

under the influence of Mach and Russell. Baker, on his side, ascribed to Waismann the first formulation (Baker, 1979:249). Schlick was the first who tried to define it with more precision, as »Der Sinn eines Satzes ist die Methode seiner Verifikation« (after Haller, 1967:13). After Carnap (ib.,155), the Vienna-circle developed it in its publications. It is well known that after critique of C.I. Lewis (1934), Reichenbach (1935), Popper (1935) and Stace (1935), the same members of the Vienna-circle tried to weaken the notion of verification, even its strongest supporter as was Waismann (1945:38,47,54). The best known new concept which in some sense replaced the old concept of verification was Carnap's testability conception, which included a weaker notion of verification/falsification and confirmation. From 1945 Carnap began to study the problem of induction as confirmability principle, but he ascribed also this idea to Wittgenstein (Carnap, 1950:83). Hempel saw that such conception contained Wittgenstein's and Schlick's verification and falsification principle, what Duhem had set down as a general criterion (Hempel, 1979:24). But Haller pointed out that Neurath defended Duhemian holistic standpoint, which »clearly contrasts with the *Tractatus* position. (Haller, 1988:13). He explain that the Vienna circle in its first stage (1907-1912) was under the influence of Poincaré, Duhem, Mach, Einstein and Russell. When Schlick proposed to read TLP, they all took it »as clarifying interpretation of two Machian principles« (ib., 38-39). Writing about Machian influence on Wittgenstein Gargani didn't mention it in connection with Wittgenstein's notion of verification (Gargani, 1980: 179-182). But Malcolm thinks that »the principle of verification is not even brought into the TLP« (Malcolm, 1967:333), its role »in meaning and understanding receives much attention in Wittgenstein's later philosophy, which obviously is not positivistic«. (ib., 334).

Schlick and Wittgenstein used both terms, verification/falsification and confirmation. Gargani has shown the closeness between them in the first connection, but he said nothing about the second (Gargani, 1982: 54-5). It is well known that 22. 12. 1929, in Schlick's house, Wittgenstein exposed the term verification as arising from a logico-grammatical criterion (Gargani, 1982:356) and Schlick's later formulation has the same background (ib.,363). Schlick used the terms falsification and confirmation (Schlick, 1934:51-52). So it follows that he was close to Wittgenstein's idea. On the other side, Waismann developed Wittgenstein's idea usng *PG* and *BRB*, as says Baker (1979:252-261). Schlick stimulated the friendship between Wittgenstein and Waismann, but it is not surprising that after Schlick's death the friendseip between them quickly, as said Baker, between them quickly dissolved (Baker, 1979:254). Besides having in mind also C. Wright's question whether Wittgenstein »would not have rejected the idea that there

is any central notion«, »verification, falsification or whatever« (Wright, 1980:286), we must take in to account Wittgenstein's own works, from the early period (*NMN*, *N*, *TLP*) the, middle (*WW*, *BRB*, *PR*, *PG*) to the late (*RFM*, *GB*, *Z*, *LC*, *PI*, *OC*, *C*).

1. In his early period Wittgenstein already distinguished the problem of meaning as the central theme from the problem of the truthfulness of the sentence (Gargani, 1982:356, Haller, 1988:16). And if Black is right that Wittgenstein's followers say: »Don't look for the meaning, look for the use«, which might usefully be regarded as a generalisation of the verification principle (Black, 1970:255), then very early, as early as 1914 Wittgenstein introduced the verification, because he mentioned 'use'.

1.1. In *NMN* Wittgenstein marked the difference between logical and, as he there said, real propositions, between their proof and truth. The »proof of a logical proposition does not prove its truth (logical propositions are neither true nor false)« (109,6). »They show that one or more propositions *follow* from one (or more)«(7). The same we find in *TLP* (6.1263, 6.1264).

1.2. He connected the notion of use with the sense. The real proposition shows something, i.e. some logical property of the Universe, about which the logical proposition shows those properties in a systematic way (*NMN*, 108,9,6). The real proposition says something »for, if it has no sense, it can't be used« (9). He said similarly in *N* (18,3) and in *TLP* (3.326). In *N* he is very clear, if proposition »has a sense, it must be explicable HOW THIS proposition has THIS SENSE, If a proposition tells us something, then it must be a picture of reality just as it is« (61,8). If the statement is true, he added, then we must know how things stand (8,18). And this is similar to his par. 4.024 in *TLP*, which we shall analyse later. In *TLP* it is visible that the claim of the sense for signs (3.23) in the propositions (3.3) as an account of the state of affair (4.031) is directed to some method. From the last paragraph mentioned above is deducible that such a method is evidence, verification. The term 'use the signs' is also directed on the method as verification (3.326). It is perhaps the bad interpretation of 4.024 as only similar to verification (see Malcolm: 333-334). When Wittgenstein says – to understand the sentence means to know what is the case when it is true then it is possible from those words »to know what case the is« – to know the method of ..., because at the end of the same paragraph he explains that we can understand the sentence even if we don't know if it is true. In our opinion par. 4063 already speaks more clearly in favour of such thesis: we must first know under what circumstances we call »p« true, first comes the determination, or better, the employing, of the sense (Sinn) of the sentence, and then we can see whether »p« is true or not.

