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Possible Proofs and Method in Metaphysics

ABSTRACT. From a certain intuitionist point of view our world consists of everything that we have done. Focusing on epistemology, this amounts to the assertion that our world consists of everything that we have proved. Roughly speaking, proof turns into a method in metaphysics.

On the one hand, this position will face the problem of omniscience (Fitch's argument). On the other, actual limitations of our knowledge would make the world appear limited in a way that world and knowledge would have to develop *pari passu*. In order to avoid both consequences, modalizing of the conception of proof seems required. It is the author's purpose to investigate whether this correction leads to a consistent picture.

I

Authoritative advocates of semantical theories treating linguistic meaning neither singularly nor primarily as a purely linguistic phenomenon, agree in supposing an intimate correlation between meaning, belief and truth. Thus, the content of a belief will determine the meaning of the sentence communicating this very content while, on the other hand, the meaning of the sentence is supposed to help interpret the intention and belief of a speaker uttering the same sentence.¹ Moreover, correlations of this kind should justify extended metaphysical claims resulting from semantical, logical, and epistemological reasoning. They concern the question of what makes sentences true and assertions correct and how a reality capable of bringing this about would be shaped.

Yet, differences occur as soon as the notion of truth used herein is to be explained in detail and specification is needed as to which concept of objectivity or correctness is entailed by the semantical and metaphysical reasoning in question. Clarifications of this kind are necessary, since the notion of objectivity is indispensable for the distinction between reality and mere appearance as well as for the explanation of the error phenomenon.²

At this point we may distinguish two approaches. Firstly, we have Davidson's approach, joining objectivity with the existence and the impact of certain objects, and, secondly, we have the constructive point of view, which considers the correctness of actions, or of acts performed with certain attitudes, as elementary for objectivity. In semantics as in metaphysics the former approach favours the notion of truth *simpliciter* which simultaneously answers for objectivity or correctness.³ If, on the contrary, the world consisted of everything we have done, or, more specifically, of everything we have proved, as a certain constructive or intuitionist viewpoint suggests, then proof or justification would count as a method in metaphysics. A normative notion of objectivity governs these practices and allows for the distinction between correct and incorrect actions. However, this position faces the reproach of inevitably claiming omniscience. Furthermore, actual limitations of our knowledge would make the world appear equally limited.

In the following, I will initially characterize these two positions in more detail and specify the differences between them (II, III). Subsequently, I will investigate whether modalizing the notions of truth and proof is an apt means to avoid the depicted consequences within constructive theories (IV). In part (V) I will summarize my results: Can a procedure linked to the concept of provability claim the status of a method in metaphysics? And how does this procedure relate to Davidson's method of truth?

II

(1) When Davidson proposed in 1977 to make use of truth as a method in metaphysics he was well aware that he had not come up with something completely new. He himself refers to a list of philosophers from Plato to Strawson and mentions Quine as an important predecessor who has already shown a similar path from logic and semantics to ontology.⁴ Had he merely been interested in a truth-based connection between logic and metaphysics, he might have also pointed out Bolzano's doctrine of judgement⁵ or possibly sought support in Frege's concept of truth which confronted Frege with the necessity to recognize a proper domain of the sense of sentences or thoughts (*Satzsinne* or *Gedanken*).⁶ Yet, Davidson refuses Frege's approach.

Not only is he suspicious of the introduction of intensional items, but also of the fact that, according to Frege, striving for truth makes it necessary to advance beyond the sense of a sentence (*Satzsinn*) to its meaning (*Bedeutung*), which he equates with its truth value. Consequently, assertion sentences would have to be considered concerning their meaning as names for their truth values.⁷ As Davidson holds, this consequence conflicts with the ontology suggested by natural languages in a, as it were, natural way. Therefore, what may be learned about metaphysics from Frege's method seems obscure to him.⁸

Quine's doctrine, according to which "to be" means to be the value of a bound variable,⁹ seems to him much more instructive. Thus, everything can be said to exist that satisfies the truth conditions of the sentences of a language or theory, put in a canonically formulated, quantified form, i.e. everything that is a value of their bound variables.¹⁰ Thereby, a theory pragmatically presupposes the framework of those entities, which make true their adequately shaped sentences (*ontological commitment*).¹¹ In so doing, truth is considered as a primitive notion.

In Quine, criteria of economy play an important role for the choice of a theory. Since it is Davidson's intention – as he states – to use Quine's procedure not to improve natural language but rather to understand it better, he is inclined to put much more types of sentences into the quantified form than Quine himself. Thus, for the truth of these sentences a much broader ontology is required. Anyone who makes use of action sentences has to presuppose the existence of persons and events. Anyone who states a sequence of actions has to include moments of time into his ontology to allow for reference and truth within the framework of classical semantics.¹²

(2) The logic that paves the way from semantics (truth and a holistically modified concept of reference) to metaphysics is the standard first order predicate logic plus identity. By reason of its simplicity, its completeness and its consistency it is preferred to other, alternative logical frameworks. Sentences of its form are mapped onto one world.¹³ This procedure precludes modal sentences. If "to be" means to be the value of a bound variable, and provided that ontology deals with questions of existence,¹⁴ and supposing that existence is what is expressed by existential quantification, then ontology presupposes quantification in that very sense that there exists

only that on which you can quantify. Logical modalities *de dicto* as well as propositional attitudes will create, however, opaque contexts. Therefore, they will fail the identity criteria of referential objects inalienable for quantification.¹⁵ Consequently, the possible cannot be treated as individual but exclusively as universal.¹⁶

