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Ludwig Wittgenstein (1889–1951)

P. M. S. HACKER

Background

Ludwig Josef Johann Wittgenstein dominates the history of twentieth-century analytic philosophy somewhat as Picasso dominates the history of twentieth-century art. He did not so much create a "school," but rather changed the philosophical landscape – not once, but twice. And his successors, within the broad stream of analytic philosophy, whether they followed the paths he pioneered or not, had to reorient themselves by reference to new landmarks consequent upon his work. He completed two diametrically opposed philosophical masterpieces, the *Tractatus Logico-Philosophicus* (1921) and the *Philosophical Investigations* (1953). Each gave rise to distinct phases in the history of the analytic movement. The *Tractatus* was a source of Cambridge analysis of the interwar years, and the main source of the logical positivism of the Vienna Circle. The *Investigations* was a primary inspiration for the form of analytic philosophy that flourished in the quarter of a century after the end of the Second World War, with its center at Oxford and its circumference everywhere in the English-speaking world and beyond. He taught at Cambridge from 1930 until his premature retirement in 1947. Many of his pupils became leading figures in the next generation of philosophers, transmitting his ideas to their students.[1]

Wittgenstein's central preoccupations at the beginning of his philosophical career were with the nature of thought and linguistic representation, of logic and necessity, and of philosophy itself. These themes continue in his later philosophy, from 1929 onwards, although philosophy of mathematics occupied him intensively until 1944 and philosophy of psychology increasingly dominated his thought from the late 1930s until his death. Having been trained as an engineer, he came to Cambridge in 1911, without any formal education in philosophy, to work with Russell. He was poorly read in the history of the subject, and intentionally remained so in later years, preferring not to be influenced by others. He had read Schopenhauer in his youth, and traces of *The World as Will and Representation* are detectable in the *Tractatus* discussion of the self and the will. He acknowledged the early influence upon him of the philosopher-scientists Boltzmann (in particular, apparently, of his *Populäre Schriften*) and Hertz (especially his introduction to *The Principles of Mechanics*). Apart from these figures, the main stimuli to his thoughts were the writings of Frege and Russell on logic and the

foundations of mathematics. In later years, as he put it, he "manufactured his own oxygen." He certainly read some Kant when he was prisoner of war in Cassino, some of the works of Augustine, Nietzsche, Kierkegaard, and Plato, but did not cite these as influences upon him.[2] The only later influences he acknowledged were Oswald Spengler, and discussions with his friends Frank Ramsey and Piero Sraffa.

His style of thought and writing were idiosyncratic. He was able to dig down to the most fundamental, and typically unnoticed, presuppositions of thought in a given domain. Where philosophers had presented opposing views of a topic, and debate had long continued polarized between alternatives, for example between idealism and realism in epistemology, or dualism and behaviorism in philosophy of mind, or Platonism and intuitionism in philosophy of mathematics, Wittgenstein did not side with one or another of the received options, but strove to find the agreed presuppositions common to both sides of the venerable dispute, and then challenged these. His insights were typically written down in highly condensed form: often a single sentence, a brief paragraph, or a fragment of an imaginary dialogue. Writing standard consecutive prose distorted his thoughts, and, for the whole of his life, his writings were sequences of remarks, entered into notebooks, from which he later extracted and ordered the best. This, together with his great gift of simplicity of style, rich in metaphor, simile, and illuminating example, gives his philosophical writing power and fascination, as well as formidable interpretative difficulty. In one sense, he had the mind of an aphorist, for what is visible on the page is often no more than the trajectory of a thought, which the reader is required to follow through. No other philosopher in the history of the subject shared his cast of mind or style of thinking. The closest in spirit are the philosophically-minded aphorists Georg Christoph Lichtenberg (whom he much admired) and Joseph Joubert (with whose writings, it seems, he was not acquainted). During his lifetime he published only one book, the *Tractatus*, and one article "Some Remarks on Logical Form," written for the Mind and Aristotelian Society meeting in 1929. By the time of his death, he had more or less completed the *Investigations* (Part 1), and wished it to be published. As for the rest, he left to his literary executors the decision on what parts of his literary remains of more than twenty thousand pages of notes and typescripts should be published.[3]

After the posthumous publication of the *Philosophical Investigations* in 1953, his literary executors edited numerous volumes of his unfinished typescripts and notes from all phases of his philosophical career. *Notebooks 1914–1916* consists of preparatory notes for the *Tractatus*. *Philosophical Remarks* was written in 1929, and represents the stage at which the philosophy of the *Tractatus* was starting to crumble. *Philosophical Grammar* is an editorial compilation from typescripts written in the years 1931–4, and signals the transformation of Wittgenstein's thought, abandoning the philosophy of the *Tractatus* and articulating his new methods and ideas. Half of it concerns problems in the philosophy of mathematics, a subject which was at the center of his interests from 1929 until 1944. *The Blue and Brown Books* consists of dictations to his pupils, given in 1933–5. It elaborates his new philosophical methods and his transformed conception of philosophy, and examines problems in the philosophy of language, epistemology, metaphysics, and philosophy of psychology. The *Remarks on the Foundations of Mathematics* is a selection from typescripts and manuscripts written between 1937 and 1944. *Zettel* is a collection of cuttings Wittgenstein himself made

from typescripts written between 1929 and 1947, although most of the remarks date from the period 1944–7. The themes are mainly topics in the philosophy of language and philosophy of mind. The four volumes of *Remarks on the Philosophy of Psychology* and *Last Writings on the Philosophy of Psychology* are notes written between 1947 and 1951. *On Certainty* and *Remarks on Colour* were written at the very end of his life, the former being unique among his works in its exclusive focus on epistemological themes. Apart from other minor writings, for example on Frazer's *Golden Bough* or aphorisms and general cultural observations jotted down amidst his philosophical reflections and gathered together in *Culture and Value*, five volumes of lecture notes taken by his students have been published. The complete *Nachlass* is currently being published in electronic form.

Wittgenstein is unique in the history of philosophy as the progenitor of two profoundly opposed comprehensive philosophies. To be sure, there are continuities of theme between the two: the nature of linguistic representation, of logic and laws of thought, of the relation between thought and its linguistic expression, of the intentionality of thought and language, of metaphysics and of philosophy itself are topics examined in detail in the *Tractatus* and then re-examined in the later philosophy. There are also continuities of philosophical judgment. Many of the negative claims in the *Tractatus* are reaffirmed in the later works, in particular his criticisms of Frege and Russell, his denial that philosophy can be a cognitive discipline, his rejection of psychologism in logic and of logicism in the philosophy of mathematics. And many of the fundamental insights that informed the *Tractatus*, for example that there is an internal relation between a proposition and the fact that makes it true, that the propositions of logic are senseless but internally related to inference rules, that the logical connectives and quantifiers are not function names, that ordinary language is in good logical order, are retained in the later philosophy. Nevertheless, the insights that are thus retained undergo transformation, are relocated in the web of our conceptual scheme, are differently elucidated, and quite different consequences are derived from them. In general, the two philosophies represent fundamentally different philosophical methods and ways of viewing things. The *Tractatus* is inspired and driven by a single unifying vision. It was intended to be the culmination and closure of the great essentialist metaphysical tradition of western philosophy. An insight into the essential nature of the elementary proposition was held to yield a comprehensive account of the nature of logic and of the metaphysical form of the world, the nature and limits of thought and language. An ineffable metaphysics of symbolism was wedded to an equally ineffable solipsistic metaphysics of experience and to an atomist, realist, ontology.

The *Tractatus*

The two major thinkers whose work both inspired Wittgenstein and constituted the main target of his criticisms were Frege and Russell. They had revolutionized logic, displacing the subject/predicate logic of traditional syllogistic by the function theoretic logic based on the generalization of the mathematical theory of functions. Frege had invented the logic of generality, the predicate calculus (see FREGE). Both philosophers repudiated psychologism in logic and idealism in metaphysics and epistemology, propounding instead forms of realism. Both had tried to demonstrate the reducibility

of arithmetic to pure logic, Frege in *The Basic Laws of Arithmetic* (1893, 1903) and Russell, together with Whitehead, in *Principia Mathematica* (1910). It was, above all, their conception of logic that set the agenda for the young Wittgenstein.