1.3. Wittgenstein is occupied already in *N*, and later in *TLP*, with propositions which are hypotheses and are sometimes hypothetically supposed to be laws of nature (N 28,1,2, TLP 5.154). To hypotheses he ascribed probabilistic character which is differentiated from other propositions (TLP 5.156).

2. In the middle period we can find more often the previous thought, the term verification is explicitly used in a more clear and open way. That the proposition something says is qualified again as its sense (*PR*, 166, *PG*, II, 458). There is a difference between referring to the sense and truth (*PR*, 34, 102, 167). Through the sense we are taught whether the proposition is true or false (*PR*,148) and the sense which is only in the context of a proposition, in the phrases of language, (*PR*, 100, *BRB*, p. 9, 10, 108) is discovered by the method of verification (*WW*, II, 232, *PG*, II 260, 458-9, 462).

2.1. Wittgenstein allowed the *immediate verification*. That reality has a sense is in agreement or not with our experience of it (*WW*, I, 225). From proposition we cannot infer the fact which verifies it, but we can learn from the description of reality how things are in it (*PG*, I, 109). The signs refer to immediate experience and not to an intermediary (a thing in itself), they have reference as immediately observable phenomena, which are the reality itself and verify the propositions (*WW* II, 225, *PG*, App. 223, 219), because the reality is an immediate experience (*PG*, App. 222). And »whatever you can mean must connect with some sort of experience.« (*WW* II, 230).

2.2. The propositions must be so constructed that they can be verified by the present (*PR*, 3,48). The treatment of the present cannot be mixed with the past time (*ib.*, 49), because the first is the system in physics (*ib.*, 50), which is different from that of the past time, there »we adopt a radically different way of speaking« (*ib.*, 48). We have not a sure method of verification either in the event which will occur sometimes in the future (*PG*, II, p. 262). It follows that »A proposition construed in such a way that it can be uncheckably true or false is completely detached from reality and no longer functions as a proposition« (*WW* II, 225). In such a relation the hypotheses have another nature (*WW* II, 226, *PG*, App.6). We have a sure method for verification for empirical propositions and not for hypothetical sentences (*PG*, II, 262). To such sentences Wittgenstein gave more attention than in the first period. But, after Baker, Wittgenstein changed it in the concept of criteria and in such a line Baker emphasized

Waismann's »Logik, Sprache, Philosophie«<sup>2</sup> as important contribution to »scholarship« of Wittgenstein's »not widely understood and some obscure« notion (Baker, 1979:273,280). Let us see the original works of Wittgenstein about the mentioned task.

2.3. In BRB he explained that to make a hypothesis is in the connection with our observations which taught us certain causes (110) as the regular sequel of certain conditions (15). The hypothesis is something probable (40), because about such experiences (48) we make »conjectures« (15, 110), which are tested by experimental science in some cases (88), or we use a scale of probabilities (111), which we are taught in some games, i.e. we can use 'degrees of probability' (110), or formulate the statements which are like laws, as in the following example: »A man has angina whenever he has an inflamed throat« (25). In BRB, PR, PG he made clear the difference between a mathematical and other propositions a special hypothesis (see Festini, 1987/88:15) which we can make about any sequence yielded by an experiment in physics. We can verify such hypothesis, but now he calls that verification – *confirmation* (WW II, 232, 233, 238, PR,161, PG,App. 232-237). The event in which we believe is verified, if it can be confirmed by its occurrence (PR, 56).

