

THE HERITAGE OF ANALYTIC PHILOSOPHY

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“Starting from the principles of Symbolism and the relations which are necessary between words and things in any language, it applies the result of this inquiry to various departments of traditional philosophy, showing in each case how traditional philosophy and traditional solutions arise out of ignorance of the principles of Symbolism and out of misuse of language.”

—Bertrand Russell, introducing Wittgenstein’s
Tractatus Logico-Philosophicus

“Most questions and propositions of the philosophers result from the fact that we do not understand the logic of our language.”

—Ibid.

In the history of philosophy one often encounters new theories which try to correct older theories but fail. They fail because old ways of thinking become inveterate, and what purports to be a correction consequently turns out to be only a more or less superficial variation. Longstanding habits of thought often thus prove to be very difficult to change, for

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better or worse. One of the great challenges for philosophy, therefore, is to uncover such habits and show their significance.

An example of this is to be found in the tradition of analytic philosophy. This tradition grew out of (among other things) the assumption that symbolic representation is properly understood as language, only more perfect, perhaps, than natural spoken language. An adequate examination of this assumption is almost nowhere to be found. Yet it is a vastly important matter to examine, since it bears a great deal on what one should regard as successful and rigorous intellectual discourse. For example, it is common nowadays for scholarly articles to resort to symbolic formulations of central arguments and premises, as if this were necessary for rigor; but in fact, as we shall argue presently, this is a misunderstanding of the very concept of rigor. And misapprehensions about the nature of rational discourse lead to misapprehensions about reality itself.¹

¹ The custom of dressing up philosophical arguments in symbolic form even gives rise to what can only be judged to be sheer façade. For example: "If a representation is an object with semantic properties, then a mental representation is a mental object with semantic properties. According to the Representational Theory of Mind (RTM), psychological states are to be understood as relations between agents and mental representations: for an agent to be in a psychological state Ψ with semantic property Φ is for that agent to be in a Ψ -appropriate relation to a mental representation of an appropriate kind with semantic property Φ .

"Historically, RTM (which goes back at least to Aristotle) is a theory of commonsense psychological states, such as belief, desire (the *propositional attitudes*), and perception. According to RTM, to believe that *p*, for example, is, in part, to bear the belief-relation (whatever that may be) to a mental representation that *means that p*. To perceive that *a* is Φ is, in part (propositional attitudes may also be involved), to have a sensory experience of some kind which is appropriately related (however that may be) to *a's* being Φ ." (From the *Stanford Encyclopedia of Philosophy*, under the entry "Mental Representation.")

Attempts over the last century or so to correct and improve upon the classical forms of analytical philosophy have failed to see all the way to the root of the difficulties. The result is that attempts at clarification have only partially succeeded, and often they have merely perpetuated the confusions in a more covert and complicated form. In what follows we shall attempt to take a closer look at the distinction which the founders of analytic philosophers denied, between words, spoken language, and what is called "symbolic language." What we shall offer will be only a brief sketch, as much as a short article can contain. But it should be enough to suggest lines of further reflection.

I

To begin, then: What is the "symbolic language" which has long been regarded by analytic thinkers as the ideal means of expressing careful thought? Is it even language? How is what is called "symbolic language" like, or different from, natural language? Still more fundamentally: How is a symbol, such as those used by the analytic philosophers and the symbolic logicians, different from the word, the *logos*? Famous analysts have asserted that symbolic representation is the very perfection of language, and as suggested already, this assumption has been part of the basis of analytic thinking for nearly a century. The assumption starts from what to many seems almost obvious: one supposes that the symbol is nothing more than an abbreviated word of some sort. Quine, for example, has written that

Surely such unenlightening nonsense as this would get no hearing at all, were it not for the emperor's new symbols.

. . . to paraphrase a sentence of ordinary language into logical symbols is virtually to paraphrase it into a special part of still ordinary language or semi-ordinary language, for the shapes of the individual characters are unimportant.²

. . . paraphrasing into logical symbolism is after all not at all unlike what we do every day in paraphrasing sentences to avoid ambiguity.³

This looks like a rather innocuous beginning, yet it quickly entails unanticipated consequences. Tarski proposed what has since become widely accepted without question:

. . . Philosophers who are not accustomed to use deductive methods in their daily work are inclined to regard all formalized languages with a certain disparagement, because they contrast these 'artificial' constructions with the one natural language—the colloquial language. . . . It would be difficult for me to share this view. In my opinion . . . the concept of truth (as well as other semantical concepts) when applied to colloquial language in conjunction with the normal laws of logic leads inevitably to confusions and contradictions. Whoever wishes, in spite of all difficulties, to pursue the semantics of colloquial language with the help of exact methods will be driven first to undertake the thankless task of a reform of this language. He will find it necessary to define its structure, to overcome the ambiguity of the terms which occur in it, and finally to split the language into a series of languages of greater and greater extent, each of which stands in the same relation to the next in which a formalized language stands to its metalanguage. It may, however, be doubted whether the language of everyday life, after being 'rationalized' in this way, would still preserve its naturalness and whether it would not rather take on the characteristic features of the formalized languages.⁴

² *Word and Object* (Boston: The Technology Press of M.I.T., 1960), 158-159.

³ *Ibid.*

⁴ *Logic, Semantics, Mathematics* (2nd ed.), trans. J. H. Woodger, ed. John Corcoran (Oxford: Clarendon, 1956), 267.

In sum, this position begins with holding that symbolic representation is but a refinement, a "rationalization," of ordinary language, and an indispensable one for serious philosophy. It recognizes that such rationalization can only take place at the expense of a certain naturalness. But I shall argue that there is more at stake than this. I shall propose two ways in which words and symbols are in fact radically different. Each of these ways complements and sheds light on the other.

II

The first difference is so plain that one can easily overlook its significance: it consists in the fact that the symbol is not something one *says*. The word is. One can perhaps fairly easily suspect that this is a significant difference, yet it is not so easy to see what the significance of it is.

Speaking, saying something, means expressing what one thinks. Odd as it may seem at first, symbols do not do this, certainly at any rate not in the manner of words. Consider a symbol of a slightly different sort from that of mathematics or symbolic logic, the sort referred to as a token. A token—a coin, say—is not something that one says. It is a material object, something endowed with a sort of permanence which resembles the permanence of what it represents. Although its purpose may well be to indicate what we conceive with our minds at certain moments, the purpose is equally to *forestall* the necessity of thinking. If the shepherd uses stones to represent his sheep, he does so in order to account for his sheep even while he does not think about them. A coin, likewise, permits its owner to not worry about how much purchasing power he has earned; the coin takes care of that by merely remaining in the wallet until it is used in a transaction. This can hardly be considered incidental to the coin; it is its very purpose, or at any rate an important element of its purpose.⁵

