbols.

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[3] See my *Problems and Projects*, Hackett Publishing Co., Indianapolis, 1978, pp. 221–240 and *Languages of Art*, second edition, same publisher, 1976, pp. 21–26.

[4] See Jerome S. Bruner (1957) 'On Perceptual Readiness'. *Psychological Review, 64*, 123–152.

While all the preparation and preparedness, and even the differences between judging by different criteria, are here construed in terms of activities and states of the organism, no reduction of the mental to the physical is implied. For in the first place, I think a dichotomy of things into the mental and the physical is no more tenable than a dichotomy into those made of energy and those made of matter. 'Physical' and 'mental' apply more aptly to functions of an organism that itself belongs under neither term or both. In the second place, and more important, I have not said that these activities and states of the organism *constitute* thought, but only that they are *involved* in thought. I take no stand here on the question whether anything more, such as consciousness, is also required for thought. I am concerned rather with what distinguishes thought in words from thought in pictures and thought in symbols of other kinds. I am concerned less with the nature of thought than with its modes, less with its substance than with its forms.

We saw how the proposed way of looking at the forms of thought avoids trouble about unspoken speech and unwritten writing, and dismisses the cinema-in-the-head as a chimera. It accommodates thought in pictures, gestures, diagrams, and other symbols as easily as thought in words, and accommodates thoughts of the fictive as well as thoughts of the factual. Thoughts may be specific or general according as we are prepared to judge a presented symbol severely or leniently. And some familiar phenomena otherwise awkward to account for may be explained; for example, having a 'naked' idea, couched in no word or picture or other symbol, may occur when the process of making ready for the appropriate production or judgment of a symbol is at an early stage; for the paths of preparation for symbols of different kinds may coincide for a time, and only diverge and become specialized later.

Moreover, we can now deal more circumstantially with Paul Hernadi's troublesome question concerning the quotation of thoughts.[5] Does the statement

(S) Juanita thought, 'He's caught'

directly quote Juanita's thought? Yes, if Juanita thought in those words, but not otherwise; for a direct quotation must contain a replica[6] of what is quoted. But the answer is rather more complicated than that. We have seen

[5] See Paul Hernadi's (1981) 'More Questions Concerning Quotation' and my reply, both in *Journal of Aesthetics and Art Criticism, 39*, 271–273 and 279–280.

[6] On the technical notion of *replica* see my *The Structure of Appearance*, third edition D. Reidel Publishing Co., Dordrecht, 1977, pp. 262–264.

that what we call 'thought in words' need strictly involve no perception or production of words in or out of the mind but only activities or states of preparation for such perception or production. Thus even though in the latter oblique sense Juanita may be said to have 'thought in words' still, strictly speaking, there can be no verbal replica and thus no direct verbal quotation of her thought. However, in much like the oblique sense that we say her thought is in words, we may say it can be directly quoted in words: the quotation will contain replicas of the words for whose production or perception her thought involved preparation.[7]

Early in this paper, I stressed the distinctions between what we think *of* and what we think *in*: a cabbage we think *of* is not composed of letters, while the word 'cabbage' that we think *in* does not smell. The forms of what we think of are not in general the forms of what we think in. But obviously, a third factor now needs to be taken into account. Since thought is in symbols, we might slip into supposing that the forms of thought are to be found exclusively in the symbols thought in, forgetting that thinking in words or pictures or other symbols is not, strictly, using words or pictures or any symbols at all, but is a process of preparation or state of preparedness for producing or judging or perceiving such symbols. The forms of these processes and states must surely enter into consideration of forms of thought and be distinguished from the forms of what we think in and what we think of. When we think of an object in symbols, the object but not the thought or the symbols in question may happen to be square, the symbols but not the object or the thought verbal, the thought but not the object or the symbol fleeting.

Nevertheless, while the three sorts of forms are distinct, they are surely not independent of each other. The forms of processes and states pertaining to readiness to produce or judge or perceive a symbol are in many respects determined by the syntactic and semantic form of the systems that the symbols to be produced or judged or perceived belong to; for instance, thinking in characters of a notational system involves activities and states differing in form from those that thinking in ordinary language or in pictures involves. And the forms of what we think of are by no means independent of the forms of what we think in. The form of classical music heard is affected and constrained by the structure of the notation in which the score is written. And I maintain that a world, much like a musical performance, is the creature of and is informed by a version constructed in a symbol system.

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[7] On the general question of the relation between pictures 'in the mind' and what is pictured, the reader will find much of interest in Robert Schwartz's 'Imagery', in Peter Asquith and Ronald Giere, (eds), *PSA 1980*. Philisophy of Science Assn., East Lansing, Michigan, forthcoming.

But I promised not to argue that thesis here.

What I do urge is that the study of laws of form must include—and will find an intriguing field of exploration in—the study of how the processes and states involved in thought are related, dynamically and statistically, to each other, of how they affect and are affected by the symbols to be produced or perceived or judged, and of how the forms of the symbol systems we think in and employ in our world-versions determine the forms of the worlds we think about and live in.