Frege and Russell thought that logic was a science with a subject matter. The propositions of logic, they held, are characterized by their absolute generality. On Frege's view they are perfectly general propositions concerning sempiternal relations between thoughts (propositions), articulating laws of truth valid for all thinking. According to Russell, logic is the science of the perfectly general. Its propositions are descriptions of the most general facts in the universe. Hence neither would have considered a simple tautology such as "Either it is raining or it is not raining" as a proposition of logic, but would have conceived of it as an instantiation of the logical proposition "$(p) (p \vee \sim p)$." Both tended to view rules of inference ("laws of thinking") as related to the propositions of logic ("laws of truth") somewhat as technical norms specifying a means to an end are related to laws or regularities of nature. The laws of truth according to Frege describe the immutable relations between thoughts (propositions) irrespective of their subject matter; according to Russell, they are the most general laws governing the facts of which the universe consists. Accordingly, rules of inference are technical norms, dependent on such general laws, ensuring that if one wishes to think correctly, i.e. infer only truths from truths, one will do so. The logical systems the two philosophers had invented were axiomatized, and they viewed the axioms as self-evident truths. Frege conceived of thoughts and of the two truth-values as logical objects, and of the notions of object, concept, first- and second-level function as ultimate *summa genera*, drawing ontological distinctions "founded deep in the nature of things." The logical connectives he thought to be names of logical entities, unary or binary first-level functions mapping truth-values on to truth-values, and the quantifiers to be names of second-level functions. Russell held that terms such as "particular," "universal," "relation," "dual complex," are names of logical objects or "logical constants" signifying the pure forms which are the *summa genera* of logic, the residue from a process of generalization which has been carried out to its utmost limits. We understand such expressions, he thought, on the basis of "logical experience" or intuition. Both philosophers held natural language to be logically imperfect, containing vague and ambiguous expressions or names without reference, and hence, Frege thought, allowing the formation of sentences without a truth-value. They viewed their own notations as logically perfect languages. From the post-Wittgensteinian perspective, Frege and Russell were radically mistaken about the nature of logical truths (conceiving of them as essentially general), about the nature of logical necessity, about the content of logical truths, about the status of the axioms of logic, about the character of the logical connectives and quantifiers, and about the relation between the truths of logic and rules of inference. If we are any clearer on these matters than they, it is largely due to Wittgenstein.

In the *Tractatus*, Wittgenstein accepted some of the salient doctrines of Russell and Frege. Like them, he adopted a (different) variant of metaphysical realism in the *Tractatus* ontology of simple sempiternal objects, of complexes, and of facts. He accepted unreflectively the assumption that the fundamental role of words is to name entities (although this role was denied to logical operators and to categorial expressions) and of sentences to describe how things are in reality. He thought that there must be a connection of meaning between words and the entities they name, that language

acquires content by means of such a connection with reality. He agreed with their antipsychologism in logic. He accepted Frege's demand of determinacy of sense, although unlike Frege, he thought that the vagueness of natural language was merely superficial and analyzable into disjunctions of determinate possibilities. And, like Frege, Russell and many others, he assumed that the logical connectives and quantifiers are topic-neutral. Some of these commitments he was later to abandon, others he reinterpreted.

Unlike Frege and Russell, Wittgenstein held that ordinary language is in good logical order. For logic is a condition of sense, and insofar as sentences of ordinary language express a sense, convey thoughts, they are in good order – any appearance to the contrary (e.g. vagueness) being a feature of the surface grammar of expressions, which will disappear on analysis. Insofar as they fail to express a sense, they are ill-formed pseudo-sentences. Hence it is not the task of philosophy to devise a logically ideal language, although devising a logically perspicuous notation will enable the philosopher to lay bare the true logical forms of thoughts, which are obscured by the surface grammar of ordinary language. According to the *Tractatus* the fundamental function of language is to communicate thoughts by giving them expression in perceptible form. The role of propositions (sentences with a sense) is to describe states of affairs, which may or may not obtain. If the state of affairs depicted by a proposition obtains, then the proposition is true, otherwise it is false. Propositions are composed of expressions. Logical expressions apart, the constituent expressions in a proposition are either analyzable, definable by analytic definition or paraphrase, or unanalyzable. Unanalyzable expressions are simple names, which are representatives of simple objects. The simple objects are the meanings of the names. Hence names link language to reality, pinning the network of language on to the world. Names have a meaning only when used as representatives, and they are so used only in the context of a proposition. The elementary (logically independent) proposition is a concatenation of names in accordance with logical syntax. It does not name anything, *pace* Frege (who thought sentences name truth-values) and Russell (who thought they name complexes), but depicts a (possible) state of affairs, which is isomorphic to it given the rules of projection, and asserts its existence. The names in an elementary proposition must possess the same combinatorial possibilities in logical syntax as the metaphysical combinatorial possibilities of the objects in reality that are the constituents of the state of affairs represented. The logical syntax that underlies any possible means of representation mirrors the logico-metaphysical forms of reality. *Pace* Frege and Russell, the assertion sign has no logical significance. Unlike Frege, who thought that there were alternative analyses of propositions, and unlike Carnap, who, in the 1930s, thought that we can choose between different logics, Wittgenstein thought that analysis is unique and that in logic there are no options.

The metaphysics of the *Tractatus* was realist (as opposed to nominalist), pluralist (as opposed to monist), and atomist. The sempiternal objects that constitute the substance of all possible worlds include properties and relations of categorially distinct types. It is far from clear what kinds of things Wittgenstein had in mind, but they are arguably such items as minimally discriminable shades of color, tones, etc. as well as spatio-temporal points in the visual field. Objects are simple (this is mirrored by the logical simplicity, i.e. unanalyzability, of their names). They have internal and external properties.

Their internal properties constitute their (essential) form: their combinatorial possibilities with other objects (this is mirrored by the logico-syntactical combinatorial possibilities of their names). Different objects belonging to the same ontological category (e.g. different shades of color) have a common form (namely, color). The external properties of objects are accidental: their contingent concatenations with other objects to form actual states of affairs. A state of affairs is a possible combination of objects (e.g. that such and such a spatiotemporal point is a certain shade of such and such a color). The obtaining or non-obtaining of a state of affairs is a fact (hence there are positive and negative facts). Elementary states of affairs are "atomic" or "independent," that is, each such state of affairs may obtain or not obtain while all other elementary states of affairs that obtain remain the same. This is reflected by the logical independence of the elementary proposition, which has no entailments. The metaphysics of experience in the *Tractatus* was apparently a form of empirical realism and transcendental solipsism (cf. Kant's empirical realism and transcendental idealism). The empirical self that is studied by psychology is not an object encountered in experience, but a (Humean) collection of experiences. The metaphysical self, which is the concern of philosophy, is a limit of experience. It is the willing self, the bearer of good and evil.

Sentences are expressions of thoughts. But thought itself is a kind of language, composed of thought-constituents. The form of a thought must mirror the form of reality no less than a proposition. Natural language is necessary for the communication of thoughts but not, it seems, for thinking – which can be effected in the "language of thought." It is mental processes of thinking and meaning that inject content into the bare logico-syntactical forms of language. What pins a name on to an object in reality that is its meaning (*Bedeutung*) is an act of meaning (*meinen*) by the name of *that* object. What renders a licit concatenation of signs a living expression of a thought is the employment of the method of projection, which is thinking the sense of the sentence, i.e. *meaning* by the sentence such and such a state of affairs. Hence the intentionality of signs is derived from the (intrinsic) intentionality of thinking and meaning (*meinen*).

The *Tractatus* account of the intentionality of thought and language is informed by the insight that thought and proposition alike are internally related to the fact that makes them true. The thought or proposition that *p* would not be the thought or proposition it is were it not made true by the fact that *p* and made false by the fact that not *p*. What one thinks when one thinks truly that *p* is precisely what is the case, and not something else (such as a Fregean *Gedanke*), which stands in some relation to what is actually the case. But what one thinks when one thinks falsely that *p* is not what is the case (since what one thinks does not obtain). Yet one does not think nothing. Indeed, what one thinks is the same, no matter whether one thinks truly or falsely. The picture theory of thought and proposition provided a logico-metaphysical explanation of how it is possible to satisfy the demands consequent upon these internal relations. It attempts to explain how it is possible for a thought to determine what state of affairs in reality will make it true, how it is possible for the content of a thought to be precisely what is the case if it is true and yet to have a content even if it is false, how it is possible that one can read off from a thought, in advance of the facts, what will make it true, and how it is possible for the "mere signs" of language to be intentional, i.e. for a name to reach up to the very object itself of which the name is the name and for the

sentence to describe the very state of affairs the existence of which will make true the proposition expressed.

Every representation is a picture of a possibility. A proposition or thought is a logical picture, whose simple constituents name sempiternal objects with determinate form. There is a metaphysical harmony between language and thought on the one hand and reality on the other; for when one thinks truly that *p*, what is the case is that *p*; and when one thinks falsely that *p*, what one thinks is precisely what is *not* the case. This "pre-established harmony" is orchestrated by a metaphysics of symbolism. Only simple names can represent simple objects. Simple names have a meaning but no sense. Relations too are objects, and only relations can represent relations; hence in the proposition "aRb," it is not "R" that represents the relation that *a* stands in to *b*, but rather it is *that* "R" stands to the right of "a" and to the left of "b" (in this notation). Only facts can represent facts, and sentences – in their symbolizing capacity – are facts, which are used to describe how things are. For it is the fact that the constituent names are arranged as they are (in accordance with logical syntax) that says that things are thus and so. Sentences have a sense but no meaning.

