

Action, Decision-Making and Forms of Life

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Jesús PADILLA GÁLVEZ

Action, Decision-Making and Forms of Life

The quest for an explanation of human action has always been a main issue in philosophy. It includes such questions as: Which factors determine human action? What are the basic conditions for actions? Can we distinguish action from other types of movement? Possible answers to these questions depend on the methodological approach that one uses to describe, investigate and explain the phenomenon.

In the course of history philosophers have approached the analysis of human conduct from different perspectives. We shall use the analytic approach to the exploration of actions and their underlying logical structure. As a first step we will focus on the explanation of terms and their disambiguation in the description of human action. In a second step the formal structure of action will be explored. Wittgenstein submitted that, when describing the meaning of words such as “action” or “deed”, we do not explain the reasons for actions nor justify why one acts in a specific way.¹

We use a phenomenological approach to the description of linguistic contents. In the description of the meaning of action and related terms we are, however, restricted by the limits of the expressible. The limits of what can be said are therefore drawn in language. Therefore the analysis of what can be said about “action” results inevitably in a paradox. Descartes attributed this paradox to a fictional distinction between different types of movements. If we draw our attention to bodily movements we will notice some of them being caused by a physiological functioning of the inner organs or by a natural change of the physical condition (e.g. heart beats or unconscious moves as a reaction to a stimulus).² Other movements appear to originate from one’s conscious decision to move the limbs to a certain end. Descartes focused on the second type of

1 On the limited role of grammar in language analysis Wittgenstein affirms that: “Die Grammatik ist zwar ein linguistisches Regelwerk aber es fehlt ihr an Übersichtlichkeit, denn Zusammenhänge werden durch die Grammatik nicht erklärt.” Wittgenstein, PI, § 122. [Die Grammatik] “...beschreibt nur, aber erklärt in keiner Weise, den Gebrauch der Zeichen.” Wittgenstein, PI, § 496.

2 René Descartes, *Les Passions de L’Âme*, in: René Descartes, *Œuvres de Descartes*, vol. XI de l’édition de référence Charles Adam & Paul Tannery. Paris, Librairie Philosophique J. Vrin, 1996, pp. 293ff.

movements and viewed them as intentional motions caused by a person's *volonté*. Free will is the key criterion to distinguish deliberate movement from involuntary locomotion.

From this perspective, the original quest for the meaning of action has turned into an analogue distinction between types of movements. A thought experiment was used to discern voluntary human action from spontaneous bodily movements. Through analogy we have shifted our interest from the analysis of the concept of action to the taxonomy of movements. Contemporary scholars such as Davidson have used a similar approach to the study of human action. Observing daily habitual actions he proposed a distinction between routine and accidental actions. In the following quotation he exemplifies the difference between the two types of movement:

This morning I was awakened by the sound of someone practicing the violin. I dozed a bit, then got up, washed, shaved, dressed, and went downstairs, turning off a light in the hall as I passed. I poured myself some coffee, stumbling on the edge of the dining room rug, and spilled my coffee fumbling for the New York Times.³

It seems that Davidson is interested to know which actions reveal “agency” and what distinguishes them from other actions occurring unexpectedly. The idea for a categorization of actions is not new. In fact, a review of philosophical research reveals that several scholars have introduced distinctions of various kinds, thus leaving the original questions unanswered.

Descartes started out from the assumption of an individual's free will which he viewed as sufficient criterion for a further distinction between activity and passivity. As activity is connected to a person he introduced a first-person-subject who decides what is active or passive. It means in effect that a privileged subject seems authorized on his or her own free will to carry out actions and thus specify the meaning of active and passive. According to this view, an event is caused by one's thoughts and thereby reveals one's agency. Consequently all active movements have their origin in a person's thoughts that undoubtedly reflect his or her will.⁴ Descartes explained his view in the following quote:

Après avoir ainsi considéré toutes les fonctions qui appartiennent au corps seul, il est aisé de connaître qu'il ne reste rien en nous que nous devons attribuer à notre âme, sinon nos pensées, lesquelles sont principalement de deux genres, à savoir: les unes sont les actions

³ Donald Davidson, ‘Agency’ (1971), in: *Essays on Actions and Events*. Oxford, Oxford University Press, 1980, p. 43.