⁵ Analytic philosophers themselves have frequently remarked upon

Forestalling thought is never the purpose of a word, of what is *said*: what is said always lies immediately between the thought of the speaker and the anticipated thought of the listener. (Whether a speaker aims to provoke truthful or untruthful thinking is of course another matter.) More fundamentally still, the word is the bodily, physical counterpart of a mental activity; consequently a lack of words constitutes not only an impediment to communication, but to thought itself. And this explains why the two different kinds of signs, words and symbols, are made of different materials. Words, being spoken sounds issuing from the tongue, mimic the thoughts which issue concurrently from the mind. Symbols, on the

this difference between words and symbols, even as they ultimately fail to recognize its significance. Here are some examples. "It is not easy for the lay mind to realize the importance of symbolism in discussing the foundations of mathematics. . . . Obviousness is always the enemy to correctness. Hence we invent some new and difficult symbolism, in which nothing seems obvious. Then we set up certain rules for operating on the symbols, and the whole thing becomes mechanical. . . ." —Bertrand Russell, "Mathematics and the Metaphysicians," in James R. Newman, *The World of Mathematics* (New York: Simon & Schuster, 1956), vol. 3, 1578–79. Hereafter cited as *World*. "There is also another sort of language, purely a written language, which is constituted by the mathematical symbols of the science of algebra. In some ways, these symbols are different to those of ordinary language, because the manipulation of the algebraic symbols does your reasoning for you, provided that you keep to the algebraic rules. This is not the case with ordinary language. You can never forget the meaning of language, and trust to mere syntax to help you out."—A. N. Whitehead, *Symbolism: Its Meaning and Effect* (New York: Capricorn Books, 1955), p. 2. "David Hilbert has in our day pursued the axiomatic method to its bitter end where all mathematical propositions, including the axioms, are turned into formulas and the game of deduction proceeds from the axioms by rules which take no account of the meaning of the formulas. The mathematical game is played in silence, without words, like a game of chess. Only the rules have to be explained and communicated in words, and of course any arguing about the possibilities of the game, for instance about its consistency, goes on in the medium of words and appeals to evidence."—Hermann Weyl, "The Mathematical Way of Thinking," in *World*, 1848.

other hand, by being made of something substantial and permanent, mimic that which perdures even in the absence of thought.

If the word differs from the symbol in being what is *said*, we must note this as well: the symbol is also not *said of* anything. What does it mean to say one thing *of* another? What happens when a verb is "said of" a subject, or "predicated" of the subject, so as to be the "predicate"? Or again: what happens when we "call" something by its name? And yet a further, related question: why are names not (artificial strictures of analytic logic notwithstanding) ordinarily thought of as *variables*, as are the symbols of the analytic logic?

Analytic thinking has customarily assumed in the past that there is nothing more to naming or predicating in essence than what we do when we assign a symbol to members of a class. But to represent in the manner of a variable cannot be the same as to be "said of" in the manner of a word. Indeed there is a very considerable and striking difference. A symbol is said to *represent*, to "*re-present*," because, like the token, it *stands in* as one particular among others. What is "said of," by contrast, is not taken as if it were some particular instance, but refers rather to what is common to all. When we say that "Socrates is a man," "man" signifies that which Socrates has in common with other men. Nor is it merely the collection of men that is common and "said of;" for Socrates is not the collection of men. "Collection of men" cannot, therefore, be a predicate to which "Socrates" is the subject. More generally, a member of a class is not the class itself.⁶

In sum, a symbol, referred to as a "variable" when it refers indifferently to any member of a class, merely functions as one of those members, as a token stands in for what it represents. Hence if one asks, "What is this?" referring to a member of the class of twos symbolized by "2," the answer cannot be

⁶ Whether these might be identified in particular cases, *per accidens*, is of course irrelevant to this consideration.

given merely by the symbol, for that amounts to attempting to answer the question by presenting what is in effect only another individual instance. But the word "two" names individual twos *as* two, that is, by what they have in common. "This is a two," thus indicates the particular by what it has in common with others of the same kind. The question "What is this?" seeks to clarify what the common is, rather than merely to attend to particulars.

Of course, some may think this to be a rather unsophisticated distinction. Even relatively early in the days of analytic philosophy, Bertrand Russell put the objection to our claim this way:

What is two? Reply: Two means the class of all twos, and furthermore, . . . there is no difficulty about the class of couples: it is indubitable, and not difficult to define, whereas the number two in any other sense, is a metaphysical entity about which we can never feel sure that it exists or that we have tracked it down. . . .⁷

In short, Russell objected that our account demands too much; it demands a world of "metaphysical entities" which, he thinks, is more a problem than the solution to a problem.

But what is absolutely remarkable and telling is that Russell does not present this as an objection to the distinction between words and symbols; he presents it merely as an objection to a certain view about reality itself, the view which he and others characterize as "metaphysical." It escapes his notice that his claims are greatly facilitated by his own habit of assuming that words and symbols are the same thing. Consequently, he never thinks to doubt that the question "What is it?" can find a perfectly satisfactory answer in an arbitrary act of symbolic representation, which is very different from what one does when one names something as "two." In short, he ignores the fact that his account characterizes symbols, not

⁷ *Introduction to Mathematical Philosophy* (London: George Allen and Unwin, Ltd., 1959), 18.

words, and still less reality itself. If Russell had noticed that he was really shedding light on the nature of symbols and not words or reality itself, the tradition of analytic philosophy might never have taken the direction it did.

But if Russell is wrong, does it then follow that we must construct an artificial metaphysical heaven full of concocted "essences"? Must we fully grasp the "what" of every single thing we name? Must serious philosophy be relinquished in favor of storytelling? Obviously, there are few things of which we can claim to easily and completely answer the question, "What is it?" "Essence" is certainly not one of them.⁸ But our account does not demand this. All that it demands is that we take seriously (even if only, at first, under the form of a question to be looked into) the fact that names are not variables, that what we mean when we say that they "signify" is not what we mean when we say that a symbol "stands for" something. Because, therefore, we say that the word, unlike the symbol, properly signifies what things are, it does not follow that we must have a fully definitive grasp of whatever we name. It is perfectly possible—indeed it is the usual state of affairs—to apprehend what things are only in a vague way, and to name them thus. The first step in the mind's attention to things is the discernment that they *have* some identity to be recognized. This is the necessary and sufficient condition for assigning a name.⁹

To say this is to say little more than that words signify the

⁸ Acquiescence in sedimented language and also "technical language"—a near cousin to symbolic representation—is a common temptation in philosophical investigation, and often gives rise to scandal. See Jacob Klein's essay on language sedimentation in his *Lectures and Essays*, ed. Robert B. Williamson and Elliott Zuckerman (Annapolis, Md.: St. John's College Press, 1985).

⁹ Having confused naming with the imposition of symbols, Russell went on to unearth, with characteristic thoroughness, many of the insoluble puzzles which result, such as "the class of all classes which contain themselves," construed as nothing but a symbolic construction. Though Russell himself failed to notice it, these paradoxes are the result

apprehension of the real, of *what is*. Such apprehension begins, but does not end, with the discovery of nameable entities recognized as being something identifiable and distinguishable. Merely to recognize that a horse has a distinct identity is already the beginning of a very vague, but real, grasp of what a horse is; and this identity is what the name, in the first instance, signifies.

We can say, then, that speech, in its contradistinction from symbolic representation, is itself one of the most decisive marks of this ability to look into the *what*, the identity, of things, for it is only in verbal language that we name things according to what they are. To put it yet another way: it is only with names that we signify things through the apprehension of their *being something*. If the mind lacked this power to look into the identifiable being of things, we would not find the difference that we do find between naming, saying one thing of another, and mere variable symbolic representation.¹⁰

of expecting symbols to be able to do what names do, or vice versa. A catalogue of these dilemmas may be found in Russell's *Principia Mathematica*.

¹⁰ It is for this reason that among the ancient dialogues of Plato, *Meno* must certainly be classified as one of the most decisive and seminal texts of philosophy. It is here that Plato forcefully urges the reader to notice that philosophy does not begin until the question "What is it?" is faced squarely, that the answer to the question can only be discovered by looking to that common element which the *name* expresses, and still further that what is common cannot be explained away as some sort of linguistic contrivance.