2.4. But before we analyse the difference between verification and confirmation, let us mention briefly Wittgenstein's alternative use of *verification* and *falsification*. He said that some expectation had the definite answer with its verification or falsification by occurrences or non-occurrences which verify or falsify them (WW II, 229, 232, PG, I, 83). When we expect some event, it is *probable* and »experience can only confirm a finite number of conjectures« about it (PR, 33-34, 61). The difference between verification and confirmation, then the connection of the last with hypothesis and probability is very clear – »Any hypothesis has a connection with reality which is, as it were, looser than that of *verification* (WW II, 227, PG, App. 221)« The hypothesis is an expectation which admit the future confirmation (WW II, 228, but immediate experience confirms only something about reality, some facet of it (WW II, 225, PG, App. 219, 222). The hypothesis has a different formal relation to reality from that of verification. It isn't definitely verifiable, but it »doesn't mean, that there is a verification of it which we may approach ever more nearly, without ever reaching it. That is nonsense, because in physical description it must assume »even tacitly,

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<sup>2</sup> Baker edited this book by Waismann in 1976. It seems that the first publication was in 1965. (McMillan, London). As Waismann died in 1959., i.e. after Wittgenstein, it is possible that Waismann changed such Wittgenstein's idea.

the possibility of verification« (WW II, 228). By means of hypothesis we describe »how things stand in present« (WW II, 229), »when is impossible to give precise direct description as a whole«, but only some parts of it (230).

Wittgenstein cannot abandon the notion of hypothesis because it is »unavoidable« in describing the phenomena of a world of material objects (230). »An hypothesis is a logical structure«, »a symbol for which certain *rules* of representation hold« (225), which as »The simpler method of the representation of the material of experience. we choose on the base of the induction (not mathematical induction, 226). That notion »is directly connected« with the question of *probability*. (WW II, 227, PG, aPP. 227), i.e. the notion of hypothesis is directly connected with the *probability theory* (WW II, 237, PG II, 231, App. 224). The probability »is concerned with the form and a standard of expectation« (WW II, 237)<sup>3</sup> of a reasonable expectation that a *rule* we have observed up to now will continue to hold«, what means that the future experience will obey the natural law, which has been obeyed by previous experience (WW II, 237, PG II p. 231). The basis of our expression of probability is a certain natural law and if our experience of experiments agree with such probability, then the basis is confirmed (WW II, 232, 238, PG, App. 232). The natural law can be confirmed or refuted and »The law of probability (those on which the calculation is based) are *hypothetical* assumptions, which are then rehashed by the calculation (the molecules of a gas move in accordance with the law of probability) and then in another form empirically confirmed or refuted« (WW II, 233).

He spoke of the happy role of the hypothesis in the connection with the real proposition: »The hypothesis, if that face of it is laid against reality, becomes a proposition« and »There is nothing hypothetical in what connects with the given fact« (PG, App. 222). We find something very indicative too for his stand point about the empirical propositions in general: since »At all events, there can't be any distinction between an hypothesis used as an expression of an immediate experience and a proposition in the stricter sense«, »this amounts to asking whether there are any primary propositions that are definitively verifiable and not merely facets of an hypothesis«. (221) The empirical proposition is however different from a hypothesis – it is »a particular cross-section of an *hypothesis*« (WW II, 228, PG, App. 219).

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<sup>3</sup> In PR Wittgenstein often mentioned the expectation (16,25-34) explaining it as the searching (27), looking for (28) expected to be fulfilled (25), if the expected has occurred (28), for what is in work in our expectation anticipates the event, i.e. if it is a model of a fact in the world we live in (34), if it has sense for us (34).

The term *corroboration* Wittgenstein used similarly as confirmation in connection with hypothesis – the experience corroborates (WW II, 232), the facts corroborate a part of a hypothesis (PR, 178), *some proposition describing actual use* »can be later corroborated« (PG, I, 42).

We must conclude in relation to his middle period that the term hypothesis is not abandoned, that to the term verification are associated, in connection to hypothesis, the confirmation/corroboration and to them suitable notions such as induction, conjectures and probability. How anticipating was Wittgenstein's introducing of the confirmation/corroboration we can conclude by remembering the following information: Popper says that he introduced himself the term corroboration and Carnap the confirmation (Popper, 1934:251-52). A. Naess mentioned them alternatively: confirmation/corroboration (Naess, 1972:16), and J.L. Cohen wrote that Carnap began from 1945 to study the problem of induction as confirmability principle (Cohen, 1981:336).

2.6. We must now see what Wittgenstein wrote about criteria if we take into consideration Baker's standpoint about Wittgenstein's replacement of the verification by criteria. Baker says that criterion supports the hypothesis in Wittgenstein's interpretation (Baker, 1979:276). But Baker thinks that Wittgenstein's ascription of psychological states to others go through the »Statements about behavior and psychological states« taken as criteria (274). In fact, in this period Wittgenstein didn't write much about criteria.