⁴ Ibid.

de l'âme, les autres sont ses passions. Celles que je nomme ses actions sont toutes nos volontés, à cause que nous expérimentons qu'elles viennent directement de notre âme, et semblent ne dépendre que d'elle. Comme, au contraire, on peut généralement nommer ses passions toutes les sortes de perceptions ou connaissances qui se trouvent en nous, à cause que souvent ce n'est pas notre âme qui les fait telles qu'elles sont, et que toujours elle les reçoit des choses qui sont représentées par elles.⁵

Descartes' methodological distinction of events into different categories has survived until our days. More precisely, Davidson has revived Descartes' theory with the effect that it is still widely accepted among philosophers nowadays. Davidson illustrates the distinction in the following quotation:

Tripping over a rug is normally not an action; but it is if it is done intentionally. Perhaps, then, being intentional is the relevant distinguishing mark. [...]

This mark is not sufficient, however, for although intention implies agency, the converse does not hold. [...] If, for example, I intentionally spill the contents of my cup, mistakenly thinking it is tea when it is coffee, then spilling the coffee is something I do, it is an action of mine, though I do not do it intentionally. On the other hand, if I spill coffee because you jiggle my hand, I cannot be called the agent. Yet while I may hasten to add my excuse, it is not incorrect, even in this case, to say I spilled the coffee. Thus we must distinguish three situations in which it is correct to say I spilled the coffee: in the first, I do it intentionally; in the second I do not do it intentionally but it is my action (I thought it was tea); in the third it is not my action at all (you jiggle my hand). [...]

Can we now say which events involve agency? Intentional actions do, and so do some other things we do. What is the common element? Consider spilling coffee again. I am the agent if I spill the coffee meaning to spill the tea, but not if you jiggle my hand. The difference seems to lie in the fact that in one case, but not in the other, I am intentionally doing something. My spilling the contents of my cup was intentional; as it happens, this very same act can be redescribed as my spilling the coffee. Of course, thus redescribed the action is no longer intentional; but this fact is apparently irrelevant to the question of agency. And so I think we have one correct answer to our problem: a man is the agent of an act if what he does can be described under an aspect that makes it intentional.⁶

We shall examine the results that may be drawn from these considerations scrutinizing clearly what they show and what they hide. In my opinion, the Cartesian distinction fails to provide a plausible explanation for the cause and purpose of human agency. The following three main objections can be raised: First, the introduction of an authorized subject together with a random distinction based on a fictional example seems arbitrary and coincidental. Yet this would mean that a privileged subject claims the authority to interpret what is consid-

5 Descartes, *Les Passions de L'Âme*, 1996, Art. 17, p. 342.

6 Davidson, "Agency", 1980, pp. 44ff.

ered active or passive. But does this ascertainment help to elucidate the meaning of human action in any way? The analytic approach ascribes language a key role. Wittgenstein reminded us that the terms and concepts we use tend to create “fixed paths” on which we move and that have an impact on our behavior.⁷ The objection against this method is a grammatical one, in other words, it is a problem of syntactic word order. If we take Wittgenstein at his word an action is situated within a language game and not in reverse.⁸ From this perspective an action is based on the language used in the course of this action. A language game in the context of action can never originate from an arbitrarily chosen thought experiment. An individual’s considerations on an action would be part of his language game. It is the action that emerges from a language game and not the language game that develops from an action.

One must not forget that the word “action” is an ambiguous expression. The German word “*Handlung*” points to language games associated with action verbs, such as “speak”, “write”, “go”, etc.⁹ Wittgenstein views the meaning of action situated in the way we speak about it. He explains this in the following quote:

In so far as the meaning of words appears in the fulfilment of an expectation, in the carrying out of a command, /appears in a fact (action)/ it makes its appearance in the description of a fact. (Thus it is completely determined within grammar.)
(In what could be foreseen, in what one could talk about, even before the fact occurred.)¹⁰

Moreover he points to the manifold contexts in which action may appear. As such, “action” may refer to a single act or else to a set of acts, a deed and a doing in progress. Action is characterized by movement and procedure. The latter implies a process that goes on and develops in an order. The polysemic nature of the word “action” allows for many different language games. Its meaning

⁷ Wittgenstein, Z, §§ 374f.

⁸ Wittgenstein, Z, § 391. Wittgenstein’s point is, rather, that first-person unlike external states of affairs in the world, have a different epistemology, cannot be doubted or don’t enter into the “language game of doubt” so they don’t enter into the language game of knowledge and so it can’t be properly said of them that they are known.