Although Socrates repeatedly urges Meno to consider the question "What is virtue?" Meno proves himself unable to grasp its importance; he can do no better than point to individual instances in his attempt to answer. It is not irrelevant to the dialogue that the Meno in question was known as a self-seeking character, chronically habituated to looking at reality as something to manipulate rather than something to know. Even at this early stage, philosophy was seen as incompatible with an unwillingness and inability to raise the gaze of the mind beyond concern with the sensible—whether that unwillingness stems from an individual, an inherited, or a cultural failure.

There are in effect two kinds of wholes which must be distinguished. A collection is not a whole which can be said of any of its parts. But the word "whole" signifies another sort of whole which is *said of* its parts or members. (In fact in this case the word "whole" must be regarded as used only by analogy.)¹¹ "Two" does not signify the collection of twos, for that cannot be said of the individual twos. It signifies, rather, what each two has to make it be *two*: namely what two is. In the classical tradition of philosophy which dates from ancient Greece, the word *eidōs*, literally translatable as "look" (that is, the look *of* something) came to be seen as appropriate to describe this kind of predicable whole which words immediately signify. *Eidōs* does not have in this use its original meaning referring to what presents itself to the eyes; rather, by analogy, it refers to what presents itself to the mind, to thought. It is the *eidōs*, then, that words alone signify, and that symbols ignore. The symbol goes directly, so to speak, to its object. It has no power of being "said of" because it is not the representation of a thought whereby we conceive what a thing is; rather it is directly the representation of a thing.¹²

Thus "I ♥ my ☺" may be charming, but it is not a sentence. In fact it is unspeakable! Students of language are often misled regarding this because they fail to notice that our ability to name extends even to giving names to symbols, and that it is likewise possible to symbolize words. Thus we can speak *about* symbolic constructions or symbols themselves, and we can also symbolically represent our sentences or words; what we cannot do is make sentences out of symbols *as such*.

III

Although the account I have given so far is true, it is not sufficient. It is impossible to fully grasp the connection of words

¹¹ Cf. Aristotle, V *Metaphysics*, ch. 26, 1023b26–35.

¹² It is in this light that one should read what Aristotle says in *On Interpretation*, 16a4.

with being without also considering their connection with order. Accordingly, there are some serious objections which will likely have occurred to a thoughtful reader. I have said that words, unlike symbols, refer to what something is, which it has in common with others of the same *eidos*. But as the spirit of Occam roams freely over the world of philosophy, Russell's objection, raised above, is sure to be raised yet again: is it so evident that words cannot be adequately explained by the description we have given of symbols, as simply and directly standing for a concrete object? And in claiming that words signify the *what* of things, are we not, as Russell says, in danger of explaining the obvious by the not so obvious?

Moreover it seems false, on closer consideration, to say that symbolic representation itself lacks any *thought* in what it properly signifies. Modern physics, where symbolic representation has its most marvelous success, involves highly abstract thinking. Far from being impeded by symbolic representation, that thinking is widely understood to be possible only through symbolic notation. And it is true, after all, that symbolic representation falls into the general category of "conventional sign," just as words do.¹³ How can there be a conventional sign of any sort without some thought lying behind it, and therefore being signified?

The solution to these difficulties will bring to the fore a much fuller account than I have yet given, and it will help to clarify what has already been said. We can attain clarity only by looking more explicitly at the notion of intentionality. For it is with respect to intentionality that symbols and words differ, and a deep consideration of their difference is impossible without attending to this.¹⁴

¹³ On this longstanding traditional distinction, see for instance Augustine's *De Doctrina Christiana*, bk. 2.

¹⁴ Although the concept of intentionality has a long and honored tradition—which we shall make use of momentarily—, only a few recent and prominent thinkers have considered its importance in any serious way. In large measure the reason for this is, without a doubt, the prevalence

In a text which considers the relation of ethics to the other branches of knowledge, Aquinas wrote as follows:

It is proper [to reason] to know order. For although the senses know some things separately, nevertheless it belongs to intellect or reason alone to know the order of one thing to another.

. . . Order, however, compares to reason in four ways. For there is a certain order which reason does not make, but only considers. . . . Another order is that which reason, as it considers, makes in its own act, as when it orders concepts to each other, and the signs of concepts. . . . Third is the order which reason, as it considers, makes in operations of the will. And fourth is the order which reason, as it considers, makes in exterior things of which it is itself the cause. . . .¹⁵

Order is essentially a thing of the mind, of intellect.¹⁶ And it is for this reason that the relation of reason and order bears

of analytic thinking. Among those who have made serious studies of the notion of intentionality recently, we should especially note John Searle and his very perceptive book by the name of *Intentionality*. Although his study does not (curiously) make any attempt to apply the concept of intentionality to the consideration of differences between natural language and the so-called formalized languages, we are nonetheless indebted to him.

Two authors who have recognized the importance of intentionality in explaining the difference between words and symbols are Jacob Klein (see esp. his *Greek Mathematical Thought and the Origin of Algebra*, trans. Eva Brann, M.I.T. Press, 1968), and Ernst Cassirer. I will comment on the views of each in the appropriate place.

¹⁵ Thomas Aquinas, *In Libros Ethicorum Aristotelis ad Nichomachum Expositio* (Marietti, 1964), Lectio I. The translation is ours.

¹⁶ We make this assertion even while realizing that it is commonly denied. Most of those who deny it do so because they do not distinguish what we may call *intrinsic order* from *extrinsic order*. It is, of course, perfectly possible for things to fall into an order by accident, without any agent intending that it should happen. But this presupposes an intrinsic order *into which* things might fall, that is, an order which some things have in virtue of what they are in themselves. Without this, there is no reason to speak of order at all; and yet it is self-evidently impossible for

on the character of the order itself. To illustrate these four relations between reason and order, let us observe what connection they have with language. The connection immediately begins to appear when we observe—as the text above suggests—that some of the various orders just distinguished appear in speech in distinctive ways. We may illustrate this most easily with the first and the third orders just distinguished. Consider the following three sentences:

Socrates is still alive.

O that Socrates might be still alive!

I wish that Socrates were still alive.

How do these sentences differ? If one attempts to distinguish the first two merely on the basis of the reality which they consider, they cannot be distinguished, for both sentences consider the same objects. The subject of both is "Socrates," and the predicate is "still alive." And there is nothing else considered in either sentence. It is not, then, by the object of thought considered in itself, so to speak, that these two sentences differ, but rather in how that object relates to the mind of the speaker. The most fundamental relation of the mind to things is as apprehending things, as knowing them. This is the relation which defines the indicative sentence, such as the first of the three above. But it is possible for us to think with our minds in other relations to things. The second of the two sentences above does not *indicate what is*; it expresses, rather, the inclination of the mind towards something desired.

The second sentence is, then, what is sometimes called an "optative," as opposed to an "indicative" or "assertive." But what does this mean? Could we merely say that the second sentence signifies an inclination, while the first signifies a state

this, too, to be a result of accident. Extrinsic order may be a consequence of chance; intrinsic order can only be the work of intelligence. Those who try to replace intrinsic order with evolution, or things just "falling into place," reduce the concept of evolution itself to nothing more interesting than "whatever will be will be".

of affairs? Certainly this is true. But the second sentence does not speak *about* the inclination of the mind (as, note, the third sentence does); yet indeed it expresses the mind's inclination. *What we speak about*, the object of our speech, does not comprehend all that we *express*. This must be emphasized: the inclination towards what ought to be is not indicated in the second sentence as if that inclination were something apprehended. Yet it is not that this is impossible either, for it is just what the third sentence does. In the third sentence, the inclination of the mind has become, by an act of self-reflection, a new object of consideration. The last sentence is therefore an indicative, just as the first one is; but its object is the mind's own inclination, rather than some exterior state of affairs. But the second of the three sentences is unique in that it regards the same object as the first, but according to the mode, the intentionality, of inclination rather than that of apprehension.