(3) According to the “method of truth”, the ontology in the sense of a domain of existence is determined by the choice of a logic and a scientific theory, although, if the theory is supposed to be intelligible and thus be proved a theory at all, the choice of the theory will not be entirely arbitrary. In this context the notion of objectivity will turn out as decisive. As Davidson continues his corresponding methodical reasoning, he is led to the assumption that in sharing a common language, or theory, and a logic used in it, we also share a picture of the world which cannot be basically false. According to a stronger version of this thesis, this picture must even be on a larger scale *objectively* true. Since differences in beliefs only become comprehensible against a background of shared beliefs, it turns out to be impossible to judge beliefs mutually as mostly false.¹⁷ Concerning each question, the cardinality of the set of opinions we agree on must be larger than the cardinality of the set of dissent. This would mean that a belief system must be held mainly as true, in a coherence theoretical sense,¹⁸ otherwise it would not be possible neither to interpret it nor to count it among the belief systems at all. Holism withstands global skepticism. If you entertain a thought, then you will necessarily have a lot of further thoughts which are related to the first. Provided that some meaning is understood, necessarily a multitude of further meanings will follow likewise. If one sentence is true then a lot of sentences, presupposed and implied by the first, must be true, and if one agrees in one single belief, it becomes compelling to share many others of them.¹⁹ A prevailing or even entire *objective* falsity of an ontological view would not be a feature which could be made intelligible within a language or a theory.²⁰

Even an omniscient interpreter who has an extensive and infallible knowledge of the world at his disposal might communicate his criticism of the errors of his fallible interlocutors only on the basis of a large degree of consent, where in this very case consent would guarantee truth.²¹ As interpreter of the beliefs of other speakers he does not find himself in a

privileged position compared with the fallible interpreters. Like them he is forced to make use of a principle of reverse charity,²² which implies that a theory is understood the better the more of the own resources are read into the interpreted theory. Since the consent and coherence theoretical view is inevitable for any belief system considered under the auspices of his theory of interpretation, Davidson urges that our beliefs cannot be mainly false, also in a correspondence theoretical sense²³, but must be, for the most part, true: “coherence yields correspondence” – “belief is in its nature veridical.”²⁴

(4) However, the argumentation in favour of the transition from consent and coherence to correspondence thus seems hardly plausible and requires a supplementary step. This step consists of a speculative moment which answers for the desired objectivity and is intended to obstruct the possibility of an ontological as well as an epistemological nihilism:

[W]e must, in the plainest and methodologically most basic cases, take the objects of a belief to be the causes of that belief. And what we, as interpreters, must take them to be is what they in fact are.²⁵

Objects of the outside world induce linguistic reactions by stimulation of the human sensory receptors. Thereby they causally determine the content of the expressions referring to them and, simultaneously, cause the linguistically conveyed contents of beliefs of them. The content of a belief is its cause in the world. This does not only mean that the contents and the correlating sentences are caused via stimuli. The objects of the outside world also cause the judging person to have first of all beliefs of these objects and to hold the corresponding sentences as true.²⁶

Under these conditions it appears to be clear: If a causality of the mentioned kind would ceaselessly lead to false results with fallible speakers and interpreters, i.e. that they would, as it were, systematically do whatever they like with a causal input, or if interpreters would suspect the speakers to react mainly incorrect, namely inadequately or arbitrarily,²⁷ then it would not be useful to assume such a causality at all. This assumption would not explain anything. Yet, if we accept Davidson’s robust causal externalism which is prior to any ontology in the sense of specific ontological commitments,²⁸ we cannot suppose, under the pain of self-abolition of this very concept, to be

systematically deceived about the meaning of sentences, the truth of beliefs and the existence of objects.²⁹

At present even a valid extended argument for the “method of truth in metaphysics” solely demonstrates that the cardinality of the set of true beliefs will be necessarily larger than the one of the set of false beliefs.³⁰ It specifies the kind and the extension of ontological commitments and helps to establish certain classes by inferences with the form of *modus tollens* ($\neg A \supset \neg B, B \Rightarrow A$):³¹ (i) If there weren’t any events at all, a large number of our sentences and claims about events could not be true (by quantified form of sentences and ontological commitment). (ii) We now mainly hold true our sentences about events, and our shared practices cannot systematically produce error (by the argument extended by causal externalism). (iii) Therefore, we have to presuppose the existence of events, or more precise, the existence of the class of events.

On the other hand the argument does not furnish us with a procedure to determine which individuals and which elements of a class exist and which sentence is true and which is not. There is only the promise of holism that a pattern of inferences (syntactical notion) which contains a lot of unknown quantities will be dissolved into a coherent system of semantic knowledge and epistemic certainties. For every element seems determined with regard to its meaning and existence by its position in a system of mutual ontological dependencies, and it may be identified by inquiring in this position.

(5) The “method of truth” provokes problems and objections. (i) In the first place the triangular conception of meaning, belief, and causes strikes as being almost magical. *Prima facie* it may seem plausible to assume the existence of water when sentences about water are supposed to be true. But water may be the object of esthetical contemplation or may be water that hits us, as waves do, or robs us of our property, as a flood does. We distinguish drinking water, washing water, and bath-water, cooling water and holy water, water for washing up and water for watering plants, collected and stored water and water which like sewage serves to collect or transport other materials. The chemical structure will be quite similar in most of these cases. But this does not matter at all. The distinctions result from human practices, and it would be strange to assume that there were a

definite object or entity in the outside world which is causally determining the meaning of the word by stimuli and which the word “water” would normally (or naturally) be referring to.³²

These findings touch upon the correlating beliefs and their truth. Also the criteria of two person’s agreement in an opinion and their agreement of meaning the same will be rather of pragmatic than of metaphysical nature.³³ Observations of this kind are appropriate to weaken the project of the causal externalism and to question the claim of a semantical, epistemological, and metaphysical position that considers the notion of truth *simpliciter* as primitive.