In BRB he mentioned the criteria as our answer to the question how we understand, how we know something (24). Sometimes we give 'symptoms' (25). It is 'syptom' a phenomenon of which experience has taught us that it coincided in some way, or other, with the phenomenon which is our defining criterion. (25). The difference is not always clear in practice between them (25). We have different criteria for the identity of objects (55), because »The grammar of propositions which we call propositions about physical objects admits of variety of evidence for every such proposition« (51). The defining criterion for sense of proposition consists in certain tests (101), not in saying, but in the features of situation (104). In fact, we use »common criteria« (57). And the communication of feeling doesn't imply knowing the criterion (185).

To the question what criterion permits a child to know and understand the words, in PG Wittgenstein answers that it is his learning the game without explicit rules (PG, I, 26).

Generally, in the middle period, the criteria are taught by common experience as setting out the variety of evidence, i.e. as indication what kind of test we need.

2.7. Going to the problem of the tests we must draw attention to his interchangeable use of the terms »test« and »check« as test of use and check in practice (PG, II, 260, PR, 174). The proposition which has its grammar can be tested (PR, 83) and that means to search for appropriate rules of the game (WW I, 331, PG, I, 42).

By way of summing up we can once again emphasize that in the middle period he is resolute enough in distinguishing the test/check for empirical propositions, hypothesis and mathematical propositions – for the first the test/check is verification/falsification, for the second confirmation/corroborator and for mathematical propositions the proof (BRB, 88, PR, 123, PG, II, 260, PG, App. 221; BRB, 117, PG, II, 260; WW I, 331, PR, 149, PG II, 401, 422). But Wittgenstein wasn't coherent in his denial the hypothesis the status of the proposition (for instance, BRB, 15, PR, 56, PG, I, 42), and he ascribed, not always successfully, the quality of probability to the hypothesis, because »probably« is also connected with an idea of exactitude (PG, II, 266).

3. Later Wittgenstein made again good and explicit distinction between sense-question and truth/false approval: as usual, the solution for the first question he gave in the method of verification, of proof. Perhaps now he is more precise. We can again find the theme about hypothesis and all important terms connected with in mentioned it the previous periods, but now better for conclusions.

3.1. Concerned with truth-problem Wittgenstein clearly exposed in RFM, that »great majority of sentences« are statement sentences, with which is played »the game of truth-functions«. That shows that their truth or falsity are not something added to the propositions, but they are »an essential feature of the game we play with« them (RFM, App. I, 2). So, the true proposition is *provable* in appropriate system, game (App. I, 7, 8). That he didn't think here only of the mathematical propositions, but of others too, is clear, when he says that a proposition is a true means: 'p' is true = p (App.I,5). He repeated that there are differences between the mathematical and the empirical propositions (I, 110, II, 38, V, 1, 15, 21). To mathematical proposition we assign a particular function (III, 5), it is »the typical role of a rule« (V, 2) of our language (I, 164), the rule for the use (V,23). In mathematics we can't say more about truth, except, for instance, for natural number, that »is usable«, »it is used« (I, 4). The truth of a mathematical proposition is proved when it is proved »That this formation of signs must result when I apply these rules to these formation signs« (II, 38). He called such proposition a *geometrical* proposition, a proposition of *grammar* (ib.), what connects the proof primarily with the *sense* and this with »our whole system of rules in

appropriate game« (II, 75). The sense of the mathematical proposition is shown by the proof without which we don't know its truth (App.I, 15, 16). When we say 'this sense', it means: »by these rules« (III, 50). The examples show that the rule is a part of the game (V, 35, 45, 50). The sense of result of the proof »is not to be read off from this by itself, but from the *proof*« (II 25), i.e. »we *accept a rule*« (26), which shows us »what it makes SENSE to say« (28). In connection with mathematical proposition Wittgenstein mentioned also the »*method of verification*« as the method for exposition of the grammar of it (V,3), (see Festini, 1987/77:15). In general, he assured us that the way proposition is verified, i.e. how »could it be used«, is shown by the language-game with such sentence, its grammatical framework (V,29). It seems that he used here the proof and verification as *rule-testing proof* and *rule-testing verification*. Then valuable for all kind of propositions, is rule-test.

In Z we find the thesis that the sense and the truth collapse together, because »If such-and-such is not the case, then it makes no *sense* to say it is the case« (131-2). In fact »the sense of a sentence seems like the shadow of a fact« (70). Nevertheless, the sense, as the reference, is a vague concept – the sense of the single words we learn as such for that use in certain cases, in certain circumstances (154). We learn the technique of using the words (418) and mastering them (302- 8), in language-games (43) to discover that a sentence does not make sense or has it only in its application in an appropriate language-game (247, 272). The word is senseful if it is concerned with the rule (321); the rules of grammar justify a sentence giving the possibility for verifying it (331). Again, the verification is the part of the language-game and it affords the decision concerning the cases when a proposition is true or false (676-8).