These modes are not, evidently, reducible merely to the intention for which the sentence is uttered. It is perfectly possible to use the third sentence as well as the second in order to convey one's desire, as by implication. But because no sentence expresses order apart from the relation of the order to reason, the relation of the order expressed to reason itself will always belong to the sentence not only as an intention for which the sentence happens to be uttered, but also *formally*, as what the sentence essentially expresses. Thus what are sometimes referred to as "directives" are not merely signs, but also by their very nature *instruments* of action, both formally and effectively. This is most obvious in the imperative sentence, which, used in its strictest sense, is an instrument of an exercise of authority. Although indicative sentences may also be instruments of action (as in "I command you to leave,") they are never such formally.

These, then, are examples of the first and third of the four orders mentioned. It remains to consider the second and fourth orders. The second order, the order which reason makes in its own act, was once understood as the subject

of logic: the logical order. To grasp clearly the nature of this order, however, one must understand that it is an order which can exist *only* in the mind. If someone makes plans to build a house, the order which he conceives is one which he intends to realize in exterior matter. This order exists in the mind before it exists physically. But it is nonetheless ordained to exist physically, outside the mind. The order of logic, by contrast, is a purely intramental order. How is it possible for an order to exist *only* intramentally?

What one must note is that the exclusively intramental order is such on account of its essential subordination to the mind's act of apprehending the real. It is not, itself, what is apprehended (except accidentally). Here is an example. In the sentence, "Socrates is a man," there is a subject and a predicate. But subject and predicate as such are not what the sentence is *about*, even though they exist *essentially* for the purpose of saying something about something. The relation of subject and predicate contained in the sentence therefore constitutes an order which is essentially subordinated to the consideration of something real without itself being what is considered.¹⁷ As before, therefore, we may say that this order

¹⁷ It would take us far beyond the scope of this article to consider at length what could bring about an order of thought which is distinct from, yet subordinate to, an order of things apprehended. Perhaps it will suffice here to note that this is why the logic of analytic philosophy can only be "logic" by equivocation. Popper describes logic (by which he means symbolic logic) thus: "Those who wonder why the rules of inference apply to the world, vainly trying to imagine what an illogical world would be like, are the victims of an ambiguity. Rules of inference are procedural rules or rules of performance, so that they cannot 'apply' in the sense of 'fit' but only in the sense of being observed. Thus a world in which they do not apply would not be an illogical world, but a world peopled by illogical men." (From "Why are the Calculuses of Logic and Mathematics Applicable to Reality?" in *Aristotelian Society Proceedings Supplementary* vol. 20, 1946, 45). In this roundabout way, Popper (and the same can be said for analytic logicians generally) acknowledges that he cannot see the possibility that an order of thought might be *essen-*

is *expressed* in speech without being *what is considered*.

We can put this otherwise, by way of a contrast. Symbolic representation frequently represents things in their relation to each other. The formula

$$a = b$$

represents a relation of equality between *a* and *b*. But the relation thus represented is always (at least part of) the *object* of the representation. Logical relations, on the contrary, are not part of *what is considered* by the one who uses them. It is true that there are also relations found in symbolic representation—especially in what is referred to as its "syntax"—which are not the object of the representation. But these relations also are not *essentially* ordered to the apprehension of anything real.¹⁸ This is why Popper finds himself compelled, in the passage cited just now, to describe rules of "logic" as "performance" rules.¹⁹

What is true in all cases is this: to give a full account of how language signifies one must do more than merely point to the object signified, as taken in itself; one must also explain how that which is signified is related to the one who signifies. Accordingly, it should also be noted that the different orders considered here do not appear in speech merely as different

tially distinct from, yet subordinate to, an order of things apprehended. This is simply a consequence of presuming that the logic of words is the same as the logic of symbols.

¹⁸ It is significant, though usually not noticed, that the word "syntax" is therefore used here equivocally with respect to its original and more proper meaning.

¹⁹ In a 1936 lecture, G. Ryle asked why the calculi of logic and arithmetic are applicable to reality. His answer is even clearer than Popper's: ". . . it is nonsense to ask how or why rules of logic apply to the world . . . the rules of logic are performance-rules. Only performances can be or fail to be in accord with them. If they are applied, that is a fact about the efficiency and intelligence of theorists, not a fact about any radical docility of the world." (*Aristotelian Society Proceedings Supplementary* vol. 20, 1946, 26).

things signified; rather, to be very precise, we should say that they appear as different modes or intentions of signification. Further, one must not be misled by the fact that one order is frequently expressed according to the natural mode of another. The logical order can, for instance, appear in speech as the order of things simply apprehended, as when we begin to speak *about* subjects, predicates, and so on, as the logician does. Likewise the ethical order can appear in the same way, as if someone were to say, "I command you to do such and such . . ." in place of, "Do such and such . . .," or, "I want Thy will to be done," instead of "Thy will be done." All of this is merely the natural consequence of the mind's ability to reflect on its own activity.²⁰

It remains to consider the fourth order, the order of things made artificially—or in other words, what we may call simply the artificial order. Simple observation reveals a remarkable fact: there seems to be no mode of verbal expression proper to the fourth order. We do, of course, speak often about things we make. Such speech, however, always treats the artifact as a *fait accompli*, and accordingly the intentionality or mode of such speech, which is our concern, does not differ from the intentionality of expression concerning things merely apprehended. This is therefore just another case like those already mentioned, in which we observe our own acts of authority or permission and so forth, and speak of them in the mode proper to the simply apprehended.

We shall presently argue that although there is no verbal expression of the fourth order, there is a symbolic one; indeed our claim will be that this is part of the very distinction between symbols and words. But first it is enlightening to consider why the fourth order corresponds to no verbal mode of expression. The reason is that both the logical order

²⁰ Aquinas thus describes logic as the science in which the mind reflects on its own natural activities, so as to perfect them. See his *In Posteriora Analytica Aristotelis*, Proemium.

and the ethical order differ from the purely artificial in being consequential to the order of things apprehended. Plainly this is true for the logical order, since as was noted already, the logical order has an entire subordination to what is apprehended, and the apprehended order cannot be known in the discursive manner natural to us except under a logical form. This order does not therefore appear in speech as what is considered (except, as said, after an act of self-reflection), but only as *how* something is considered.

Of the ethical order, the order of the "ought," something similar is true. Not only can it not be understood apart from the order of what is apprehended, but the order of what is apprehended also demands that some things *ought to be done*. The moral order therefore makes its appearance in speech in a manner suited to its own character: not as what is merely apprehended, but rather in an implicit subordination to the simply apprehensible—as suggested fairly elegantly in English when we use "ought" as an auxiliary verb completed by "to be. . . ." Unlike the logical order, the ethical order does have a kind of speech which is dedicated to it alone; but it is also distinct from speech about the *is* or the merely apprehended by this very fact that the "ought" is always signified as oriented toward the "is." In both of these cases, then, the order in question is *entailed* by the order of things simply apprehended, and verbally signified as such.

The artificial order, on the other hand, distinguishes itself by this, that it is not a necessary consequence in thought of what is merely apprehended, or of what we *discover as real* (though it does inevitably depend thereon).²¹ The artificial order has its existence from arbitrary human invention—which,

²¹ This is just what distinguishes the ethical from the artificial. The ethical order is prescribed to us by what is real, whereas the artificial order, just insofar as it is truly artificial, has its very beginning from an unmandated act of will. (We make the qualification "just insofar as" in recognition of the fact that all human activity, including art, falls broadly under the ethical order.)

by way of an important corollary, is to say that it *exists* only according to a certain analogy. The reason why there is no verbal expression of the purely artificial order is therefore this: the order of artifacts is not consequential to the order of natural being, of what is simply apprehended.