(ii) A further problem consists in the fact that the “method of truth in metaphysics”, even if it were practicable, arrives at the most at a picture which, in its large features, is true, while it will often remain unknown which particular statement is true and which particular object exists.

We suppose that much of what we take to be common is true, but we cannot, of course, assume we know where the truth lies. We cannot interpret on the basis of known truth, not because we know none, but because we do not always know which they are.³⁴

The objective truth of the ontological overall picture does not only imply a host of true sentences, it also includes a multitude of true beliefs concerning the truth which is unknown to the judging persons. Furthermore, this may suggest the assumption that in Davidson’s argument the truth of a belief is finally reduced to the truth of the content of this belief. The assertion of a proposition is correct, if the proposition that serves as content of this assertion is really, i.e., objectively true. Thus, the legitimacy of the attitude of holding true will be the truth of the content one is convinced of.³⁵ The objectivity or rightness Davidson speaks of is generated causally. It is the objectivity of a shared world by reason of common causes. The ontological reduction of epistemic and normative concerns entails the levelling of the difference between causes and reasons, between contexts of description or genesis and contexts of justification, and, altogether, between reality and rightness (objectivity).³⁶ Beliefs that are supposed to be correct only by virtue of their true contents will probably be only blindly true. This may thus also be valid for whole sectors of the pattern of inferences what might effect that our metaphysical picture of the world were in its large features

rather blindly than justifiably correct. This is the price for a situation in which the notion of correctness or objectivity and the notion of truth converge for the sake of the “method of truth”. This price is high, and perhaps it will be too high.³⁷

(iii) While at first glance it looks as if Davidson considered objectivity as a natural kind, a second view proves the „method of truth in metaphysics“ as based on assumptions altogether prior to ontology. The readiness to accept the causal externalism is not placed on the same level as the commitment to the existence of water, or events in general, if the respective sentences are to be true. For it seems hardly justifiable to suppose causal externalism to be similarly causally induced, while the transcendental argumentation that without externalism and triangulation we have no contents of beliefs or sentences at all,³⁸ is still without proper foundation, unless alternative ways of explanation are ruled out.

III

Difficulties of the depicted kind seem to be avoidable within a constructive theory of a Martin-Löfian style. According to this approach the concept of judgement is more basic than the concept of proposition, and the concept of correctness of the act of judgement performed with a content is conceptually prior to the concept of truth of the propositional content of this act, as actions generally are considered as conceptually preceding contents or results.³⁹ In an order of conceptual priority one concept is prior to another if defining or explaining the second requires reference to the first.

A judgement that judges a proposition to be true is defined by laying down what it is, that you have to know, in order to be right to make this judgement. Knowledge of this kind entails the preceding judgement by which we get to know that the content of the judgement is a correctly formed object. The content of a judgement that takes a proposition to be true thus depends on a preceding judgement which proves the required quality of the content by stipulating how a proof of the proposition is formed, for a proposition is constructively defined by laying down what counts as its canonical proof.⁴⁰

A proposition is true, if there is a proof *object* which makes the proposition true, which means that there exists something which satisfies the exposed definition. Hence, we arrive at a constructive pendant for Dummett's formulation of the principle *C*, i.e., for the notion of truth as correspondence:

If a statement [proposition] is true, there must be something in virtue of which it is true.⁴¹

The notion of existence which enters here is obviously not the notion of existence that is expressed in terms of the existential quantifier.⁴² Rather, "to exist", as used in the principle *C*, means that the concept of proposition is satisfied or is nonempty. A concept exists if at least one object falls under this concept. Hence, a proposition defined as the type of its proof objects is true, if the set of its proof objects contains at least one element.

A judgement is correct or true – as the predicate occurs in the writings of Dummett and Putnam – if the person who makes it is able to perform a proof act by assigning a proof object to a corresponding proposition, i.e., if she demonstrates that the set of proof objects of the judged proposition is nonempty or, as constructivists like to say, inhabited. The judgement that claims a proposition to be true cannot be evaluated further than unto the point where the insight is gained that a canonical proof object *a* makes true a certain proposition *A*, which means to entertain the corresponding knowledge. In the conceptual order the notion of correctness of the act of judging is more basic than the notion of truth of its propositional content.

(i) Here *correctness* is a normative and epistemic concept. It answers for the concept of objectivity, forestalls arbitrariness in acting and judging, and involves the notion of knowledge. If we know a proposition we know how a proof for this proposition is formed. A judgement having this proposition as its content is correct if it can be judged with evidence, i.e., if its truth is known because it can be made evident.⁴³ These conditions are precluding blind judgements. The question of the correctness of a judgement should always be decidable, unlike in the case of the truth of a proposition.⁴⁴

(ii) Certainly, the constructive approach requires that logic entails an epistemic and thus also a practical element in which it differs from classical modern logic.⁴⁵ This is valid also for the theory of meaning. The relation

between intuitionist logic and meaning theory becomes manifest in the Brouwer-Heyting-Kolmogoroff interpretation of the proposition, the judgement and the logical constants. Thus, in accordance with Husserl's terms "Bedeutungsintention" (*meaning-intention*) and "Bedeutungserfüllung" (*meaning-fulfillment*), Heyting calls the proposition the expectation that a certain intention can be fulfilled by exhibiting a certain construction, while the judgement means that this intention is fulfilled.⁴⁶ Kolmogoroff considers this as the relation of a problem or task and its solution.⁴⁷

The sense of a non-canonical proposition is a program, the execution of which results in a canonical proposition that is to be considered as its meaning or semantic value. The sense of a non-canonical proof object is a program, the execution of which terminates with a complete evaluation into a canonical proof object that is to be considered as its meaning. In the case of canonical objects sense and meaning collapse. Hence, unlike Frege held, they do not belong to different realms.⁴⁸