The possible states of affairs in reality are determined by the language-independent combinatorial possibilities of objects. Every elementary proposition depicts a possible state of affairs. It is true if the possibility depicted obtains, false if it does not. It is of the essence of the proposition with a sense to be bipolar, i.e. to be capable of being true and capable of being false.[4] This mirrors the metaphysical truth that it is of the nature of states of affairs that they either obtain or fail to obtain. The sense of a proposition is its agreement and disagreement with the existence and non-existence of states of affairs. For the proposition that *p* agrees with the fact that *p* and disagrees with the fact that not-*p*. What one thinks when one thinks that *p* is a possibility, a possibility which is actualized if one's thought is true and is not if one's thought is false. Hence one can read off a proposition or thought (which is a kind of proposition) what must be the case for it to be true, and what one thinks when one thinks that *p* is precisely what is the case if one's thought is true and what is *not* the case if one's thought is false, and is the very same thought no matter whether it is true or false.

The logical connectives are not names of functions, but rather signify truth-functional *operations* on propositions. The quantifiers are construed as operators upon a propositional function (e.g. "fx") which is a logical prototype collecting all propositions of a certain form (whose values are all those propositions obtained by substituting a name for the variable), hence generating logical sums or products of such sets of propositions. All possible molecular propositions can be generated by truth-functional operations upon elementary propositions. Hence all logical relations are determined by truth-functional combinations of propositions. A molecular proposition *p* entails another proposition *q* if and only if the sense of *q* is contained in the sense of *p*, i.e. if the truth-grounds of *p* contain the truth-grounds of *q*. The various operators are inter-definable, and reducible to the single operation of joint negation, namely "not . . . and not . . ." Among the truth-functional combinatorial possibilities of a given number of elementary propositions, there will always be two limiting cases (1) in which the propositions are so conjoined as to be true irrespective of the truth-values of the constituent propositions and (2) false irrespective of their truth-values. The former is a tautology and the latter a contradiction. These are the propositions of logic. Since they are, respec-

tively, true and false irrespective of how things are, they are wholly without any content, and say nothing about how things are in reality. So by contrast with other molecular propositions which are true under certain conditions (i.e. for certain assignments of truth-values to their constituents) and false under others, the propositions of logic are unconditionally true or false. Hence they are said to be *senseless*, to have, as it were, zero-sense. All tautologies say the same thing, namely nothing. But different tautologies may nevertheless differ, for every tautology is a form of a proof (since every tautology can be rewritten in the form of a *modus ponens*), and different tautologies reveal different forms of proof. It is a mark of the propositions of logic, Wittgenstein held, that in a suitable notation they can be recognized as such from the symbol alone. He invented a special notation to display this, his T/F notation. Instead of writing molecular propositions by means of symbols for logical connectives, he used truth-tables as propositional signs. Here it is immediately perspicuous from the sign alone whether a proposition is a tautology, and if so, it is visibly evident that it cannot be false. It is equally evident whether one proposition follows from another, i.e. whether the truth-grounds of one contain those of another. This showed, he thought, the nature of the propositions of logic and their categorial difference from empirical propositions.

This conception of logical truth made clear how misleading was the Frege/Russell axiomatization of logic, with its appeal to self-evidence for the axioms. Their axioms were not privileged by their self-evidence. They were tautologies no less than their theorems. They were not "essentially primitive," nor were Frege's and Russell's theorems essentially derived propositions, for "all the propositions of logic are of equal status," namely tautologies that say nothing. Hence too, contrary to Frege and Russell, the propositions of logic have no sense, and describe nothing. In an important sense, the propositions of logic have no subject matter, and logic is misconstrued as the science of the most general laws of truth or of the most general facts in the universe. Consequently, the propositions of logic do not constitute the foundations for the elaboration of technical norms of thinking on the model of the relation between laws of nature and technical norms for achieving desired ends. Rather, every tautology is internally (not instrumentally) related to a rule of inference or form of proof.

The conception of logic in the *Tractatus* was still flawed. But its flaws, which Wittgenstein was later to expose, did not significantly affect the criticisms of the Fregean and Russellian conceptions of logic. According to the *Tractatus* the only (effable) necessity is logical necessity. Every well-formed proposition with a sense must be bipolar. What philosophers had hitherto conceived of as categorial (or formal) concepts, such as *object*, *property*, *relation*, *fact*, *proposition*, *color*, *number*, etc. are, Wittgenstein argued, expressions for forms, which are represented by variables, rather than by names. Hence they cannot occur in a fully analyzed proposition with a sense. One cannot say that, for example, one is a number, that red is a color, or that A is an object, for such pseudo-propositions employ a formal concept as if it were a genuine concept, and they are not bipolar. Hence such metaphysical pronouncements (which attempt to describe non-logical necessities) are nonsense – ill-formed conjunctions of signs. But what such pseudo-propositions *try to say* is actually *shown* by genuine propositions which contain number words, color names, or other names of objects. It is shown by *features* of the expressions in such propositions, namely by

the forms of the expressions – their essential combinatorial possibilities. These are represented by the variable of which the meaningful names are substitution-instances. An immediate consequence of this is that most of the propositions of the *Tractatus* which delineate the necessary forms of language and reality are nonsense. Hence Wittgenstein's penultimate remark in the book: "My propositions serve as elucidations in the following way: anyone who understands me eventually recognizes them as nonsensical, when he has used them – as steps – to climb up beyond them."

Hence too, the conception of philosophy advocated for the future is not the practice exhibited in the book. The *Tractatus* consists largely of sentences that are neither bipolar propositions nor tautologies. They attempt to describe the essence of the world, of language, and of logic, and of the essential relations between them. But this is an attempt to say the very things that cannot be said in language, but are rather shown by language. What is thus shown is indeed ineffable. Hence metaphysics, the attempt to disclose the essential natures of things, is impossible. Once the correct logical point of view has been achieved, once the world is seen aright, the task of the *Tractatus* is completed. The task of *future* philosophy is *analysis*: clarification of philosophically problematic propositions which will elucidate their logical forms or clarify why and where (in the case of putative metaphysical propositions) they fail to accord with the rules of logical grammar. Future philosophy will not be a theory, nor will it propound doctrines or attain knowledge. It will be an activity of logical clarification. Philosophy, thus conceived, is a critique of language.

The role of the *Tractatus* in the history of analytic philosophy

In six respects the *Tractatus* introduced the "linguistic turn" in philosophy. First, it set the limits of thought by setting the limits of *language*: by elucidating the boundaries between sense and nonsense. This put language, its forms and structures, at the center of philosophical investigation. Second, the positive task for future philosophy was the logico-linguistic analysis of *sentences*. The logical clarification of thoughts is to proceed by the clarification of propositions – sentences with a sense. Third, the negative task of future philosophy was to demonstrate the illegitimacy of metaphysical assertions by clarifying the ways in which attempts to say what is shown by *language* transgresses the bounds of sense. Fourth, the *Tractatus* attempted to clarify the essential nature of the propositional *sign* by elucidating the general propositional form, that is, by giving "a description of the propositions of *any* sign-language *whatsoever* in such a way that every possible sense can be expressed by a symbol satisfying the description, and every symbol satisfying the description can express a sense, provided that the meanings of names are suitably chosen." Fifth, the logical investigation of phenomena, the unfolding of their logical forms, which was not undertaken in the book, is to be effected by logical analysis of the *linguistic descriptions* of the phenomena. (The first moves in carrying out this task were taken in the 1929 paper "Some Remarks on Logical Form," whereupon the whole project collapsed.) For the logical syntax of language is and must be isomorphic with the logico-metaphysical forms of the world. Sixth, the greatest achievement of the book, as seen by the Vienna Circle, was its elucidation of the nature

of logical necessity. This was patently made by an investigation of *symbolism*. That one can recognize the truth of a logical proposition from the symbol alone was held to contain in itself the whole philosophy of logic.