Directly or indirectly, then, words always express the mind's attitude towards the real, towards that which exists and has being independently of the one thinking and speaking. This constitutes the fundamental orientation of the mind. This is true even when, as obviously happens, we speak about our own artifacts. Such speech can only occur *after* the artifacts have been established by some prior constructive act, so as to have acquired something of the status of the real and apprehensible.

The order remaining, therefore, namely the artificial order, cannot have a verbal counterpart. In the realm of rational signs, symbolic representation is what is, in its very mode, appropriate to the artificial order. We thus add a qualification to our earlier observation that words alone signify thought. We continue to affirm that this is true insofar as "thought" refers first and primarily to the act of mind whereby we discover what is rather than make something be. Secondarily, however, "thought" exists as *constructive*, that is, capable of producing something not in the order of the simply real, but of imitation. And in this act of construction, symbols serve as *instrumental signs*. Thus, for example, the symbol "x" may be set down to distinguish certain numerical elements from others—not formally because we find them to be distinct, but because we *want* them to be. Or again, when Russell insists that "two is the class of all twos," he is right, just insofar as "two" refers to the *symbol* "2;" for the purpose of the symbol is to mark out for ourselves a distinction which we wish to impose, *regardless of whether that distinction can also be discovered as something real in its own right*.

Two distinct points must therefore be observed. I have just said that the symbol is not merely a sign of an existing object,

but an instrument for *making* an object exist. Correspondingly, therefore, we must also observe that the symbol is not merely the sign of the apprehended; it is an instrument for making its object *apprehensible*. These are, plainly, closely related aspects of the symbol's character, for the apprehensibility of a thing depends on its status as real. The symbol is a kind of seal placed upon an act of the mind, *through which* a thing to be made is accomplished. By serving as a seal placed on the existence of its object, the symbol also serves to make the object apprehensible—either without qualification, or in some degree or respect. In this way, symbolic representation bears a resemblance to imperatives and other kinds of "directive sentences," since these, too, are not merely signs of something but instruments of human agency. But it differs in this: "directives" always signify, if not the immediately real itself, at least what is consequent upon the real. Symbolic representation, by contrast, signifies that which has existence through the very act of symbolizing.²²

Although symbolic representation brings something into artificial existence, it is of course always necessary that what is made be made from pre-existing natural elements. There is a wide spectrum of possibilities in this; sometimes what is made seems as if it were but a refinement of what already exists, whereas sometimes what is made seems to be much

²² In *Greek Mathematical Thought and the Origin of Algebra* (trans. Eva Brann; Cambridge: M.I.T. Press, 1968), Jacob Klein has the almost unparalleled merit of having recognized the need to look for a distinction between words and symbols in their forms of intentionality. He proposes that the distinctive nature of symbolic "language" consists in its representing second intentions as first intentions. "Second intentions," in Scholastic logic, refers to logical relations such as that of subject to predicate, which exist only in the mind. Klein seems to have recognized that symbolic representation is a sort of exteriorization of an order produced by the mind. But he fails to see that the order exteriorized must already be distinct both from the logical order and from the order of things apprehended, since otherwise the formal object signified is only accidentally distinct from that of words.

more than what it is made out of, even to the point of being a new (albeit artificial) entity in its own right. If, departing for a moment from the restricted realm of mathematical and logical symbolic representation, we consider the much broader realm of "symbolism," we may more easily observe these differences.

Examples of symbols which merely perfect an already existing object can be found among civic symbols. The statue of liberty, or the flag, is supposed to be a sign of a liberty which we already have. But we regard the statue or the flag also as a kind of seal placed on our liberty, a means of moving minds and hearts to embrace that liberty more fully. It thus brings what already exists into a state of greater perfection. Or again, the toppling of the statue of Lenin was an important step in the fall of Russian communism not only because of what it signified, but more importantly because of what it effected: it helped to *unseal* what was already beginning to disappear.

Another example of a perfective symbol is money. In this case again, the object represented, value for exchange, already exists. It is possible to carry on an exchange of goods without money. Nonetheless, money makes exchange much easier, and it does so in part by making the value of commodities more real, tangible, intelligible, and apprehensible. It makes it possible, for instance, for what one person produces today to be indirectly exchangeable for what another will not produce for another year; and it makes chickens and skyscrapers exchangeable commodities. All commodities, in this way, acquire a certain commensurability which they lack otherwise. Money therefore perfects and helps to *constitute* what it stands for.²³

These, then, are examples of symbols whose purpose is to perfect the existence and intelligibility of something already real. At the opposite extreme, we find symbols which do not

²³ Compare this with what is said in Aristotle's *Nicomachean Ethics*, 1133a15ff.

merely perfect their objects, but cause their very existence. It is possible to say, "Let the symbol x stand for a shoe, a word, or a color." All by itself, this *fiat* brings into existence a class which has no existence otherwise.

These observations help to account for the peculiar ability symbols have to make complex things manageable. "Think," Lewis Carroll says,

of some complicated algebraic problem, which, if worked out with x , y , and z , would require the construction of several intricate simultaneous equations, ending in an affected quadratic. Then imagine the misery of having to solve it in words only, and being forbidden the use of symbols. . . .²⁴

It should be clear now that symbols have this power not merely by being abbreviations for words. They are *tools of organization* in a way in which words are never supposed to be. To the extent that an object has greater complexity (all else being equal), it becomes less intelligible and consequently less significant verbally; its *what* or "essence" becomes more and more fleeting. But the intentionality of the symbol—the thought that it expresses most formally—is not in the order of the simply apprehended, but rather in the order of the made; and the symbol, by its very presence, can make a one where only a many was found before.²⁵

By this account of the difference between symbols and words in terms of the order that they signify, one can now see more clearly how symbols and words are differently related to being. We can indeed summarize what has been said so far by noting that the intelligible consists of *what is*; but the symbol is not the sign of being, most formally, but rather of the *made*. This is why symbols present the paradox of being, on the one hand, anticonceptual—as if ordered to forestalling

²⁴ O. Dodgson (Lewis Carroll), *Symbolic Logic* (New York: Clarkson N. Potter, Inc., 1977), 46–47.

²⁵ It is useful in this connection to observe that, in its original etymology *symbolon* literally signifies what is "thrown together."

thought; yet, on the other hand, like all conventional signs, indications of thought. They are indeed indications of thought, yet not, in their most formal aspect, the fundamental thought of what is.²⁶

To state this in another way, we may say that reason, beginning from the senses, orients itself towards the real and intelligible, and expresses that orientation in words. But the purpose of symbolic representation is the opposite: here reason, beginning from itself, orients itself towards something to be made. The making is not complete without a sensible, material seal placed on the act of thinking, namely the symbol. Or, to put the matter in yet another way, it is only the word which signifies through an *apprehensive concept*, a concept through which being is revealed. The symbol, most formally, *signifies* only by analogy, through what may be called a *constructive concept*, which does not formally reveal being but expresses mental construction.