⁹ Wittgenstein, PI, § 615.

¹⁰ Wittgenstein says this: “Soweit sich die Bedeutung der Wörter in der getroffenen Erwartung, in der Befolgung des Befehls zeigt /Soweit die Bedeutung der Wörter in der Tatsache (Handlung) zum Vorschein kommt / kommt sie in der Beschreibung der Tatsache zum Vorschein. (Sie wird also ganz in der Sprachlehre bestimmt.)

(In dem, was sich hat voraussehen lassen; worüber man schon vor dem Eintreffen der Tatsache reden konnte.)” Wittgenstein, BT, TS–213, 43r[4].

may be definite in some language games and vague in others, both of which may partly overlap. Actions seem to be embedded in language games and its meaning can only be detected within a particular language use. Wittgenstein explains that in the following quote:

Our mistake is to look for an explanation where we ought to regard the facts as ‘proto-phenomena’. That is, where we ought to say: *this is the language-game that is being played*.¹¹

A language game reveals the essential content of what it aims to express. Language games develop on the basis of rituals and customs. Their function is determined by the action that accompanies them. Wittgenstein describes a language-game as “...consisting of language and the activities into which it is woven”.¹²

Every action we carry out habitually was learned at a given time. The origin of our language games is not purely coincidental but goes back to the special conditions of our socialization. Our actions are coupled with certain linguistic expressions that we have learned to use. The fact that I am writing this introduction reveals a particular way of writing in which I rely on a graphic representation of language. My mode of expression does not only transmit a specific content but also a manner of dealing with a topic. Wittgenstein underlined that all actions are to be treated as abstract concepts (*allgemeine Begriffe*) with indefinite reference. As such the action of writing entails a specific technique. We shall apply this assumption to the scope of the term “work”. Undoubtedly, for an employee it has a different meaning than for an employer. The action of “working” is not value-free but implies distinct techniques for different activities. Whereas an employee tends to carry out repeated actions of manual work following a certain working method (*Regelfolge*),¹³ his employer is occupied with the planning of projects and bookkeeping.

But how can we determine the content of an action if it involves manifold connotations? Wittgenstein’s answer to this question is very different from the

11 Wittgenstein says: “Unser Fehler ist, dort nach einer Erklärung zu suchen, wo wir die Tatsachen als ‘Urphänomene’ sehen sollten. d.h., wo wir sagen sollten: *dieses Sprachspiel wird gespielt*.” Wittgenstein, PI, § 654.

12 Wittgenstein says: “Ich werde auch das Ganze: der Sprache und der Tätigkeiten, mit denen sie verwoben ist, das “Sprachspiel” nennen.” Wittgenstein, PI, § 7.

13 Wittgenstein says: “Unser Paradox war dies: eine Regel könnte keine Handlungsweise bestimmen, da jede Handlungsweise mit der Regel in Übereinstimmung zu bringen sei.” Wittgenstein, PI, § 201.

solutions provided by traditional philosophy. He offers a frame of reference within which the problem of ambiguity can be solved. As mentioned earlier there exists a close link between a speaker's actions and the language games he or she uses. The adoption of a concept such as the language games allows us to explain why someone carries out a series of actions following a particular order. Let's assume a builder has received formation from his master in a professional setting and has put his knowledge to practice on many occasions (*Abrichtung*)¹⁴. In this process knowledge is transferred by language games in which specific tools are named with technical terms and construction techniques are described in crafts language. Without analyzing these language games we would be unable to distinguish between a professional builder and an undocumented worker.

Wittgenstein underlined that our actions are determined by the given (*das Gegebene*)¹⁵. Therefore they reflect our facts of life (*Tatsachen des Lebens*)¹⁶. Altogether, a speaker's language games, his or her actions and the given form a holistic system which follows certain regularity (*Regelmäßigkeit*)¹⁷. All these elements are part of a form of life (*Lebensform*)¹⁸. One's form of life follows a specific order of which one may gain a perspicuous overview. An action which lies open to view becomes perspicuous through a process of ordering.¹⁹ Every action is acquired and trained (*abgerichtet*)²⁰ and forms part of a person's manners (*Gepflogenheit*).²¹ Therefore actions are considered institutions. Each action is aimed at transformation and has performative character.