If both, the content of a belief and the act of attaining a belief, and of getting knowledge, are represented, the account of belief becomes richer in structure. Since the theory is, as it were, in close touch with our epistemic and linguistic practices, the epistemic and ontological distinctions mentioned for the term "water" which are defined by practice should likewise be covered by a meaning theory in this style.⁴⁹

(iii) As I have emphasized the distinction between act and objector result and the notion of rightness or correctness are fundamental for a constructive approach. Thereby the correctness of objects turns out to be derived from the correctness of acts. An action is correct if a method or means is known to bring about its result. The result is correct if it is brought about by means of a correct action. However, if we have serious doubts about the correctness of the result of an action, we will trace back the way it was brought about to check whether it was correctly performed.⁵⁰

Thus, proving or demonstrating is a rule governed activity which makes up one element of the domain of action considered to be the domain of rule governed activity. Therefore, logic deals with a special case of rule governed activity: If we extend the concept of logic to a rule for all the activities which are rule governed, as Martin-Löf proposes,⁵¹ then this will

lead us from reasoning about the practice of asserting or inferring to reasoning about actions in general. And if, moreover, we will acknowledge the dependencies between meaning theoretical, truth theoretical and epistemological questions, on the one hand, and metaphysical questions, on the other hand, as I mentioned at the beginning of this paper, considerations of this kind will also show us the way to a more general ontological or metaphysical picture:

The duality between act and object is almost the same as the duality between life and world, where I take it that life and activity are synonymous, because if you consider just a single act and its object, then of course we use the terms act and objects, but if you consider the whole stream or flux [...] not only of the actions that I perform, but the actions that all of us, living beings, perform, then this stream is our life, and correlatively, we speak of [...] our world as the world that consists of everything that we have done together. If you understand the notion of world in this way, as the totality of all objects that have been done, that is, objects of all actions that have been performed, then it is clear that the world is by its very nature our life world, Ger. *Lebenswelt*, in Husserl's terminology. On this conception, it simply does not make sense to speak of world in any other sense than of that life world, of world in which we live.⁵²

IV

(1) In the following I will now focus on an investigation of the notions of judgement and proof and their role in method in metaphysics.⁵³ For as it seems, these topics will contain a sufficient number of problems. With two of them I will deal more in detail now.

(i) If our world consists of everything that we have done, then from an epistemological point of view it consists of everything that we have proved. Thus, proof becomes a method in metaphysics, and the method of truth remains such a method only in so far as the concept of truth can be explained by means of the concept of proof. Then, however, the objection suggests itself that it is counter-intuitive to assume that a proposition becomes true when it is proved (*infra* (2)). Therefore, modalizing the notion of proof seems expedient, unless we want to assert that the true and the

known were co-extensional, thus having to ask for omniscience (infra (3)).
But also Dummett's principle of knowability (K),

If a statement is true, it must be in principle possible to know that it is true,⁵⁴

and its proof theoretic version (K'),

If a proposition is true, it must be in principle provable that it is true,

which answer for an anti-realist conception of truth, seem to be in a sorry state because it is doubtful that the "true" we have in the conditional clause is the same as the "true" we have in the main clause. A constructively acceptable interpretation of the principle K has to be explained particularly (infra (4)).

(ii) On the other hand, as I mentioned above, actual limitations of our knowledge would make the world appear limited and world and knowledge would have to develop *pari passu*. Also here a modest modalization is required to help to avoid consequences of this kind (infra (5)).

(2) The attack against the non-realistic conception of truth has the form of *reductio ad absurdum* and is known under the name Fitch's argument.⁵⁵ It can be reconstructed as follows:⁵⁶

At the beginning we have the principle K ,

(K) If a proposition A is true, it can be known that A is true.

Certainly, there is also that which is true although not actually known to be true.

(a) A is true and it is not known that A is true.

Obviously we are not omniscient. However, if (a) is true, it should be possible to apply principle K to (a), too. Hence, if (a) is true, it must be possible to know that (a) is true.

(b) It can be known that A is true and that A 's truth is not known.

If knowledge is distributed to both of the two conjuncts, the following holds as well:

(c) It can be known that A is true and that it is known that A 's truth is not

known.

If knowledge implies the truth of the known, so finally we get

(d) It can be known that A is true and not be known that A is true,

which is obviously contradictory. So we will face the unpleasant alternative either to enter a claim for omniscience,

(e) If a proposition A is true, it is known to be true,

or to discard the attempt to define truth in a non-realistic manner.

(3) Against this, we may firstly insist that the advocate of a non-realistic conception of truth is not required to acknowledge that there is something which is actually true although not known to be true. Admittedly Fitch's argument seems to start with this (a). Nevertheless this would relate a *simpliciter* true proposition which expresses the content of an epistemically superior divine knowledge to a contingent ignorance. But there is no meaningful use for (a) in our linguistic practice which would not be poetical. The intuitionist should, however, acquiesce in the fact that not everything that is true is also known to be true. From a constructive point of view these two statements are not equivalent.

Secondly, we do not need to accept that knowledge is distributed to the conjuncts, as it was said in (c).⁵⁷ Here the difficulties become more obvious, when we give Fitch's argument in a proof theoretical form.

(K') If a proposition A is true, it is possible to prove that A is true.

(a) A is true and it is not proved that A is true.

(b) It is possible to prove that A is true and that A is not proved.

(c') It is possible to prove that A is true and to prove that A is not proved.

(d') It is possible to prove that A is true and not to prove that A is true.

(e') If a proposition A is true, it is proved that A is true.

In the constructive reading "it is possible to prove that A is true" corresponds to the judgement that A is a proposition, which means that a procedure of proving the proposition A is known, so that A can be proved, whereas the judgement "proposition A is true" means that A has been proved. Hence, the conjuncts differ in the kind of knowledge they represent.