Many of these claims were later to be repudiated. But they heralded the linguistic turn, which was executed by the Vienna Circle, and, in a different way, by Wittgenstein himself in his later philosophy, and by Oxford analytic philosophy. The *Tractatus* was a paradigm of analytic philosophy in its heroic or classic phase in the interwar years. It was the major inspiration of Cambridge analysis and of logical positivism. Its program, as understood both in Cambridge and in Vienna, committed one to the method of logico-linguistic analysis of complex expressions into their simple unanalyzable constituents. It encouraged the program of reductive analysis and its mirror image, logical construction. It cleaved to the thesis of extensionality, holding all non-extensional contexts to be either eliminable, merely apparent, or illicit. It repudiated the intelligibility of putatively synthetic a priori propositions, insisted that the only necessity is logical necessity and denied any sense to the propositions of logic. Hence it seemed to provide the foundations for what the Vienna Circle hailed triumphantly as "consistent empiricism," for it denied that pure reason alone can attain any knowledge of the world. It held metaphysics to be nonsense (the Circle averted their gaze from, or quickly condemned and passed over (Neurath), or attempted to circumvent (Carnap), its paradoxical ineffability claims). And it allocated to philosophy a *sui generis* analytic role and a status wholly distinct from that of science. Schlick, the leading figure in the Circle, went so far as to characterize the *Tractatus* as "the turning point in philosophy," the deepest insight into what the task and status of philosophy should be.

Wittgenstein's influence upon the Vienna Circle was second to none. Indeed, the principle of verification itself was derived from conversations with Wittgenstein in 1929/30, and read back into the *Tractatus*. Members of the Circle spent two academic years reading through the book line by line, abandoning some of its claims and accepting others. They abandoned the picture theory of the proposition, the doctrine of showing and saying, and most of the ontology of logical atomism. But what they accepted was crucial: the account of the nature and limits of philosophy, the conception of logic and logical necessity, and the program of the logical analysis of language (see AYER, CARNAP, HEMPEL, and QUINE). These ideas, interpreted and sometimes seriously misinterpreted, were pivotal to their work. The most important misinterpretation concerned the *Tractatus* account of logic. Members of the Circle agreed with the criticisms of the Fregean and Russellian misconceptions of the nature of logic, and welcomed the view that the propositions of logic are vacuous (senseless). But they gave a conventionalist interpretation to Wittgenstein's account of logic which was far removed from his conception. They thought of the logical connectives as arbitrary symbols introduced to form molecular propositions, whereas Wittgenstein had argued that they are essentially given by the mere idea of an elementary proposition. Where he viewed the truths of logic as flowing from the essential bipolarity of the proposition, they conceived of them as following from the truth-tabular definitions of the logical connectives – hence as true in virtue of the meanings of the logical operators. A logical truth therefore was held to be the logical consequence of conventions (definitions). Wittgenstein, by contrast, had argued that the senseless truths of logic reflect the logical structure of the world. Logic, far from being determined by convention, is transcendental. In the

1930s, when he turned to reconsider his earlier conception, Wittgenstein not only reformulated his views but also vehemently criticized the conventionalism of the Circle. Far from *following* from the meanings of the logical connectives, the truth of the propositions of logic, he argued, is *constitutive* of their meanings.

The collapse of the *Tractatus* vision

Already in the *Tractatus* Wittgenstein had taken note of the fact that determinates of a determinable, e.g. red and green, are mutually exclusive: if A is red all over, it follows that it is not green (or blue or yellow, etc.) all over. At the time, he thought that this showed that "A is red" is not an elementary proposition, and that its entailments would, on analysis, be clarified as following from its truth-functional composition out of elementary propositions. When he returned to philosophy after a hiatus of a decade, he realized that this was misconceived. There are irreducible logical relations of exclusion or implication which are determined not by truth-functional composition, but by the *inner structure* of elementary propositions. He tried to budget for this by abandoning the topic neutrality of the logical connectives and drawing up truth-tables specific to the "propositional system" (i.e. the system of determinates of a determinable) to which a given elementary proposition belongs. In the case of color, the conjunction of "A is red all over" and "A is green all over" is nonsense. Hence the truth-value assignment "TT" must be excluded from such conjunctions by a special rule of syntax. But this concession, he rapidly realized, spells the death-knell for the philosophy of logical atomism, and strikes at the heart of the *Tractatus*. For the independence of the elementary proposition was the pivot upon which turned the whole conception of logic and the ineffable metaphysics of the book. Without it, the idea that the logic of propositions depends only upon the bipolarity of the elementary proposition collapses. The significance of the T/F notation as revealing the essential nature of logical propositions and relations evaporates, precisely because there are logical relations that depend upon the inner structure of elementary propositions. Since the logical operators are not topic neutral, separate truth-tables would have to be drawn up for each propositional system. The idea that there is a general propositional form, according to which every proposition is a result of successive applications to elementary propositions of the operation of joint negation must likewise be relinquished. So too must the thought that generality can be analyzed into logical sums and products, and that the quantifiers can be given a uniform topic-neutral analysis.

As the logical theory of the *Tractatus* collapsed, so too did the metaphysics. It was wrong to say that the world consists of facts rather than of things. Rather, a description of the world consists of statements of facts, not of an enumeration of things. But the statement of a fact just is a true statement. One cannot point *at*, but only point *out*, a fact. And to point out a fact just is to point out that things are thus and so, that is, to make a true assertion. Facts are not concatenations of objects. Unlike concatenations of objects, and unlike states of affairs, facts have no spatiotemporal location. The fact that a circle is red is not composed of redness and circularity concatenated together, since facts are not composed of anything and do not have "constituents." The proposition that *p* is only "made true" by the fact that *p* in the sense in which being a bachelor makes one unmarried. All it means is that the proposition that *p* is true if, in fact,

things are as it says they are. The conception of absolutely simple sempiternal objects was incoherent. For the notions of simplicity and complexity are relative, not absolute. To call spatiotemporal points, properties, or relations "objects" is a misuse of language. What had appeared to be objects that *had* to exist are in fact *samples* which we employ in explaining the meanings of certain ostensively defined expressions in the language. As such, they belong to the means of representation, not (like the postulated "objects" of the *Tractatus*) to what is represented.

As the metaphysics collapsed, so too did the picture theory, the conception of isomorphism between language and reality, and the account of intentionality. What had seemed like an internal relation between the proposition that *p* and the fact that *p* which makes it true was no more than the shadow cast upon reality by an intra-grammatical relation between the expressions "the proposition that *p*" and "the proposition made true by the fact that *p*." There is an internal relation here, but it is forged *in* language – in the grammatical rule that permits the inter-substitution of these expressions – not *between* language and reality. Hence it was mistaken to think that reality *must* have a certain metaphysical form which *must* be reflected in the logico-syntactical forms of language in order for this internal relation to obtain. The intentionality of thought and proposition, which had seemed to demand a pre-established metaphysical harmony between language and reality, is fully explained by reference to intra-grammatical connections between expressions. The thought or expectation that it will be the case that *p* does not "anticipate reality"; rather, only what satisfies the description "it is the case that *p*" will be *called* "the fulfillment of the expectation that it will be the case that *p*." Of course one can "read off" from the thought what will make it true, since the expression of the thought contains the description of the state of affairs the obtaining of which is *called* "the confirmation of the thought." Of course what one thinks, when one thinks that *p*, is what is the case when one's thought is true, but this is not a strange form of identity or coincidence between a shadowy possibility and an actuality. Rather the question "What is being thought?" and "What is the case?" here receive the same answer.

The metaphysics of symbolism of the *Tractatus* was in fact a mythology of symbolism. The meaning of a name is not an object of any kind. What is legitimate about the role which the *Tractatus* simple object was invoked to fulfill is in fact played by defining samples used in ostensive definitions, e.g. of color words. But the sample pointed at in the ostensive definition "This is black" is part of the means of representation, to be used as an object of comparison and standard of correct application of the word "black." Names derive their meanings not from objects in the world which they represent, but from explanations of meaning, of which ostensive definitions are but one type. But it is at best vacuous to claim that all nonlogical terms are names. There are indefinitely many grammatically different kinds of expressions, which fulfill different roles in a language and have different uses, given by the explanations of their meanings, which are in effect rules for their use. In the sense in which the *Tractatus* claimed that there is a connection – a meaning-endowing connection – between language and reality, there is *no* such connection. It was mistaken to suppose that a propositional sign is a fact, that only facts can represent facts, or that only "simple names" can represent simple objects. Far from the logical syntax of language having to mirror the logical forms of things, the different grammars of different languages are autonomous. They owe no homage to reality. They do not reflect language-independent metaphysical possibilities,

determined by the essential nature of objects represented, but rather themselves determine logical possibilities, i.e. what it makes sense to say. Empirical propositions are indeed characteristically (although not uniformly) bipolar, but the concept of a proposition is a *family resemblance* concept: there are many different kinds of proposition, which are not characterized by an essential nature, but by overlapping similarities. The concept of logical form which had informed the *Tractatus* is chimerical. For paraphrase into a canonical notation (as in Russell's theory of descriptions) is not an analysis of what is already present in the paraphrased proposition or thought but a redescription in a different form of representation. Logical form is no reflection of the logico-metaphysical forms of reality, since there is no such thing.