The present volume contains a collection of papers that scholars presented at the International Wittgenstein Conference entitled "Action, Decision-Making and Forms of Life", held at the Faculty of Law and Social Sciences of the University of Castilla-La Mancha in Toledo (Spain) in September 2015. The volume

¹⁴ Wittgenstein says: "An important part of the training (*Abrichtung*) will consist in the teacher's pointing to the objects, directing the child's attention to them, and at the same time uttering a word". Wittgenstein, PI, § 6. Cf. Wittgenstein, PI, § 86, Wittgenstein, PI, §§ 157f., "Erziehung (*Abrichtung*)" Wittgenstein, PI, § 189 and Wittgenstein, PI, § 441.

¹⁵ Wittgenstein, PI, § 345.

¹⁶ Wittgenstein, PI, II, i, § 2. Wittgenstein uses too: "*Lebensteppich*" or "*Band des Lebens*".

¹⁷ Wittgenstein, PI, § 208.

¹⁸Cf. Jesús Padilla Gálvez and Margit Gaffal, *Forms of Life and Language Games. An Introduction*, in: *Forms of Life and Language Games*, Eds. Jesús Padilla Gálvez, Margit Gaffal. Frankfurt a. M., Ontos Verlag, 2011, pp. 7-16.

¹⁹ Wittgenstein says: "...durch Ordnen *übersichtlich* wird." Wittgenstein, PI, § 92.

²⁰ Wittgenstein, PI, § 206.

²¹ Wittgenstein, PI, § 198.

opens with an introduction by Jesús Padilla Gálvez who sets out the framework within which human conduct is constituted. A person's form of life is described as the frame of reference within which actions proceed and decisions are made.

These introductory remarks are followed by Michel Le Du's article entitled "The Quest for Knowledge as A Form of Life: Collective Thought and Decision in Science" in which the author discusses the implications that arise from a view of science as a cultural product. Scientific achievements are to be accounted for by reference to social and cultural settings. Le Du explores the role of science viewed as situated between the poles of collective and individual thought.

In her article on "Actions Embedded in Forms of Life" Margit Gaffal argues that any meaningful action is the result of a person's form of life. Actions are studied within a conceptual frame within which language games and forms of life are closely intertwined. Forms of life are analyzed in the context of society.

Jesús Padilla Gálvez approaches the notions of action and decision-making from a grammatical point of view. Padilla Gálvez argues that word meaning does not immediately refer to reality but is situated within a language game. In line with Wittgenstein, the study of language games entails an exploration of the grammatical structures in which the term "action" is used.

Nuno Venturinha's article on "Moral Epistemology, Interpersonal Indeterminacy and Enactivism" deals with the possibility of a moral epistemology and suggests that interpersonal indeterminacy weakens the objectivity regarding the interpretation of our actions. Venturinha pleads for a shared framework to advance cultural variations.

In his article entitled "Wittgenstein on the Will and Voluntary Action" Modesto M. Gómez Alonso considers Wittgenstein's view of will as an adaptation of Schopenhauer's position according to which will cannot be captured by experience. Moreover Gómez Alonso explores Wittgenstein's philosophy from a Kantian perspective.

Oscar L. González-Castán contrasts the positions of Husserl and Wittgenstein in his contribution on "Structures, Dynamism and Contents of Our Belief System: Husserl and Wittgenstein". González-Castán explores the concepts of *Lebenswelt* and *Lebensform* from a cultural perspective and pleads for a phenomenological approach to the investigation of co-constitution and co-correlation of acts and objects.

In his article on "'Hinges' and the Boundaries of Epistemic Agency" Nicola Claudio Salvatore critically discusses the implications of two influential anti-skeptical proposals that were inspired by Wittgenstein's remarks on "hinges". Salvatore argues that both proposals fail to represent a valid response to skeptical worries.

Bernhard Obsieger aims to clarify the way in which actions and decisions relate to forms of human life in his contribution entitled “Decisions, Actions, and Forms of Personal Life”. Drawing on Aristotle and Scheler, Obsieger analyzes the relation between different possible forms of life with regard to a preference for different kinds of values.

The reader is given an informative overview of questions concerning the internal links and mutual interdependence between actions, decision-making and forms of life. As can be seen from the broad spectrum of the articles, the explanations and answers provided in reply to these questions are diverse.