²⁶ Ernst Cassirer, following Kantian suggestions, proposes that the very perfection of thinking is through symbolic representation. He suggests that signifying in the mode of relation is what distinguishes symbolic representation from speech. He proposes further that intelligibility itself is fundamentally relational rather than substantial, and he believes that this accounts for the success of symbolic methods in the sciences. See *Substance and Function* (Dover, 1953), and *The Philosophy of Symbolic Forms* (Yale University Press, 1957). Sympathy with the Kantian view that the human mind is responsible for *placing* order and intelligibility in experience no doubt facilitates Cassirer's account, since this view must already try to make itself comfortable with a divorce between the intelligible and the real. We can agree with Cassirer to this extent, however, that since the symbol is properly the sign of the artificial according to its mode, and since human artifice is not capable of producing substance *per se*, it indeed turns out to be true that symbols represent according to the mode of relation rather than substance. But this shows not the excellence of symbolic representation, but rather its ineffectiveness for signifying what is simply apprehended, and what is in fact most real and intelligible.

IV

Besides the differentiation of kinds of symbols according to the degree to which they assist in perfecting the reality of their objects, one can also distinguish them according to the user—or, more precisely, according to the capacity in which the user uses them. Upon inspection one may easily observe that this way of differentiation corresponds closely to the material of which the various kinds of symbols are made. Why does the mathematician use marks on a page or chalkboard, the banker physical tokens called “coins,” and the artist a sculpted representation? The banker, we note, is not interested in representing commercial value merely to his imagination. The purpose of the coin is not merely to make monetary value a more imaginable reality, but to make it a more sensible reality. The mathematician's world, on the other hand, is precisely the world of the imaginable; it is of no consequence to him whether the objects of his consideration exist in the physical here and now. Marks on a chalkboard, or even imagined symbols, are therefore what suits his purpose best. The sculptor, for his part, may be concerned with both the imaginable and the sensible; but in addition, he is concerned with what moves passions and desires; and accordingly, the matter of his symbols is more determinate even than that of money.

Symbols—here taking the word “symbol” very broadly—are distinguished not only by being directly the representations of things, but also by being *imperfect* representations. The picture by which the geometer represents a triangle to himself has it in common with symbols to be the direct representation of an object; yet we do not call it a symbol, because of its relative adequacy to what it represents. One does not, in general, call something a symbol unless there is some way in which it is of itself, materially, inadequate to what it represents. But the symbol is inadequate only according to the order of apprehension, because the purpose of the symbol most formally is not to present the real but to construct something. According

to the order of artificial construction, which characterizes the symbol more formally, the matter of the symbol must bear a certain proportion and adequacy to its object. What sort of material is suitable for the symbolic representation therefore depends on exactly what kind of thought-imposition it must serve.²⁷

V

If the account I have presented is correct, one naturally wonders what use symbolic representations can have in theoretical pursuits. The goal of theoretical pursuits is not to invent or make things, but to discover how they already are in themselves; and the signification of this, as has been said, is more the business of words than of symbols.

But on closer consideration, the matter appears more subtle. The example of money has been noted, in which symbols make something already real become, in a way, more real and apprehensible by the mind. Is there a role for this in theoretical pursuits? Surely there is, if the experimental sciences are any indication. The real question, it seems, is not whether there is a role, but precisely what the role is.

Symbolic representation must be useful in just those instances where a certain degree of artifice is able to make a matter which is in itself obscure less so. By "obscure," here, I do not mean what is so *to us*, but rather what lacks intelligibility in itself. Such a lack is often remediable only by semi-artificial contrivance. What is the source of remediable obscurity? Without embarking upon a theory, we can see something about it by way of examples. It is fitting to look first at the examples afforded by contemporary physics, where symbolic representation turns out to be especially useful.

In the early days of quantum mechanics, Heisenberg was deeply struck and puzzled by the fact that it proved impossible

²⁷ Compare what has been said here with Quine's assertion on page 54 (footnote 2).

to describe, in words, the realities of the quantum world. Why was it necessary to approach the goal through the contrivance of symbols? And why, having done so, could one not say what the symbols were representations of? In the end, Heisenberg began to see why. Here is a part of his account:

Democritus was well aware of the fact that if the atoms should, by their motion and arrangement, explain the properties of matter—color, smell, taste—they cannot themselves have these properties. . . . But Democritus has left to the atom the quality of "being," of extension in space, of shape and motion. He has left these qualities because it would have been difficult to speak about the atom at all if such qualities had been taken away from it. . . . The modern view of the elementary particle with regard to this point seems more consistent and more radical. . . . Certainly the neutron has no color, no smell, no taste. In this respect it resembles the atom of Greek philosophy. But even the other qualities are taken from the elementary particle, at least to some extent; the concepts of geometry and kinematics, like shape or motion in space, cannot be applied to it consistently. If one wants to give an accurate description of the elementary particle—and here the emphasis is on the word "accurate"—the only thing which can be written down as description is a probability function. But then one sees that not even the quality of being (if that may be called a "quality") belongs to what is described. . . .²⁸

Heisenberg recognized that in the end, an investigation into the material basis of physical existence would have to dispense with terms and concepts which *presuppose* that existence already completed. The realm of atomic physics was found to be a realm where the mind could not simply take in what was there, because "what was there" was on a level still too material and unformed to be directly grasped. Yet the mediation of symbolic representation, by which the mind "goes out of

²⁸ *Physics and Philosophy* (New York: Harper, 1958), 69–70.

itself" rather than merely "taking in," proves to afford a kind of intelligibility.

On consideration, this appears to be not so different from what happens in other cases as well. Why, for instance, do we make literary representations for ourselves of human interaction? Is there not in this case also a certain material indetermination for which the mediation of artificial representation is the only remedy? More generally, our experience always presents us with intelligible determinations more or less immersed, so to speak, in the conditions of physical materiality which to some extent obscures the intelligible. It is not therefore always possible to simply and directly formulate the intelligible determinations in words. Symbolic representation serves as a kind of mediation between the mind and things. For it too—unlike verbal signification, but like the physical realities we seek to know—is a *materialization* of otherwise disembodied thought. It is a materialized artifice which the mind makes for itself, which stands between our minds and the things we study. As a work of the mind, it participates in the nature of the mind, of theory, while as a physical entity, it participates in the nature of the things we study.

Symbolic representation does, therefore, have an important role to play in theoretical discourse. It is important to recognize this.²⁹ The mistake of analytic philosophy has consisted

²⁹ In claiming that symbolic representation is properly a means of signifying artificial construction, we in no way mean to suggest that the use of symbolic representation is not natural to man (any more than we would want to say that man has no natural use for art itself). It is interesting in this connection to notice that Aristotle, in his account of words, describes vocal sounds themselves as *symbols* of what is received in the soul. (*On Interpretation*, ch. 1) To understand this, it must be understood that a "vocal sound" is the matter of a word, not the word itself. Before it receives the perfection of a concept, it is more a symbol than a word. Compare this with St. Thomas, *De Veritate* q. 4, a. 1, obj. 7 and reply: "*Septimum: . . . quanto effectus est posterior, tanto magis habet rationem signi, sicut vinum est causa finalis dolii, et ulterius circuli, qui appenditur ad dolium designandum; unde circulus habet maxime rationem signi. Sed verbum*

rather in supposing that *all* thought is of this sort; in supposing that thinking itself can be characterized as nothing but elaborate symbolism.

VI

In the last part of this essay, I want to note some further consequences of the confusion of words and symbols. Demands of brevity will force us to make only cursory observations, but they might serve as a beginning for further reflection.

First, how should one construe the "analytic" in "analytic philosophy"? "Analysis" means "taking apart in thought." It has always been well understood that the business of thinking involves "taking apart," analyzing, and that a thinker who does not analyze well does not think well. Is it fair, then, to surmise that the analytic philosopher is a better thinker than the not-so-analytic philosopher? By way of an answer, it is evidently appropriate to take apart the possible meanings involved in the denomination "analytic" itself. We can do so best by considering the meaning not only of the term "analytic," but of several related terms, namely "logic," "formal," and "intuition."