This will lead us, thirdly, to the result that reasoning on these subjects will gain sufficient clarity only if we distinguish between actual and potential truth and between the notion of actual existence of a proof and the notion of potential existence of a proof.⁵⁸ This distinction is of great importance, and it is suppressed in Fitch's argument. If we make the distinction explicit this might be pernicious for both the argument and its proof theoretically noted version.

That a proposition A is actually true, means that A has been proved, i.e., a proof object of A actually exists because it has been constructed and therefore the truth of A is known. Proposition A is true, in the sense of potentially true, if A can be proved, i.e., a proof object of A potentially exists because it can be constructed. Then, if we take the "true" of the first conjunct of (a') in the sense of "actually true", the sentence (a') is contradictory or absurd. Since „ A is actually true“ plainly means that A has been proved and that a proof object of A actually exists, it cannot at the same time be said that A has not been proved. However, if „true“ here means „potentially true“, then the problem vanishes. Before the proposition A has been proved, it could already have been proved, due to its being potentially true and there being a possible proof of it, which means that a proof object potentially exists.

Hence, there are no propositions which are true but could not be proved.⁵⁹ For actually true propositions are proved propositions, according to their definition, and that which has been proved can be proved.⁶⁰ „Potentially true“, however, is explained by „can be actually true“. Hence, it becomes evident that the notion of actual truth precedes the notion of potential truth in the conceptual order.⁶¹ On the other hand, there is no reason to assume that all potentially true propositions will ever be proved and therefore be actually true (*principle of plenitude* (e')), whereas it is entirely intelligible that a proposition is true but not actually proved (a').

(4) While potentially true or provable propositions are tenseless true, i.e., that they neither must have been proved, nor are being proved, nor will necessarily be proved, according to a consideration Dag Prawitz⁶² entertains, the judgements having these propositions as their contents cannot be tenselessly correct.⁶³ Like a tensed actually true and, therefore, proved

proposition, an untensed, potentially true proposition exists in dependency of a judgement which is correct at a certain time.

On the level of judgements we have to deal with corresponding distinctions. However, since every judgement of the form “ A is true” depends on a judgement that proves A to be a proposition, as pointed out (supra III (1)), we deal with a tripartite distinction of logically possible, actual, and potential judgements.⁶⁴ A judgement “ A is true” is logically possible as soon as it has been stipulated how a proof of the proposition A is formed. By this it becomes clear what it means to judge “ A is true”. An actual judgement is a judgement that has been made. This means for a judgement of the form “ A is true” that a proof object of A has been constructed so that A is actually true. A really possible or potential judgement is a judgement that can be made. This means for a judgement of the form “ A is true” that a proof object of A can be constructed so that A is potentially true.⁶⁵

Obviously every judgement, whether actual or potential, has to be logically possible, while a potential judgement is a judgement that can be actually made. Therefore, the notion of an actual judgement or a judgement that has been made is conceptually prior to the potential judgement, which of course does not mean that necessity of actualization enters into the definition of the potential judgement, namely that it has been, is being or will be proved.

With this distinction, we have stated the conditions of correctness, which have to be fulfilled in order to have in each case the right to make or conclude possible, actual, or potential judgements. If a judgement is correct it represents some kind of knowledge, i.e. the judgement is known. The judgement is correct and its propositional content is true, where the correctness of the judgement guarantees the knowability of the propositional truth. By reason of this insight Martin-Löf was motivated to change the conditional clause of Dummett’s principle K – “If a statement [proposition] is true” – into “If a judgement of the form ‘ A is true’ is correct”, transforming the principle into a modified or improved wording which runs as follows:⁶⁶

If a judgement of the form “ A is true” is correct, then the proposition A can be known to be true.⁶⁷

(5) The preceding reflections on modalizing will by themselves provoke doubts about Martin-Löf's thesis according to which the world or life-world is equal to the totality of what we have done, i.e. of all objects or results that have been brought about agentively. This definition seems to turn out to be too narrow, and indeed it suggests the suspicion that from a constructive point of view world and knowledge could not develop otherwise than *pari passu*. We should, however, distinguish forms of development of knowledge, on the one hand, and forms of knowledge, on the other. Concerning the development of knowledge, our knowledge may change or expand because we acquire knowledge about something that itself is in change (*dynamic change*). Furthermore, our knowledge of objects, which remain as they were, can grow or change (*static change*).⁶⁸ If we focus on the latter form of change, however, we should be able to tell actual from potential knowledge.⁶⁹ The discrimination between potential and actual judgements offers us a means to explain Martin-Löf's thesis in a way which no longer exposes it to the above mentioned objection: The flux or stream of our actions and of their objects is supposed to be distinguished into potential and actual ones.

Think of a theory or of a picture of the world as a sequence of judgements progressively depending on each other. In the following this sequence will be called a context. We expand our context (in the technical sense) by adding new knowledge we have gained and which is compatible with the judgements our context already contains. If we get an insight which conflicts with the previous knowledge, we have to trace back the sequence onto the point where we then replace the former judgement by the new one, modifying all the judgements of the sequence which are affected by this exchange. Starting context, expanded context, and revised context are all actual contexts. They consist of actual judgements, i.e., of judgements that we have already made. In this sense these contexts correspond to the stream of our actions or to our life, as Martin-Löf's thesis on metaphysics points out, while the contents of these contexts constitute our world (*Lebenswelt*) or the totality of the objects that we have done or judged or of the results that we have brought about. But just this definition seems to prove too narrow.

Besides our actual knowledge, the judgements that we have made, our context also contains the judgements that can be derived by the logical rules from the judgements that are actually given in our context. These judgements are potentially given in this context and constitute our potential knowledge.⁷⁰ Judgements which are potentially given in a context are related to the actually given ones as something which can be actualized. The actualization of a potentially given judgement (in the sense of *static change*) is a deductive process. We infer monotonically. There will be no new knowledge added unless it has previously already been a potential knowledge which has been given with a potential judgement of the context. The new knowledge originates from the knowledge that we are already actually equipped with.