Michel LE DU

The Quest for Knowledge as a Form of Life: Collective Thought and Decision in Science

1 Science as a Social Entity

If, by “science”, one means an assemblage of truths or a set of falsifiable hypothesis, there is no reason, of course, to say that science is social by nature.¹ Such an allegation makes sense only if, by this word, one doesn’t mean the outcome of science but the process of its construction. However, up to a certain point, just saying that science construction is a social process is a commonplace remark: obviously, scientists belong to research units as well as to larger communities, discuss with each other, exchange e-mails and arguments etc. and also have established connections with their financing agencies.

Although recent works in sociology of science seem, at first sight, to be content with the rather trivial point we have just made, they indeed support a much stronger thesis: they circulate the idea that science is a cultural product like any other, and liable to the same kind of explanation. This thesis was notably issued by what is now usually called the “strong program” in sociology of science.² The

1 Cf.: Glashow, 1992, p. 28 and Hacking, 1999, p. 66.

2 One of the first illustrations of the so-called “strong program” is David Bloor’s paper entitled “Wittgenstein and Mannheim on the Sociology of Mathematics” Bloor, 1973, p. 173–191. At the beginning of his article, Bloor lists the defining principles of such a program. (1) Sociology of knowledge must be *causal*: it must “locate causes of belief, that is, general laws relating beliefs to conditions, which are necessary and sufficient to determine them”. (2) Its program must be *impartial* with respect to truth and falsity. (3) It must be *reflexive* and explain its own emergence. (4) True and false beliefs must be explained by the same causes (= *symmetry* requirement). The first principle aims at establishing that explaining the very content of science is sociology’s business (See: Bloor, 1976, p. 1). However, one must underline that grasping causal connexions is not necessarily conducive to general laws: one can hardly avoid using a rudimentary notion of a cause, which is quite different from the sophisticated concept of a causal law. Moreover, it must be clear that adopting this principle compels to abandoning all kind of teleology as well as any reference to reasons or intentions. See: Isambert, 1994, p. 53. The very idea of taking into account the actors’ interpretation of their own deeds and decisions is also ruled out. Some commentators have wrongly considered the third principle (impartiali-

reason why this thesis is much stronger than the previous one is that, in explaining the evolvement of science and the decisions made by scientists, it ascribes the main explanatory role to “external” factors: scientific orientations and achievements are to be accounted for by reference to their social and cultural setting.

Promoters of this program sometimes draw an argument from the fact that such a disenchanted approach has successfully applied to works of art.³ The idea that, for instance, many paintings we consider outstanding creations, were not sheer products of the painter’s inspiration, but subjected to rough transactions, between the artist and the sponsor who commissioned them, has become familiar. Moreover, we do not have any evidence that a piece of art would have been any better if its creator had proceeded as the whim took him, instead of trying to meet his sponsor’s demands.

As I said, many sociologists of science suggest that, *mutatis mutandis*, the same line of argument should apply to sciences: sciences evolvement must be explained by external solicitations and demands in the first place. However, the funny thing in paralleling science and art is that it can inspire contradictory conclusions: one might underline how strong traditions and patterns of thought can be within a school and highlight how impervious they are to external solicitations. Ludwik Fleck, for instance, coined in 1935 the word *Denkstil*, for the purpose of labelling what he considered the cement of scientific communities (*Denkkollektive*), and his main concern, as he introduced the idea of scientific practices being endowed with style, was certainly not the alleged permeability of sciences to external influences.⁴ In science and in the arts, as well as in morality “acquisition of the inherited corpus is a base for further sophistication”.⁵ Highlighting this constitutive link with tradition surely makes think of science as a collective undertaking. But *being collective* and *being subjected to external influences* are two different things. Indeed, the very idea that innovative scientific research is a progress, depending on a tradition of normed thoughts, rather militates for a picture of science understood as an autonomous institution. Nevertheless, the comparison between science and art worlds has been used, for the

ty) to be the corner stone of the strong program. In fact, Robert K. Merton introduced it in the first place (Merton, 1949). We must also notice that if, by *impartiality requirement*, one simply means rejecting the idea of explaining *x* *believes that p* (*p* being a true proposition) by saying that *p* is true, principles 2 and 4 are turned into mere truisms. See: Hacking, 1999, p. 82.