Already in the *Tractatus* Wittgenstein had rejected the logicism in the philosophy of mathematics which Frege and Russell had endeavored unsuccessfully to prove. He denied that numbers were logical objects or reducible to classes. Mathematical propositions, he claimed, are not descriptions of possible states of affairs. Nor are they bipolar. They are, in effect, nonsensical pseudo-propositions; they do not have a sense consisting in their agreement and disagreement with the existence and nonexistence of states of affairs. Rather, they are substitution-rules for the transformation of one empirical proposition concerning magnitudes or quantities or spatial relations, etc. into another, and expressions of rules are not propositions. In the 1930s he wrote extensively about the foundations of mathematics. It is not possible here to do more than indicate briefly the general trajectory of his thought. He did not reject logicism in order to embrace what seemed to be the only alternatives, namely intuitionism and formalism. His fundamental claim is radical. With the liberalization in his concept of a proposition, he was now willing to speak of mathematical propositions. Nevertheless, they are radically unlike empirical propositions, and equally unlike logical ones. Mathematics is a system of interlocked propositions. As already implied in the *Tractatus*, the fundamental role of this system (but not of every proposition within it) is to constitute *rules* for the transformation of empirical propositions. An arithmetic equation, such as $25^2 = 625$, is a rule licensing the transformation of such an empirical proposition as "There are 25 boxes each containing 25 marbles" into the proposition "There are 625 marbles." A theorem of geometry is a norm of representation: a rule permitting the transformation of empirical propositions about shapes, distances, or spatial relations. Different geometries are not different *theories* about empirical space, which might turn out to be true or false. Nor are they different uninterpreted calculi. Rather, they are different *grammars* for the description of spatial relations. Proof *by* mathematics (e.g. in engineering) is wholly different from proof *in* mathematics. While a mathematical proposition is a rule, unless it is an axiom, it is not stipulated, but produced according to rules by a proof. Here we must distinguish proofs within a proof system, e.g. a computation, which is just "homework," as Wittgenstein put it, from proofs which extend mathematics by extending a proof system. Proofs that extend mathematics create new internal relations, modifying existing concepts by linking them with concepts with which they were hitherto unconnected, or connecting them with concepts in new ways – thus licensing novel transformations of appropriate empirical (or other mathematical) propositions. Mathematics is *concept formation*. The propositions of mathematics determine the concepts they invoke. What we conceive of as mathematical necessity is at best a distorted reflection of the inter-

nal relations within a proof system. Mathematics is a human creation, invented rather than discovered.

The *Philosophical Investigations*

Dismantling the *Tractatus* preoccupied Wittgenstein in the early 1930s. Gradually a new method and a wholly different conception of language, of linguistic meaning, and of the relation between language and reality emerged. It became clear that his neglect of questions in the philosophy of psychology in the *Tractatus*, which he had taken to be licensed by the anti-psychologism he took over from Frege, was unwarranted. For the concepts of linguistic meaning are bound up with the concepts of understanding, thinking, intending, and meaning something, and these pivotal notions demand philosophical elucidation. The new method also led to a new conception of philosophy itself – related to, but still importantly different from, the conception of philosophy advocated in the *Tractatus*. That in turn led to a different criticism of metaphysics.

Successive efforts to compose a book laying forth his new ideas culminated in the composition of the *Philosophical Investigations*, Part 1, which was virtually completed by 1945/6. It is his masterwork. Despite some continuities of theme and negative conceptions, it stands in stark contrast not only to the sibylline style of the *Tractatus* but above all to its spirit. Where the *Tractatus* strove for a sublime insight into the language-independent essences of things, the *Investigations* proceeded by a quiet weighing of linguistic facts in order to disentangle knots in our understanding. The *Tractatus* was possessed by a vision of the crystalline purity of the logical forms of thought, language, and the world, the *Investigations* was imbued with a sharpened awareness of the motley of language, the deceptive forms of which lead us into confusion. The *Tractatus* advocated conceptual geology, hoping to disclose the ineffable essences of things by depth analysis of language, the *Investigations* practiced conceptual topography, aiming to dissolve philosophical problems by a patient description of familiar linguistic facts. The *Tractatus* was the culmination of a tradition in western philosophy. The *Investigations* is virtually without precedent in the history of thought.

Wittgenstein's later work, as he himself said, is not merely a stage in the continuous development of philosophy, but constitutes a "kink" in the development of thought comparable to that which occurred when Galileo invented dynamics; it was, in a sense, a new subject, an heir to what used to be called "philosophy." A new method had been discovered, and for the first time it would now be possible for there to be "skillful" philosophers – who would apply the method. The transition from the *Tractatus* to his later philosophy, as he wrote when his new ideas were dawning in 1929, is the transition from the method of truth to the method of meaning. It is a transition from *Wesensschau* – putative insights into the nature or essence of things – to the clarification of conceptual connections in the grammar of our languages, with the purpose of disentangling knots in our thought. The conception of philosophy advocated in the *Investigations* has no precedent, although it is, in a qualified sense, anticipated by the *Tractatus* program for future philosophy. The philosophy of language is equally without ancestors: it is neither a form of idealist telementational linguistic theory (on the model of classical empiricism or de Saussure) nor a form of behaviorist linguistic theory, it is neither a realist truth-conditional semantics nor a form of "anti-realist" semantics. The

philosophy of mind repudiates both dualism as well as mentalism on the one hand and logical behaviorism as well as physicalism on the other. The critique of metaphysics rests neither on Humean or verificationist grounds, nor does it resemble the Kantian critique of transcendent metaphysics. It is no wonder that Wittgenstein's later philosophy has been so frequently misunderstood and misinterpreted, for it can no more be located on received maps of philosophical possibilities than the North Star can be located on a terrestrial globe.

The *Investigations* opens with a quotation from St. Augustine's autobiography in which he recounts the manner in which he assumes that he had learnt to speak. These unselfconscious, nonphilosophical reflections seemed to Wittgenstein to crystallize an important proto-picture of language, a pre-philosophical conception of its role and function, which informs a multitude of philosophical theories. According to this picture the essential role of words is to name things, and the essential role of sentences is to describe how things are. Words are connected to things by means of ostension. This proto-picture, which is akin to an unnoticed field of force unconsciously moulding the shape of sophisticated philosophical theories, is one root of extensive misconceptions in philosophy of language, logic, mathematics, and psychology. It is a muted leitmotif running through the book, and combating the influence of this picture is one of the central tasks of the book. For we are prone to think that corresponding to every name, or corresponding to every name on analysis, there must exist some thing: that nouns name objects, adjectives name properties, verbs name actions, that psychological expressions such as "pain" name psychological objects, and "believe," "want," "intend," "think," etc. name psychological states or processes, number words name numbers, and logical connectives name binary relations. We are inclined to believe that every declarative sentence describes something: that logical propositions describe relations between thoughts, that mathematical propositions describe relations between numbers, that what we conceive of as metaphysical propositions describe necessary relations between ultimate categories of being, that psychological propositions in the first-person describe states of mind, and so on. But this is illusion.

Philosophy of language

The philosophy of language of the *Investigations* has a destructive and a constructive aspect. Its destructive aspect is concerned with undermining the conception of analysis that had informed the *Tractatus* and, more remotely, has characterized philosophy at least since the Cartesian and empiricist programs of analysis into simple natures and into simple ideas respectively. It aims to destroy the conception of a language as a calculus of meaning rules and the idea that the meaning or sense of a sentence is composed of the meanings of its constituent words and derivable from them, given their mode of combination. Hence too, it combats the ideal of determinacy of sense, and the thought that all expressions are either definable by analytic definition or are indefinables and hence explained by an ostensive definition, conceived of as linking language with reality and laying the foundations of language in simple objects given in experience.

It has already been noted that the concepts of simple and complex are relative. Hence whether an A is complex or simple has to be determined by reference to criteria of

simplicity and complexity laid down for As – if there are such criteria. But we commonly confuse the absence of any criteria of complexity (since none have been laid down) with the satisfaction of criteria of simplicity. We are prone to think that an expression is complex if it is defined by analytic definition, and simple if it is explained by ostension. But analytic and ostensive definitions are neither exclusive nor exhaustive. We can explain what "circle" means by saying that *this* is a circle, or by saying that a circle is a locus of points equidistant from a given point. And we can explain what words mean by contextual paraphrase, contrastive paraphrase, exemplification, by a series of examples together with a similarity rider, by gesture, and so on. The meaning of a word is not an object for which a word stands or of which it is the name. Rather, it is what is given by an explanation of meaning, and an explanation of meaning is a rule for the use of the explanandum – a standard of correctness for its application. To ask for the meaning of a word is to ask how it is to be used. Indeed, the meaning of a word is (or, more cautiously, is determined by) its use.