By analogy with what we have said about actual and potential judgements we have to observe that judgements given potentially in a context and the potential truth of the propositions contained in these judgements do not exist independently of any actual knowledge. Their potentiality depends on the actuality of other judgements. Here we are again in perfect accordance with Martin-Löf's definition. For the potential judgements, which are given potentially in our context and which can be actualized, are entirely dependent on the totality of what we have already done.

Here we deal with a constructivist's concept of logical closure.⁷¹ A context of judgements potentially contains everything that can be derived from what is actually given in this context. This is not equal to everything which is logically implied by the truth of the propositions of a theory according to the rules of classical logic. However, a context is a potentially closed sequence of judgements and not a set of sentences or propositions which is closed under logical consequence.

Considered in this way, the world does not only consist of what we have actually judged or proved but also of the potential proofs which can be constructed or performed on the basis of our actual proofs but which we will not necessarily perform in total,⁷² since our capacities are limited and our interests are specifically assessed. The world, our world in the sense of life-world, develops *pari passu* with both the knowledge that is given actually and the knowledge that is given potentially in our context, not with actual knowledge only.

V

What have I shown? I have not demonstrated that the constructive approach is right and the Davidsonian is the wrong. This would not be possible, as already Fichte featured with respect to a similar discussion.⁷³ Nevertheless I indicated where my own sympathies lie in this hardly decidable debate. Of course, considered in its own merit this might be neither philosophically interesting nor relevant. The benefit of my inquiry may be something else. To justify my view, on the one hand, I have exposed the price that is to be paid for the viewpoint of truth as method in metaphysics, and on the other I tried to show how the contrary charge of an intuitionist method of proof in metaphysics can be lowered if modalization on the three indicated fields – truth or provability of the proposition, knowability of the judgement, and development capacity of contexts – are taken into account and carried out. Considerations of this kind are in view for several years and might revive a methodical discussion about metaphysical questions which appear subsequent to truth theoretical, epistemological, and meaning theoretical questions.⁷⁴

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NOTES

¹ Cf. Quine (1981, 38), Davidson (1983, 147), Sundholm (1986, section 7), Ranta (1994, 54-7 et al.), and Martin-Löf (1995, 188).

² This concept, therefore, serves to reject ontological as well as epistemological forms of nihilism. Cf. Davidson (1995, 204), (1997, 26-7), and Sundholm (MS., sections 1 and 3). See also Frege (1893/1903, vol. 1, xv-xvi, xviii).

³ Davidson (1995): “The problem is to account for our having the concept of objectivity – of a truth that is independent of our will and our attitudes.” (208) “To have the concept of truth is to have concept of objectivity” (211). See also the passage in Frege (1893/1903) referred to in note 2.

⁴ Cf. Davidson (1977, 203).

⁵ Cf. Bolzano (1837, 104 (§ 19)).

⁶ Cf. Frege (1918, 353-4).

⁷ Cf. Frege (1892, 149) and (1893/1903, vol. 1, x).

⁸ Cf. Davidson (1977, 202).

⁹ Cf. e.g. Quine (1939, 708), (1948, 13), and (1960, 242, 243 f. (§ 49)); see also (1943, 118) and (1969, 97).

¹⁰ Cf. Tarski (1944, 63).

¹¹ Cf. Quine (1969, 96) and also (1948, 13, 16-7) and (1960, 242 (§ 49)).

¹² Cf. Davidson (1977, 211 (*times*), 212-3 (*people*), and 214 (*events*)).

¹³ Davidson (1977, 210): “The issue of ontology is forced into the open only where the theory finds quantificational structure, and that is where the theory best accounts for the pattern of truth dependencies by systematically relating expressions to objects.” – The elements of this theory are sympathetically portrayed by Neale (1999).

¹⁴ Cf. Quine (1948, 1). This can already be found in Clauberg (1656, 281) who introduced the term “ontology” into philosophical terminology (see also Goclenius (1613, 16). But there is little argument concerning the Aristotelian conception of a first philosophy as a science of causes and principles. For his conception the question of what there is will be at best of peripheral interest; cf. Aristotle, *Metaphysica* Γ 1, 1003b 31 f.

¹⁵ For the connection between opacity, quantification, and ontology cf. Quine (1953, 142-5, 148-9, 150). On Quine’s slogan “no entity without identity” cf. (1969, 23), and (1990, 52 incl. Fn. 8). – On Davidson’s reservation to non-extensional sentence operators cf. (1999a, 89).

¹⁶ Cf. Quine (1947), (1953), and (1960, 34 (§ 8), 245 (§ 50)). In § 41 Quine deals with Carnap (1947, §§ 40-44).

¹⁷ Cf. Davidson (1975, 168), (1977, 200), and (1983, 150). (1995, 217): “[W]ith respect to most of our beliefs, any particular one may be false. [This] does not mean: with respect to the totality of our beliefs, most may be false”.

¹⁸ Davidson (1983, 141): “What distinguishes a coherence theory [from others] is simply the claim that nothing can count as a reason for holding a belief except another belief.”

¹⁹ Cf. Fodor and Lepore (1992, 6-7, 9).

²⁰ Cf. Davidson (1977, 199-201), and (1983, 150-1). The argument is supposed to demonstrate that Davidson’s semantic realism is not a variety of metaphysical realism. According to the latter all beliefs of a person may turn out to be false, if they were considered from God’s point of view. This would allow for a radical skepticism of beliefs. Cf. Stroud (1968, 252-3), (1981, 457), (1984, 124-6), and Genova (1999, 171). In (1979, 232, 234-5, 238) Davidson makes clear why he also rejects Quine’s idea of an ontological relativity.