3 See, for instance: Baxandall, 1972 and Becker, 1984.

4 Cf.: Fleck, 1980, English translation: Fleck, 1981.

5 See Scheffler, 1991, p. 99.

most part, in order to suggest that science is much more sensitive to its social environment than most people think. It's worth noticing that this issue, whatever one's conclusion is, doesn't have any direct impact on how the reliability and value of the results reached by science should be assessed. There is no reason for thinking that a commissioned research program would inevitably yield biased and deceptive results (although it's often the case) and that a program freely devised by scientist would necessarily be less off the mark and more objective.

In his 1973 paper, David Bloor aims at extending to mathematics the trademark thesis of the strong program, in other words, the idea that scientific knowledge lends itself to a sociological explanation. Accordingly, sociology is to be substituted for epistemology. Bloor grants that mathematics seems rebellious to such a treatment: how can we make sense of any sociological explanation of mathematics? This seems hopeless. However, the purpose of his article is to show that mathematics indeed lend themselves to a cultural explanation, as easily as any other piece of knowledge. The reason why this conclusion is generally overlooked, Bloor says, is that most mathematicians and philosophers stick to a false ontology: they believe mathematical truths to belong to an autonomous realm. If one gets rid of this false picture, it becomes easy to see that mathematics deserve a sociological explanation.

Speaking up for this thesis, he calls Wittgenstein in as an ally. He even goes as far as saying that the author of the *Philosophical Investigations* was the first to catch a glimpse of the social nature of mathematics. However, although mathematics might well be called "social" in many respects, it doesn't prove at all that the kind of explanation they deserve is sociological. And Bloor's undertaking conflates *scientific explanation* and *explanation of the scientific approach*. Let us see the details.

2 Bloor's Interpretation

Bloor's target is what one might call either *mathematical realism* or *mathematical Platonism*. He starts by quoting a crystal clear expression of such realism, held by the celebrated British mathematician G. H. Hardy:

I believe that mathematical reality lies outside us, that our function is to discover or observe it, and that the theorem which we prove, and which we describe grandiloquently as

our “creations”, are simply our notes and our observations ... 317 is a prime number, not because we think so, or because our mind is shaped in one way rather than another, *but because it is so*, because mathematical reality is build that way.⁶

If this is true, reference to mathematical objects and properties seems to be the only way to account for mathematical knowledge and these objects and properties remain outside of the sociologist’s jurisdiction. Accordingly, sociology can only deal legitimately with pedagogical traditions, training practices, research institutions running and show, at best, how they can become hindrances to the correct grasp of the mathematical realm. The picture offered by the realist is attractive: the mathematician, as well as the logician, is seen as someone tracing paths through a pre-existing realm. Bertrand Russell, for instance, held that the purpose of logic was to describe the most general aspects of reality. Wittgenstein tried to combat the attraction of this picture by showing that realism is unable to provide the kind of account one expects: accordingly, its explanatory power is illusory.

Why is it so? Realists (like Hardy) believe that the connexions we establish pre-date their being known. This goes hand in hand with, among other things, the idea that logic is a kind of “ultra physics”, the description of the “logical structure” of the world.⁷ In that respect, arithmetic progression also seems to exist in advance. Wittgenstein typically remarks:

And if it is known *in advance*, what use is this knowledge to me later on? I mean: how do I know what to do with this earlier knowledge when the step actually has to be taken? ... “But do you mean to say that the expression ‘+ 2’ leaves you in doubt what you have to write, after 2004 for instance?” –No. I answer ‘2006’ without hesitation. But just for that reason it is superfluous to suppose that it was determined earlier on. My having no doubt in face of the question does *not* mean that it has been answered in advance.⁸

Bloor draws an epistemological argument from these lines and, by so doing, expresses his agreement with Wittgenstein. The question he raises is: how is indeed this ideal archetype of number sequence supposed to guide our calculating practices? If such an archetype of our arithmetic progression does exist somewhere in advance, and if we are supposed to check whether our sequence sticks to this ideal one, such a check presupposes the very kind of knowledge

⁶ Cf.: Hardy, 1940, pp. 123–124 und p. 130.

⁷ See Wittgenstein’s reaction to geometrical realism in *Wittgenstein’s Lectures, Cambridge 1932–35*: “Geometry is not a physics of geometrical straight lines and cubes. It constitutes the meaning of the words ‘lines’ and ‘cubes’.” Wittgenstein, 1979, p. 52.

⁸ Wittgenstein, 1984, I, 3; I, 8.