Ostensive definition is one legitimate manner of explaining the meanings of some words. It is not especially privileged: as argued, it does not "connect language with reality" or lay the foundations of language; it is only one rule for the use of the word in question, and it is as capable of being misunderstood as any other explanation of meaning. Many expressions do not have necessary and sufficient conditions of application. Among these are family-resemblance concepts, such as "game," which are explained by a series of examples and a similarity rider. (Even if someone comes up with a sharp definition of "game," that definition is not the rule by reference to which we have been applying the word "game" and by reference to which we would have justified our use of the word.) Indeed, many of the pivotal concepts in philosophy, such as "language," "proposition," "number," "rule," "proof," as well as many psychological concepts, are family-resemblance concepts. Their extension is not determined by common properties, but by overlapping similarities – like the fibers in a rope.

Since numerous kinds of expression are not explained in terms of necessary and sufficient conditions of application, the idea that vagueness is only a surface grammatical feature of language or that it *must* be an imperfection in language is awry. The Fregean demand for determinacy of sense was incoherent. For determinacy of sense is not merely the absence of vagueness, but the exclusion of the very possibility of vagueness: the exclusion, by a complete explanation of meaning, of every possibility of doubt in every conceivable circumstance. But there is no such thing. There is no absolute conception of completeness. The concepts of complete and incomplete are both relative and correlative. A complete explanation of meaning is an explanation which may be invoked as a standard of application in all normal contexts. Relative to that standard, explanations may be judged to be complete or incomplete. But we have no *single* ideal of exactness; what counts as exact or vague varies from context to context. Moreover, vagueness is not always a defect ("I ask him for a bread knife," Wittgenstein mocked, "and he gives me a razor blade because it is sharper"), and its occurrence is not logically "contagious."

The idea that the sense of a sentence is a function of the meanings of its constituents and their mode of composition is a distorted statement of the platitude that if one does not know what the words of a sentence mean or does not understand the way in which they are combined, then one will not understand what is said. The supposition

that what a sentence means follows from an explanation of what its words mean, together with a specification of its structure, errs with regard to both meaning and understanding. The meaning of a sentence is no more composed of the meanings of its parts than a fact is composed of objects. The distinctions between sense and non-sense are not drawn once and for all by reference to circumstance-invariant features of type-sentences, but by reference to circumstance-dependent features of the use of token-sentences. Sentences of precisely the same form may have very different uses. Indeed, the forms of sentences, no matter whether in natural language or translated into a canonical notation of the predicate calculus, conceal rather than reveal their use. Moreover, understanding a sentence is not a process of deriving its meaning from anything.

Little remains of analysis as previously understood. Philosophical problems are misunderstandings caused, among other things, by misleading analogies between forms of expressions with different uses. Some of these can be dissolved by paraphrase, as exemplified by Russell's Theory of Descriptions (see RUSSELL). But it was an illusion that there is anything like a final analysis of the forms of our language, let alone that analysis reveals the logical structure of the world. Instead of analysis as classically conceived, what is needed is a description of the uses of words that will illuminate philosophical confusion, and a rearrangement of familiar rules for the use of words which will make the grammar of the relevant expressions surveyable. For the main source of philosophical puzzlement and of misguided philosophical theories is our failure to command a clear view of the use of words and our consequent entanglement in the network of grammar. Connective analysis (the term is Strawsonian rather than Wittgensteinian), that is, a description of the conceptual connections and exclusions in the web of words, and therapeutic analysis (see below) replace reductive analysis. A sentence is completely analyzed, in the new sense, when its grammar is laid out completely clearly.

A language is misrepresented if it is conceived to be a calculus of rules. More illuminating is the idea that it is a motley of language games. Language is indeed rule-governed, in the loose manner in which games are. Using sentences is comparable to making moves in a game, and a language can be fruitfully viewed as a motley of language games. The use of language is interwoven with the lives and practices of speakers, and is partly constitutive of their form of life. Training and teaching underpin the mastery of a language, and these presuppose shared reactive and behavioral propensities within a linguistic community. Words are like tools, and the diversity of their use is as great as that of different tools: hence masked by conceiving of them as essentially names of things, and concealed by their grammatical form. The greatest error of philosophers of his day, Wittgenstein remarked, is to attend to the forms of expressions rather than to their uses. Even declarative sentences are used for endlessly diverse purposes, of which describing is only one, and non-declarative sentences are misrepresented if taken to be analyzable into a force-indicative component (e.g. an assertion sign or interrogative sign) and a descriptive, truth-value bearing "sentence-radical." Moreover, the concept of description is itself non-uniform, for describing a scene is altogether unlike describing a dream, describing the impression something made is unlike describing the item that made the impression, and describing what one intends is altogether unlike describing the execution of one's

intention. These are logically distinct kinds of descriptions, with distinct kinds of grounds and consequences.

Understanding is akin to an ability, not a state from which performance flows. The criteria for linguistic understanding are of three general kinds: correct use, giving a correct explanation of meaning in context, and responding appropriately to the use of an expression. Viewing explanations of meaning as rules for the use of words, the use of words as rule-following, and understanding as the mastery of the technique of the use of words requires that these concepts be tightly interlocked. And so they are. There is an internal relation between a rule and what counts as compliance with it, which is manifest not only in the interpretations one might give of the rule, but above all in the practice of acting in accordance with it, and in the critical practices of teaching the meanings of expressions, of correcting misapplications and mistaken explanations of meaning. Meaning is determined by use, it is given by an explanation of meaning, and it is what is understood when the meaning of an expression is understood. Not every difference in use is a difference in meaning, but every difference in meaning is a difference in use. Wittgenstein's later philosophy of language is guided by this series of conceptual connections, the ramifications of which he explored in detail.

Philosophy of mind

Against prevailing tradition, Wittgenstein challenged the inner/outer picture of the mind, the conception of the mental as a "world" accessible to its subject by introspection, the conception of introspection as inner perception, the idea that the capacity to say how things are with us "inwardly" is a form of knowledge (let alone a paradigm of self-knowledge), the thought that human behavior is "bare bodily movement," the notion that voluntary action is bodily movement caused by acts of will, the supposition that explanation of human behavior in terms of reasons and motives is causal, and the pervasive influence of the Augustinian picture of language that disposes one to think that psychological expressions are uniformly or even typically names of inner objects, events, processes, or states. His philosophy of mind and of action can be seen as providing a rigorous philosophical underpinning for the hermeneutic insistence on the autonomy of humanistic understanding and its categorial differentiation from understanding in the natural sciences.

Psychological expressions are not names of entities which are directly observable only by the subject, and avowals of the inner are not descriptions of something visible only in a private peepshow. It is all too easy to think of psychological expressions as names of inner entities, and hence of assigning them meaning by private ostensive definition. Wittgenstein's "private language arguments" are aimed at this misconception. There can be no inner, private, analogue of public ostensive definition. Sensations cannot fulfill the role of samples. So a pain cannot serve as a defining sample for the application of the word "pain." Concentrating one's attention upon one's pain is not a kind of pointing. Remembering a sensation presupposes and so cannot explain the meaning of a sensation-name, and the memory of a sensation cannot serve as an object of comparison for the application of a sensation-word. There is no such thing as applying an expression in accordance with a rule which is in principle incommunicable to anyone else. But the idea of defining a sensation word by reference to a

sensation, conceived of as private and intended to function as a defining sample in an ostensive definition would be such a pseudo-rule – for which there could be no criterion of correct application. Whatever seemed to one to be right would be right, and that means that there is no such thing here as right or correct.

Indeed, the very notion of privacy which informs Cartesian and empiricist conceptions of the mental is misconceived. The mental was taken to be private in two senses: privately owned and epistemically private. Pains, for example, were held to be privately owned, i.e. only I can have my pain, another person cannot have my pain but only a qualitatively identical one. And only I can really know that I have a pain, others can only surmise that I do. Both of these claims are misconceived. To *have* a pain is not to own anything, any more than to have a birthday or a train to catch. The distinction between numerical and qualitative identity, which applies to substances, no more applies to pains (or mental images, thoughts or feelings) than it does to colors. If A is red and B is red, then A and B are the same color; so too, if NN has a throbbing headache in his right temple and MM has a throbbing headache in his right temple, then NN and MM have the same headache – neither numerically the same, nor qualitatively the same, but just the same. To think that what differentiates my pain from yours is that I have mine and you have yours is to transform the owner of the pain into a distinguishing property of the pain – which is as absurd as claiming that two chairs cannot have the same color, since the color of *this* chair belongs to *this* chair and the colour of *that* chair belongs to *that* chair.