It has already been noted that the term "logic" denominates something different in the analytic philosopher's mind than it does, for example, in the tradition of Aristotelian logic. In the latter, logic is understood as neither a purely artificial order, nor an extramental order such as one considers while *using*

quod est in voce, est effectus postremus ab intellectu progrediens. Ergo ei magis convenit ratio signi quam conceptui mentis; et similiter etiam ratio verbi, quod a manifestatione imponitur. . . . "Ad septimum dicendum, quod ratio signi per prius convenit effectui quam causae, quando causa est effectui causa essendi, non autem significandi, sicut in exemplo proposito accidit. Sed quando effectus habet a causa non solum quod sit, sed etiam quod significet, tunc, sicut causa est per prius quam effectus in essendo, ita in significando; et ideo verbum interius per prius habet rationem significationis quam verbum exterius, quia verbum exterius non instituitur ad significandum nisi per interius verbum."

logic. If it were the former, it could have no claim to being a science which we can learn just as we learn other sciences (instead we would have to invent it, and the rules we invented would be up to us); if the latter, it would be indistinguishable from the other sciences.

But because analytic philosophy on the whole does not distinguish between the intentionality of symbols and that of names, it cannot distinguish between the order which things have as named (that is, the order of logic as traditionally understood), and the order which things have as symbolized. The latter may refer to either of two things: the order, or rules, to which the symbols are themselves subject, or the order in the *things* which the former order represents. In the first case, the order is a purely artificial one; in the latter, it is purely real. Usually, analytic philosophy understands the word “formal” to designate the purely artificial, that is, *not real*. It was a vague or perhaps not so vague recognition of this that led Popper and others to deny any essential connection of logic with reality, as noted already.³⁰

Hence there is no ground for imagining that the symbolic methods of analytic philosophy should be naturally more suitable than words for the logical analysis of thought. Just the contrary is true. The analytic philosopher, rather than analyzing thought into its logical part and its real part, takes it as it is, and then adds to it an artificial symbolic representation.

The logic of words, by contrast, is a real order: not simply the order of things apprehended in themselves, but nonetheless an order and intentionality which real things receive in being subject to thought. This logic is therefore rightly understood to be the result of an analysis of thinking into that element which is a matter of intentionality (which is the proper concern of logic) and that element which precedes intentionality, which is the proper concern of the various sciences.

Accordingly, it is clear that the common characterization

³⁰ See footnotes 17 and 19.

of analytic methods as “formal” or “purely formal” is misleading as well. For as we have just noted, the logical order with which the analytic philosophers concern themselves is not a natural *part*, formal or otherwise, of our thinking—as is the logical order in its traditional sense.

Confusion regarding this leads to still further confusion regarding how it is possible for us to have an intuitive knowledge of scientific principles. The misunderstanding is most tidily summed up in a remark made by Einstein. Speaking of the order contained in geometric thought and contrasting it with the intuitive origins of that same thought, Einstein claims that the two are in fact at odds with each other:

The concept “true” does not tally with the assertions of pure geometry, because by the word “true” we are eventually in the habit of designating always the correspondence with a “real” object; geometry, however, is not concerned with the relations of the ideas involved in it to objects of experience, but only with the logical connection of these ideas among themselves. . . .³¹

In other places Einstein proposes even more forthrightly that to the extent that thinking becomes logically and formally ordered, it also loses its direct connection with the real. This has been a common position ever since the art of symbolic representation began to take hold on philosophy and to be confused with speech; it is the inevitable consequence of supposing that words are symbols, and that, consequently, the logical order is artificial without qualification.³² But once

³¹ *Relativity* (New York: Three Rivers Press), 4.

³² What is described as nominalism has often been just the result of this confusion of symbols and words. Hobbes is one of the early clear examples of this. In his *Leviathan* (New York: Simon and Schuster, 1997, ed. Michael Oakeshott, 37) Hobbes shows his affinity for both symbolist philosophy and nominalism when he writes that, “words are wise men’s counters, they [wise men] do but reckon by them;” and later (p. 41), “Reason . . . is nothing but *reckoning*, that is adding and subtracting, of the consequences of general names agreed upon for the *marking* and

the difference between word and symbol is clear, it also becomes clear that the claim enunciated by Einstein applies not to logical thinking properly understood, but only to what by analogy may be called the "logic" of symbolic representation.

One of the great criticisms of natural language which gave analytic philosophy its first impetus has been the one in our earlier quote from Alfred Tarski: the constant claim has been that natural language involves far too much equivocation and imprecision to serve as the basis for rigorous thinking.³³ It is not, of course, only analytic philosophers who have considered equivocation and imprecision to be potential impediments to philosophical progress; the danger of such impediments has long been recognized by most students of philosophy. But the real question is not whether this danger exists. Before one can wisely consider whether all equivocation is potentially harmful, or whether natural language is apt to involve the philosopher in the dangers of equivocation, we must ask whether what equivocation *means* in natural speech is the same as what it means in symbolic representation. This question has been quite invariably neglected, yet it is a natural question once one sees that symbolic representation and

signifying of our thoughts. . . ." Still later, Hobbes draws the inevitable conclusion from these starting points: "No discourse whatsoever, can end in absolute knowledge of fact, past, or to come. . . . No man can know by discourse that this, or that, is, has been, or will be; which is to know absolutely: but only, that if this be, that is; if this has been, that has been. . . : which is to know conditionally; and that not the consequence of one thing to another; but of one name of a thing, to another name of the same thing" (p. 56; emphases all in original text). We cannot help but be amazed that Hobbes makes these assertions with no apparent hesitation—unconditionally, and in words!

Hume's later adoption of this same line of thinking is of course what led to the distinction which is still common between "analytic" propositions and "empirically verifiable" propositions. Few philosophers notice that this now customary distinction is the direct result of a confusion of words and symbolic representations.

³³ See footnote 4.

natural language are not the same thing; indeed it becomes obvious that there is precisely a danger of equivocation right here!

Let us recall the relevant distinction. Whereas words signify the grasp of *what is*, symbols are marks, seals placed upon, an act of mental construction. The thinker habituated to symbolic methods naturally, therefore, regards his work as incomplete wherever he finds one sign being used for objects which he intends to treat as two, because formally it is the sign, the symbol, which completes the mind's act of making objects distinct in their "class." But with words the goal is not to make our objects, but rather to express them as we find them. The failure to gain a distinct grasp of the implications of this is what has led analytic philosophers to level the accusation of ambiguity against natural language. For everyone sees that natural language makes no attempt to use words as the signs of *mentally imposed* distinctions; rather, it very freely allows itself to be carried along by impressions as we receive them. Thus historically analytic philosophers have taken for a failure what is really a virtue. In presuming that the equivocation of words is the same thing as that of symbols, they have unwittingly equivocated on the very matter of equivocation itself.³⁴

A closer look will reveal that neither symbolic representation nor natural language is perfected by the total rejection of what we may call "equivocation." It is plain from experience that natural language does not hesitate to use one word often for different ideas. Occasionally this is the result (more or less) of historical accident; but more often it appears to serve a purpose. Why, for instance, do we predicate "existence" of both substantial objects (people, for instance) and of their qualities? On consideration it is plain that "existence" cannot

³⁴ The reader who has followed our argument will recognize that words such as "univocal" and "equivocal," as applied to symbolic representation, are really misleading in the first place, because their etymology suggests something proper to speech. I use the terms here only because the conventional vocabulary has none better to offer.

mean the same thing for both; yet it is hardly less apparent that we want to say of both that they “exist,” evidently on account of an important association of meaning.