²¹ Rasmussen (1987) has tried to rebuild this interesting objection into an argument against Davidson. In the case of a speaker who finds himself mostly in error, it would be even for an omniscient interpreter impossible to recur on a background of shared beliefs that could make this speaker’s utterances interpretable. The same may hold vice versa: The omniscient speaks but we do not understand him. In this case the chances to understand would be (should the occasion arise) better for an interpreter who shares the mistakes and errors of the speaker. Thus, coherence would not guarantee the prevailing truth of a belief system. See also Bennett (1985, 610) and Vermazen (1983, 71). However, according to Davidson’s theory of interpretation, beliefs of a speaker that turn out to be entirely uninterpretable, or untranslatable, cannot even be judged as meaningful. Cf. Davidson (1974, 184-6) and already Quine (1969, 1,6). They would not be false, but relative to an interpreter (cf. Genova (1999, 187)) they could not even be taken as beliefs at all. – The force of the argument seems to come from the fact that the opponent will hardly succeed in taking a properly intelligible point of view and not being caught by the Davidsonian *a priori* intelligibility conditions at the same time; cf. Davidson (1974, 197), (1982, 174), (1983, 151), and (1988, 40). But the very idea of interpretability, i.e., that the intelligibility of a speaker’s concept, or belief, requires an interpreter being able to map them onto the concepts and beliefs he already has, was powerfully questioned by Forster (1998, 136-7, 151) who, among other important criticisms, points out that this at least does not apply to acquiring a first language as an infant. See also Martin-Löf (1987, 408) on the limits of giving meaning by switching over into meta-languages.

²² Cf. Davidson (1979, 228-9).

²³ Davidson (1983, 139): “[T]ruth is correspondence with the way things are.”

²⁴ Davidson (1983, 154, 146).

²⁵ Davidson (1983, 151); cf. (1988, 45), (1990, 201), and (1995). See already Quine (1960, 30) and (1981, 40-1). – Davidson (1991, 213): “It should now be clear what insures that our view of the world is, in its plainest features, largely correct. The reason is that the stimuli that cause our most basic verbal responses also determine what those verbal responses mean, and the content of the beliefs that accompany them.”

²⁶ Davidson (1983, 150): “[T]he interpreter interprets sentences held true (which is not to be distinguished from attributing beliefs) according to the events and objects in the outside world that cause the sentence to be held true.” With the procedure of radical interpretation a technique of triangulation is used involving a speaker, an interpreter, and a part of the world which for both is accessible in the same way (cf. (1990, 202-3), (1991, 212-3)). This part of the world is the object and the common cause of their similar beliefs as well as the content of their mutually translatable utterances. Speaker and interpreter react to stimuli with the affirmative utterance of a sentence of their respective language. Both regard as satisfied the meaning constituent truth conditions which the interpreter applies to a speaker’s utterance (cf. 1982, 174). Now he may consider his sentence as an interpretation of the other one – provided that it fits into a holistic system of further interpretation hypothesis. (1995, 220): “[T]he acquisition of knowledge is not based on a progression from the subjective to the objective: it emerges holistically, and is interpersonal from the start.” – The one-world/one-language relation gained from causal externalism & quantificational sentence structure, the theory of radical interpretation relies upon, plainly does not allow for a scheme-content dichotomy and thus *a fortiori* not for the existence of different or even radically different schemes. Cf. (1974, 198). For a detailed discussion of this topic see Forster (1998) and also Putnam (1987) 77.

²⁷ The principle of charity opposes an overall suspicion of this kind; cf. Davidson (1974, 97). See also Wilson (1958/59, 532) and Quine (1960, 59)

²⁸ See also Stroud (1990, 325).

²⁹ Cf. Davidson (1983, 151), (1990, 201), and (1991, 213).

³⁰ Stroud (1999, 144) remarks that speaking of a larger number remains largely metaphorical as long as beliefs cannot be counted. See also Davidson (1995, 214).

³¹ Cf. Davidson (1974, 214).

³² Davidson (1997, 21): “Nature decided what concepts would come naturally, of course”. Davidson mentions the example „water“ in (1988, 43), (1990, 198), et al. For examples of a more differentiated view I am indebted to Hinzen (Ms.). – Cf. Forster (1998) 143-146 on a related topic.

³³ Davidson’s supplementary remarks on this point, given in (1995, 216), are extremely vague. Moreover, he brings up that very notion of interpretation that the triangulate conception is supposed to explain.

³⁴ Davidson (1977, 214); cf. (1982, 174).

³⁵ See the *locus classicus* in Aristotle (*Metaphysica* Θ 10, 1051b 6-9). Cf. Bolzano (1837, 186 (§ 36)), and see also Sundholm (Ms., section 3).

³⁶ Cf. Davidson (1988, 48). Davidson (1990, 194): “[T]he distinction between describing and justifying, between an empirical account of the genesis of knowledge and a statement of the norms belief must satisfy to count as knowledge, is by no means clear”. According to Davidson this distinction, like the distinction of the objective and the subjective or the scheme-reality dichotomy, ranks among those dualisms which to abandon or at least to rework radically might effect a change in philosophy. And though being strongly resisted by many from the own ranks, it might prepare a new interpretation of the relation between mind and world; cf. (1988, 43). – The emphasis on the indifference of genesis and justification shows parallels to hermeneutic philosophy.