The conception of epistemic privacy is equally awry. Far from the "inner" being a field of certain empirical knowledge possessed by the subject, which is better known than, and provides the foundations for, other kinds of empirical knowledge, first-person, present-tense psychological utterances are not generally expressions of knowledge at all. "I know I am in pain" is either an emphatic or concessive assertion that I am in pain, or philosophers' nonsense. In such cases, ignorance, doubt, mistake, misidentification, misrecognition are ruled out by *grammar*: we have no use for such forms of words as "I may be in pain, or I may not – I am not sure, I must find out." But we mistake the grammatical exclusion of ignorance, doubt, etc., for the presence of knowledge, certainty, correct identification, and recognition. Whereas they too are excluded as senseless in such cases as pain, and the use of the epistemic operators in other cases has a distinctive meaning; "I don't know what I want" or "I do not know what I believe" are not expressions of ignorance but of indecision. I do not need to look into my mind to find out what I want or believe, but to make it up. If I do not know what I believe about X, I need to examine the evidence, not my state of mind. The utterances "I am in pain," "I'm going to V," "I want G" are standardly employed as *expressions* or *avowals* (rather than descriptions) of pain, intention, or desire, and the utterance is a *criterion* for others to ascribe to the speaker the relevant psychological predicate.

A criterion for the inner is logically (conceptually), as opposed to inductively, good evidence (justification) for ascribing to another an appropriate psychological predicate. Pain and pain behavior, or desire and conative behavior, are not analogically, inductively, or hypothetically connected. Rather, crying out in circumstances of injury, assuaging an injured limb, avoiding the cause of injury, etc. are non-inductive grounds for pain-ascriptions. Grasping the concept of pain involves recognizing such criteria as

grounds for ascription of pain to another. The criteria for ascription of psychological predicates are partly constitutive of the relevant concepts. Psychological utterances or avowals of the inner are (in certain cases) learnt extensions of primitive behavior that manifests the inner. For example, an avowal of pain is grafted onto, and is a partial replacement of, a groan of pain; and while an utterance of pain is as groundless as a shriek of pain, it too constitutes a criterion for third-person ascriptions. It is misguided to suggest that we can never know whether another is in pain. On the contrary, we often know with complete certainty. When someone severely injured screams with pain, just try to doubt whether he really is in pain! Self-knowledge is a hard won achievement, not gained merely by having toothache, wanting or thinking this or that, and being able to say so. Indeed, others often know and understand us better than we do ourselves.

The mind is not a substance. It is not identical with the brain. It is not a private space, in which mental objects are paraded, disclosed to introspective vision. There is, to be sure, such a thing as introspection, but it is not inner perception. Rather it is a form of reflection on one's past, one reasons and motives, affections and attitudes. The third-person pronoun refers neither to the mind nor to the body, but to the person, the living human being. The first-person pronoun functions quite differently; here reference failure, misidentification, misrecognition, and indeterminacy of reference are standardly excluded. "I" is at best a degenerate, limiting case of a referring expression, as a tautology is a limiting case of a proposition with a sense.

Psychological predicates are neither predicable of the body nor of its parts. It is senseless to ascribe to the brain predicates applicable only to the whole creature, e.g. thinking, believing, wanting, or intending. For the criteria for the third-person ascription of such predicates are distinctive forms of *behavior* of the creature in the stream of life, and there is no such thing as a brain manifesting thought or thoughtlessness, belief or incredulity, desire or aversion, intention or inadvertence in what it does. Hence too, it makes no sense to ascribe thought or thoughtlessness, understanding, misunderstanding or failure of understanding to machines. Thought is essentially bound up with the sentient, affective, and conative functions of a being that has a welfare, is capable of desiring and suffering, can set itself goals and pursue them, and can hope to succeed or fear to fail in its projects.

Human behavior that constitutes criteria for the ascription of psychological predicates is not "bare bodily movement," from which we infer analogically or hypothetically their inner state or which we *interpret* as action. On the contrary, we *see* the pain in the face of the sufferer, hear the joy in the voice of a joyful person, perceive the affection in the looks of lovers. Pain, *pace* behaviorists, is not pain-behavior, any more than joy is the same as joyous behavior or love the same as a loving look. But the "inner" is not hidden behind the "outer"; it may sometimes be concealed or suppressed (or it may just not be manifested). But if it is manifested, then it *infuses* the "outer," which is not bare bodily movement, but the actions and affective reactions of living sentient beings in the stream of life. These are not typically describable save in the rich vocabulary of the "inner."

Human action is not movement caused by acts of will. There are such things as acts of will and great efforts of will, but they are unusual, and are not causal antecedents of action. There is such a thing as will power, but that is a matter of tenacity rather

than a psychic analogue of muscle power. Voluntary actions are not actions, let alone movements, preceded by an act of will. Wanting and willing are not names of mental acts or processes, and "He V'ed because he wanted to" does not give a causal explanation of his action; on the contrary, it typically precludes one. Voluntary movement is action for which it makes sense to ask for agential reasons, which a person can decide to perform, try to execute, or be ordered to do. It is marked by lack of agential surprise, and the agent can be held responsible for it.

A reason for action or for belief is a premise in reasoning. Hence it is no more causally related to the action for which it is a reason than the reasons for a belief are causally related to the conclusion which they support. A person's reason is given by specifying the reasoning he went through antecedently to acting or the reasoning he could have gone through and is willing to give *ex post actu*. Reasons, unlike causes, justify or purport to justify that for which they are reasons. A person's avowal of a reason for his action, unlike his typical assertion of a cause of some event, is not a hypothesis. Unlike the assertion of a cause, in the standard case of an avowal of a reason, there is no room for mistake. What makes the connection between the reason and the action is the agent's avowal itself. In avowing a reason, the agent typically takes responsibility for his action viewed under the aspect of the avowed reason.

The critique of metaphysics and nature of philosophy

The *Tractatus* program for future philosophy advocated a non-cognitive conception of philosophy, denying that there could be any philosophical propositions, *a fortiori* any philosophical knowledge. Philosophy should be an activity of elucidation by analysis. Although philosophy was deprived of the possibility of stating essential truths about the natures of things, these very truths were held to be shown by the well-formed propositions of a language, and arriving at a correct logical point of view would include apprehension and appreciation of what cannot be said but shows itself (including truths of ethics and aesthetics).

The later conception of philosophy adhered to the radical non-cognitivism, but rejected the doctrine of linguistically manifest ineffabilia. There are indeed no philosophical truths. What appear as such, and what were construed by the *Tractatus* as an attempt to say what can only be shown, are in effect expressions of rules for the use of expressions in the misleading guise of metaphysical descriptions of the nature of things. So the portentous, apparently metaphysical, claim that the world consists of facts not of things amounts to the grammatical statement that a description of the world consists of a statement of facts and not a list of things. And that in turn is just a rule for the use of the expression "a description of the world." Insofar as metaphysics is conceived to be the quest for knowledge of the necessary forms and structures of the world or of the mind, it is chimerical. All that can be gleaned from these barren fields are grammatical propositions, that is, expressions of rules for the use of words. There are no such things as "necessary facts," and sentences such as "red is a color," or "space is three dimensional" are in effect rules. If something is said to be red, then it can be said to be colored; if something is in space, then its location is given by three coordinates; and so on. Similarly, apparently synthetic a priori truths, such as "Black is darker than white" or "Red is more like orange than it is like yellow," are not insights

into language-independent necessities in the world, but expressions of rules that are partly constitutive of the meanings of the constituent expressions. For any ordered pair of samples which can be used to define "black" and "white" ostensively can also be used to define the relation "darker than." So if *a* is black and *b* is white, it follows without more ado that *a* is darker than *b*. If *a* is red, *b* orange, and *c* yellow, then *a* is more akin to *b* in color than to *c* – one need not look to see. The apparently metaphysical proposition is in fact an inference rule, which is partly constitutive of the meanings of the constituent terms. What appear to be descriptions of objective necessities in the world are merely the shadows cast by the rules for the use of color predicates and relations.

Similarly, "cannot" and "must" in putatively metaphysical propositions mask rules for the use of words. "You cannot travel back in time" or "You cannot count through all the cardinal numbers" look like "An iron nail cannot scratch glass," but they are not. Experience teaches that iron cannot scratch glass. But it is not experience that teaches that one cannot travel in time, rather, it is grammar that stipulates that the form of words "I travelled back to last year" has no use; nothing *counts* as travelling backwards in time. "Cannot" in metaphysics is not about human frailty, but is an expression of a convention. "You cannot count through all the cardinal numbers" is an expression of a grammatical rule which excludes the phrase "counting through all the cardinal numbers" from the language. It does not say that there is something we cannot do, but rather that there is no such thing to do. Similarly, "must" in metaphysics signifies not an objective necessity in reality, but a commitment to a form of representation. "Every event has a cause" is a true or false empirical generalization. "Every event must have a cause" is an expression of a commitment not to call anything "an event" unless it has a (known or unknown) cause.