There is, in fact, a very thoughtful philosophical tradition which examines this natural use of words by analogy and semi-equivocation. We will not undertake to review it in detail here.³⁵ It will suffice to notice that once the irrelevant strictures of symbolic representation have been removed, the possibility that a “logic of analogy” might be a useful and natural way of grasping and signifying the real becomes much easier to entertain. Our natural apprehension of the real is twofold: first through simple apprehension and naming, and then through the ordering of the things named through propositions, etc. But the ordering of things named is not all of one kind. We order our thoughts not only by means of propositions and arguments, but also by means of analogous or semi-equivocal words. Using names analogously is a sort of equivocation: not an indiscriminate one however, but a deliberate and ordered one.

But what I shall claim next is what may occasion greater surprise: there is deliberate “equivocation” even in symbolic representation. It is not as easily noticed, because its purpose is not to order our thought concerning what is apprehended (as with speech), but rather to indicate the order of our own constructions. For the mathematician, for instance, $f(x)$ stands, in the first instance, for a function; but later it stands for the result of that function, given some x . As movement by analogy through the apprehensible is natural in ordinary speech, this sort of movement by analogy through mental constructions is natural and presents no difficulty to the mathematician. Thus it turns out that the analytic philosopher’s abhorrence of “am-

³⁵ For an introduction to a traditional theory of analogy, the reader might consult Ralph McInerny’s *Studies in Analogy* (The Hague: Martinus Nijhoff, 1968). See also, by the same author, *Aquinas and Analogy* (Catholic University of America Press, 1998.)

biguities of terms”³⁶ is belied even by his own tools. This is really no less that the fruit of an unwitting and longstanding equivocation on the very meaning of “ambiguity,” which comes from expecting words to do what is characteristic of symbols and not words.

The analytic philosopher’s abhorrence of the equivocations of natural language goes hand in hand with a pretense of superior rigor. Naturally, any means whereby greater rigor might be attained by philosophers is to be welcomed. But by now it must be plain that this pretense, too, is liable to doubt because of a similar equivocation. It is generally not noticed that analytic philosophy’s ideal of rigor differs not primarily in degree, but in kind, from the rigor which natural language and natural reasoning are apt to produce.

To briefly characterize the difference, we note again that in symbolic representation, the intentionality is practical and artificial, and the order signified is, most formally, an order made. It is therefore not complete, *even in itself*, until the symbolic seal—which is a sensible object—is placed upon it. Consequently, the “rigor” of symbolic representation is only perfected when it is physically *observable* through the manipulation of symbols written down; when, that is, one can observe that the symbolic manipulation follows the required rules.

In verbal logic, on the contrary, the order is primarily one of thought; words sensibly spoken do not *make* it, but merely signify it. Although clarity of speech, therefore, may and often does serve as a sign of the clarity of this logic, it is not constitutive of clarity in the way it is with symbolic representation. Moreover, since the logic of words is the natural logic used in our simple apprehension of the real, and because the latter normally takes place by gradually increasing degrees of clarity, it becomes necessary in this logic to distinguish between clarity and rigor (or clarity and certitude). If one is to judge by how we actually think rather than by artificial

³⁶ Tarski’s phrase, footnote 3.

suppositions about how we ought to think, a certain indeterminateness of apprehension is evidently compatible with certitude and rigor, and indeed even necessary.³⁷ But because the ideal of symbolic rigor is a *sensibly observable* order, no such compatibility seems possible to those who take natural and symbolic language to be essentially the same thing.³⁸ Whereas symbolic logic, therefore, may reach its perfection through higher and higher levels of organization, characterizable as more and more "abstract" or "metalinguistic,"³⁹ verbal logic typically *begins* from concepts which are indubitable even as they are vague, and universal even as they are relatively deficient in content; it ends with what is distinct, specific, and concrete.

All of these differences make plain the degree to which it is really a misleading stricture upon reason to demand that our natural logic be anything like that of symbols. To suppose, as we saw Einstein do, that an intuitive grasp of the real is at odds with logical rigor or certitude, is the direct consequence of failing to notice that there is a "logic" not only of symbolic representation, but also—indeed more properly, as the etymology of "logic" itself suggests—of words.

³⁷ To understand this, one must first recognize that the more universal compares to the less (e.g., substance to man) as less determinate to more determinate, but not as less accurate or true to more. Cf. Aristotle, *Physics*, bk. 1, ch. 1.

³⁸ In this context Descartes' famous criterion of certitude, namely that his ideas should be "clear and distinct," becomes highly significant. It is not accidental that these ideas first appear in Descartes' *Rules for the Direction of the Mind*, which should be read as probably the very first systematic treatise on mathematical symbolic representation as the paradigm and perfection of human thinking.

³⁹ Compare this with the quotation from Tarski at the beginning of this essay.

VII

The foregoing may be taken as a brief description of some of the main confusions which result from failing to distinguish between language and symbolic representation. But we have saved the most important for last. The most salient and destructive effect of the confusion of words and symbols is a mischaracterization of what thought is in itself.⁴⁰ If all thought is symbolic, then it is natural to conclude that thinking is nothing but artificial representation. This is indeed now a common assumption, as one sees for example from the frequent reference to thinking as a matter of making "models."

Yet there have also, now and then, been adumbrations of the absurdity of this position even in the early writings of the analytic philosophers themselves. (Indeed when it came to showing the impossible consequences of their own theory, it seems that the fathers of analytic theory were not inclined to be timid.) Consider Russell's summary of the argument in Wittgenstein's *Tractatus*, built upon the tacit premise that language is really symbolic representation:

The essential business of language is to assert or deny facts. . . . In order that a certain sentence should assert a certain fact there must, however the language may be constructed, be something in common between the structure of the sentence and the structure of the fact. This is perhaps the most fundamental thesis of Mr. Wittgenstein's theory. That which has to be in common between the sentence and the fact cannot, he contends, be itself in turn said in language. It can, in his phraseology, only be shown, not said, for whatever we may say will still need to have the same structure.⁴¹

⁴⁰ To be entirely thorough we should have to acknowledge that even this is not strictly true. The mischaracterization of thinking eventually leads to the mischaracterization of reality. But this we will leave for another discussion.

⁴¹ *Tractatus*, Introduction by Bertrand Russell.

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This reasoning is impeccable if language is understood as symbolic representation. For as we noted at the beginning, symbols indeed do not *say* what something is; rather, they *re-present* objects in their particularity. The business of saying what has been represented therefore remains unaccomplished after the symbol is imposed. In short: if *saying* reduces to symbolic representation, then there is no rationally apprehensible order, and we never know what we are talking about. Therefore the concluding lines of Wittgenstein's *Tractatus* are neither an exaggeration nor a surprise:

My propositions are elucidatory in this way: he who understands me finally recognizes them as senseless, when he has climbed out through them, on them, over them. (He must so to speak throw away the ladder, after he has climbed up on it.)

What we cannot speak about we must pass over in silence.

VIII

It is no exaggeration to say that very large portions of current philosophical thought have developed out of the presumption that all thought is essentially symbolic in character rather than verbal. The metaphysical implications of this, already worked out in numerous books and articles, are very destructive to the whole enterprise of philosophy. The implications of a rethinking of these matters could be equally vast. As art without reason is a chaotic façade, so also reason without *logos* is mere *symbolon*: the *thrown-together*, arbitrary and artificial assemblage. In both cases, human nature must eventually grow weary of contemplating nothing but its own inventions. Like much of the art of the last century, philosophy cannot recover its own dignity unless the sense of the contemplable, of *theoria*, is restored. An essential step in that restoration, one among several, is a rediscovery of the meaning of rational discourse.