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- ³⁷ Cf. Sundholm (Ms., sections 6 and 7).
- ³⁸ Cf. Davidson (1991, 212).
- ³⁹ Cf. Martin-Löf (1991, 146).
- ⁴⁰ Cf. Martin-Löf (1998, 111).
- ⁴¹ Dummett (1992, 52).
- ⁴² Cf. Martin-Löf (1991, 141). Sundholm (1994, 118-9) shows that a truth-maker analysis in terms of existential quantification leads into an infinite regress, for any existential quantifier $\exists x$, used to express that there is an element of the category of truth-makers for a certain proposition, has again „to be expressed in terms of the truth condition for an existentially quantified proposition, and so on.“ For the conception of truth-making see Mulligan et. al. (1984, 313).
- ⁴³ Cf. Brentano (1930, 139) and (1956, 194 (§ 42)): “Es läuft dies alles eigentlich auf nichts anderes hinaus als darauf, daß die Wahrheit dem Urteile des richtig Urteilenden zukommt, d.h. dem Urteile dessen, der urteilt, wie derjenige darüber urteilen würde, der mit Evidenz sein Urteil fällt”. See also Martin-Löf (1987, 414) and Sundholm (Ms., section 6).
- ⁴⁴ Cf. Martin-Löf (1994, 97-8). See also Dummett (1977, 6).
- ⁴⁵ Sundholm (1994b, 373) and (1997).
- ⁴⁶ Cf. Heyting (1931, 113-4). See also Husserl (1902/1921, ch. 1) and Becker (1927, 58-60). I deal with this point in Löhrer (2000, 368-371) and (2003, ch. 5).
- ⁴⁷ Cf. Kolmogoroff (1932, 59).
- ⁴⁸ Cf. Martin-Löf (1999). Dummett (1991, 125): “[S]ense will be related to semantic value as a programme to its execution“ or, more precise, it will be related to semantic value as a program to the result of its execution, as Martin-Löf corrected Dummett in (1999). Dummett, present at this talk, accepted the correction.
- ⁴⁹ See Ranta (1994).
- ⁵⁰ Martin-Löf (1991, 146): “[R]ightness applies primarily to the action and only derivatively to the objects, because if we ask whether a theorem is correct, we certainly go to the proof, and the proof is the act or process through which we get to know the theorem, so that we have to check this act or process for its correctness and thereby arrive at the correctness of the theorem, and not the other way round.”
- ⁵¹ Cf. Martin-Löf (1992) and also Husserl (1954, 43).
- ⁵² Martin-Löf (1991, 147). For the term “Lebenswelt” see Husserl (1950, 160, 162-3) and (1954, 43, 51).
- ⁵³ With actions in general I extensively deal with in Löhrer (2003, ch. 6).
- ⁵⁴ Dummett (1993, 61).
- ⁵⁵ Cf. Fitch (1963). The argument is discussed at some length; cf. Hart (1979, 164-5, n. 3)), Edgington (1985), Percival (1990), Williamson (1982), (1987), (1988), and (1992, 70-3), and Rabinowicz and Segerberg (1994).
- ⁵⁶ See also Löhrer (1997, 174-8).
- ⁵⁷ Cf. Percival (1990, 182), Williamson (1992, 71), and Hinzen (1997, 148).
- ⁵⁸ Cf. Martin-Löf (1991, 142).
- ⁵⁹ Cf. Martin-Löf (1991, 142).
- ⁶⁰ Cf. Martin-Löf (1991, 143) and (1996, 38, 46 et al.) who refers to the scholastic principle “ab esse ad posse valet consequentia (illatio)”.
- ⁶¹ Cf. Martin-Löf (1991, 142) and (1998, 109-10) who refers to the formula “actus est prior potentia ratione” in Aristotle, *Metaphysica* Θ 8, 1049b 5, Θ 9, 1051a 31, and Thomas Aquinas, (Met.) lib. 9, lect. 7 [1845, 1846].
- ⁶² Cf. Prawitz (1980, 8) and (1987, 153-4). See also Dummett (1977, 19).
- ⁶³ Prawitz (1998, 48): “We can [...] say that the correctness of an asserted proposition requires the actual existence of a proof, while truth of the asserted proposition requires only (and is identical with) the potential existence of the proof of the proposition.”
- ⁶⁴ This distinction goes back to Kant (1781/87, B XXVI, note, and B 100-1).

⁶⁵ Cf. Martin-Löf (1991, 144).

⁶⁶ Martin-Löf (1998, 113).

⁶⁷ Martin-Löf (1998, 113).

⁶⁸ The distinction between static change and dynamic change goes back to Katsuno and Mendelzon (1992). Ranta deals in the main with static change; cf. (1994, 137, 146-7).

⁶⁹ Cf. Harman (1986, 22) distinguishes between explicit and implicit beliefs.

⁷⁰ Cf. Ranta (1994, 91 and 154).

⁷¹ Logical closure is a condition for empirical theories which allows for later empirical tests of their logical consequences not yet known today. – See Levi (1996, 84-5).

⁷² In Löhrer (2000, 376-7) I have pointed out that the attempt to think the world as a contextual approximation to a state of complete actual determination (cf. Ranta (1994, 148)) will raise serious problems.

⁷³ Cf. Fichte (1797, 429 and 431-2 (§ 5)): “Keines dieser beiden Systeme kann das entgegengesetzte direct widerlegen (...). Da (...) in speculativer Rücksicht beide Systeme von gleichem Werthe zu seyn scheinen, beide nicht beisammen stehen, aber auch keines von beiden etwas gegen das andere ausrichten kann, so ist es eine interessante Frage, was wohl demjenigen, der dieses einsieht – und es ist ja so leicht einzusehen, – bewegen möge, das eine dem anderen vorzuziehen”. (1797, 434): “Was für eine Philosophie man wähle, hängt sonach davon ab, was man für ein Mensch ist”. See also Scholz in Scholz and Hasenjaeger (1961, 11-2).

⁷⁴ For proof reading of my English I wish to thank Barbara Simpson.