There are no theories in philosophy, for there can be nothing hypothetico-deductive about the determination of the bounds of sense, nor can it be merely *probable* that such and such a philosophical pronouncement makes no sense. And we do not need to wait upon future confirmation to determine with certainty that it makes no sense. Hence too, there is no philosophical knowledge comparable to knowledge in the sciences. If anyone were to advance theses in philosophy, everyone would agree with them: for example, "Can one step twice into the same river?" – "Yes." Indeed, there are no explanations in philosophy in the sense in which there are in the sciences, for the methods of philosophy are purely descriptive, and not methods of hypothesis formation.

The purified non-cognitivism of the *Investigations* has two aspects. On the one hand, philosophy is a quest for a surveyable representation of a segment of our language with the purpose of solving or dissolving philosophical perplexity. On the other hand, philosophy is a cure for diseases of the understanding. Philosophical problems are conceptual, hence a priori and not empirical. They can be neither solved nor advanced by new information or scientific discoveries, although scientific discoveries may, and often do, raise fresh conceptual puzzles and generate new confusions. Conceptual problems may concern novel concept-formation or existing conceptual structures and relations. The former are exemplified by mathematics, the latter by philosophy. The task of philosophy is to resolve conceptual questions arising out of our existing forms of representation, to clarify conceptual confusions that result from entanglement in the web of the grammar of our language. Philosophy is not a contribution to human

knowledge but to human understanding – an understanding of our forms of representation and their articulations, an overview of the forms of our thought.

The main source of philosophical puzzlement and of misconceived philosophical theories is our failure to command a clear view of the uses of words. The grammar of our language is lacking in surveyability, for expressions with very different uses have similar surface grammars: "I meant" looks akin to "I pointed," "I have a pain" to "I have a pin," "He is thinking" appears akin to "He is talking," "to have a mind" looks like "to have a brain," "2 is greater than 1" seems akin to "Jack is taller than Jill." Hence we misconstrue the meanings of expressions in our philosophical reflections. We think of meaning something or someone as a mental act or activity of attaching signs to objects, take pain to be a kind of object inalienably possessed by the sufferer, imagine that the mind is identical with the brain, assume that statements of numerical inequalities are descriptions, and so on.

What is needed is a perspicuous representation of the segment of grammar that bears on the problem with which we are confronted. It enables us to see differences between concepts that are obscured by the misleadingly similar grammatical forms of expressions. For this no new discoveries are necessary or possible – only the description of grammar, the clarification and arrangement of familiar rules for the use of words. We must *remind* ourselves of what we already know perfectly well, namely how expressions, the use of which we have already mastered, are indeed used. To be sure, these rules must then be arranged in such a manner as to shed light upon the difficulty in question. The rules that concern the philosopher are different from those that concern the grammarian, and the ordering of rules by the philosopher is very different from the ordering sought by the grammarian, for their purposes are quite distinct. A perspicuous representation of a fragment of grammar will enable us to find our way around the relevant part of the grammatical network without stumbling into conceptual confusion. In philosophy, unlike in the sciences, all the information is already at hand – in our knowledge of our language. The problems of philosophy, unlike those of science, are completely solvable. Failure to solve them is due to philosophers' failure to arrange the grammatical facts in such a way that the problems disappear.

Complementary to the conception of philosophy as the quest for a surveyable representation of segments of our language that give rise to conceptual perplexity and confusion is the conception of philosophy as therapeutic. The philosopher's treatment of a question is like the treatment of an illness. One should not try to terminate a disease of thought, either by dogmatism or by the substitution of a technical concept for the problematic one that causes confusion (as Carnap did with his method of "explication"), for slow cure is all important. Every deep philosophical confusion has many different roots, and each must be dug up and examined. Every deeply misconceived answer to a philosophical problem that mesmerizes us and holds us in a vice has many facets, and each must be separately surveyed. Wittgenstein sometimes compared his new methods of philosophical clarification with psychoanalysis. Philosophical theories are latent nonsense; the task of the philosopher is to transform them into patent nonsense. Like the psychoanalyst, the philosopher aims to give the afflicted insight into their own understanding and misunderstanding.

Philosophy is categorially distinct from the sciences. Since there is no philosophical knowledge and there are no licit theories in philosophy, there can be no progress in the

sense in which there is in the sciences. For there is no accumulation of knowledge, no generation of ever richer explanatory theories, no refinement of instrumentation making possible ever more accurate measurement and observation. But there can be progress in another sense, namely in clarification of conceptual structures, in drawing, refining and sharpening distinctions, in destroying conceptual illusions and in eradicating conceptual confusions. However, since there is no way of predicting future forms of entanglement in the web of language, the task of philosophy never ends.

Wittgenstein's place in postwar analytic philosophy

Is Wittgenstein's later philosophy a form of analytic philosophy? The concept of analytic philosophy is neither sharply defined nor uncontested. If one takes the concept of analysis narrowly, connecting it primarily with decompositional analysis, with reduction and logical construction, then one will be inclined to associate analytic philosophy primarily with a variety of forms of philosophy that flourished in the first half of the twentieth century. One will also be prone to associate the movement with a profound interest in, and ingenious philosophical use of, the calculi of formal logic, and, in some cases, in the devising of formal or semi-formal languages to replace the apparently defective natural languages for philosophical purposes. Moore and Russell, the young Wittgenstein of the *Tractatus*, the Cambridge analysts of the early interwar years, and the logical positivists will then be one's paradigmatic analytic philosophers.

Thus construed, it is clear that it would be at best misleading to characterize the later Wittgenstein as an analytic philosopher at all. But it would be perverse to construe analytic philosophy thus. The term "analytic philosophy" was a latecomer upon the scene, and the Oxford philosophers of the postwar era had no qualms in characterizing their work as analytic philosophy and their methods as conceptual analysis. This did not imply that they were dedicated to reductive analysis and logical construction. Indeed, they repudiated them. What it implied was a looser sense of "analysis": the description of the conceptual connections and articulations of salient elements in our conceptual scheme. In this sense, to be sure, the later Wittgenstein *was* an analytic philosopher, and said as much. For, he claimed, a proposition is "fully analyzed" when its grammar has been completely laid bare. Taken in this broader sense, analytic philosophy continued after 1945 in a new and distinctive form. It was dominated by Oxford rather than Cambridge philosophers, although Wittgenstein's philosophy, transmitted to Oxford largely by word of mouth before 1953, was a primary influence upon them (see ANSCOMBE, FOOT, MALCOLM; cf. AUSTIN, RYLE, STRAWSON).

This postwar phase of analytic philosophy lasted for a quarter of a century. It was not a "school" and, unlike the Vienna Circle, issued no manifestos. It was united by its conception of philosophy as an a priori conceptual investigation, contributing to human understanding rather than to human knowledge, hence wholly unlike the sciences. There was consensus that the methodical examination of the use of the relevant words is a *sine qua non* of any serious philosophical investigation. Analytic philosophy of language flourished, as did analytic epistemology; so too did analytic philosophy of psychology and philosophy of action. Paths pioneered by Wittgenstein were followed and refined. But other branches of analytic philosophy, such as analytic jurisprudence, analytic aesthetics, analytic philosophy of history and the social sciences, which had

been of little or no concern to him, were also developed, often in a manner which bore the marks of his influence.

This phase of analytic philosophy waned in the 1970s, and Wittgenstein's influence declined. Whether the forms of philosophy that succeeded it are to be counted as yet another phase of analytic philosophy or as symptoms of its final demise is something that will become clearer only with the passing of time. What is, however, clear, is that Wittgenstein dominated the forms of analytic philosophy from the 1920s until the 1970s, ineradicably impressing his thought upon twentieth-century philosophy.

Notes

1   For example, Alice Ambrose, Elizabeth Anscombe, Max Black, Richard Braithwaite, Karl Britton, Peter Geach, Austin Duncan-Jones, Casimir Lewy, Margaret MacDonald, Norman Malcolm, G. A. Paul, Rush Rhees, Stephen Toulmin, John Wisdom, Georg Henrik von Wright.
2   The other influences upon his thought which he cited retrospectively in 1931 were Karl Kraus, Adolf Loos, Paul Ernst, and Otto Weininger. In later years he made much use of James's *The Principles of Psychology*, which he viewed as a useful source of interesting philosophical confusions – hence not so much an influence upon his own ideas as a stimulus to criticism.
3   To this must be added a large quantity of dictations he gave to Friedrich Waismann for the projected joint work *Logik, Sprache, Philosophie* which was intended as the first volume of the Vienna Circle's series *Schriften zur Wissenschaftliches Weltauffassung*, that volume itself, published in English under the title *Principles of Linguistic Philosophy*, and Waismann's notes of conversations with Wittgenstein published under the title *Wittgenstein and the Vienna Circle*.
4   This contrasts with the Fregean and Russellian conception of the nature of the proposition. Frege held that propositions of natural language may lack a truth-value, although they express a sense. In his logically ideal language, *Begriffsschrift*, every proposition must be bivalent (but not bipolar), i.e. either true or false. Russell held propositions to be bivalent.

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