In PI he is not so interested to emphasize the difference between the sense and the truth, so the 'proposition' and 'true' are »interwoven« (PI, I, 22, 225). However, it is a bad picture to use a concept of true or false to determine what is and what is not a proposition (I, 136, 137). But the idea about rule-testing verification is repeated. The proposition is determined by double rules, by the rules of sentence formation (in English, e.g.) and by the use of signs in the language-game. The words 'true' and 'false' may be among the constituent parts of this game (II, p. 136). The answer to the question, how can a proposition be verified is »a contribution to the grammar of the proposition« (I, 353).

3.2. We can find again the approval of *direct, experiential verification*, but only apparently in the first person. In GB, for instance, our data is connected with the verification (p. 76-7). We cannot transcend experience and think univervifiably he said in Z (259-61). The rules of grammar give

us the possibility to point what verifies a sentence (331). But to verify is not the »description of what is subjectively seen« (435), hence it is a misleading expression »verifying by inspection« (436), because the psychological verbs of the third person of the present are to be verified by observation and not by the first person (472-3). Speaking critically of the religious belief he mentioned the verification and the proof as a part of our sense-data experience (LC, p. 70). He accepted the verification in connection with our state of seeing (PI, II, p. 212). In OC the example mentioned has the evidence in verificational role (79), especially in par. 679. Something new and very important about verification we find in OC formulation: »our whole system of verification«, which »a human being acquires by means of *observation and instruction*« (185, 279). Hence, the evidence is not subjective for Wittgenstein, but communal and corrigible experience, »surrounded by others which combine with it to form a system« (603-5). So interpreted the system has the important role: the whole system of measurements (RFM,II,74), a system of hypotheses (PI, I, 325), our system of knowledge (OC, 286, 410), of assumptions (134), of convictions (102, 144), of doubts (126, 247), of empirical judgments (137), of our language-games (411), of physics (108), of believed propositions (141), of empirical propositions (136), all what we learn as child (144) or we are taught (140) and all that can be constantly further verified.

3.3. In late Wittgenstein we can find the interest for hypothesis, especially in connection with prediction and science.

In GB the historical explanation is an example of »an hypothesis of development« which »is only *one* way of assembling the data – of their synopsis« (69). In the case of religious ceremony hypothetical link should »do nothing but direct the attention to the similarity, the relatedness, of the fact« (69).

In Z the hypothesis is connected with the experiential explanation (211).

Again the hypothesis is mentioned in the role of prediction in LC, as a report which »might or might not be verified.« (p.46). Such characterisation he repeated in PI in a very similar way – the interpretation of a hypothesis »may prove false« (II, p.212). A hypothesis, as part of language game (OC, 52-56), for which it speaks (203, 191) and against which the contrary hypothesis »has *nothing* to confirm it at all« (203), can be used as a foundation for research (87-88), but it isn't a world-picture (167). Such hypothesis doesn't need confirmation constantly (241), it can be true, but it doesn't mean that it agrees certainly with reality (191), because if hypothesis turned to be false it could be replaced by others (402).

3.4. Wittgenstein used the term confirmation and also corroboration in other works in late period.

In RFM the procedures of prediction and confirmation as a special language game he considered isolated from the mathematics and its application (V,4). The confirmation is treated as »an answer to what was said before« and our understanding presupposes a familiarity with it (with confirmation, *Bekräftigung*, Z, 173, 175). The prediction and its confirmation are a part of the language game (678-8). Here he used interchangeably the term 'confirmation' 'corroboration' (*Entkräftung*, translated as 'reinforcement,'), which he said is connected with the word 'statement' (*Behauptung*) in the language-game (549). Now we can again understand the role of confirmation/corroboration in relation to hypothesis as its successful testing (549).

But »It is wrong to say that the 'hypothesis' would be confirmed or disconfirmed by later experience« (OC, 60), because it is confirmed/disconfirmed taking place already within a system (105). We can find something confirmed or disconfirmed by our own experience (161), but the facts from text-books have been confirmed a hundred times over (162). Some example »is again and again completely confirmed« (241) and the »contrary hypothesis has nothing to confirm at all« (203) either, for instance, the »earth already existed long before my birth« (203). The role of confirmation is understood also as *further verification* (632).

In C the present pointing he explained as the possibility to »be tested and confirmed« (166).

Again we can affirm that the confirmation/corroboration of a hypothesis he connected with probability which he understood, after Dilman (1973:30) as inductive steps, or as general law of induction, or as principle of the uniformity of nature (65), or as frequency of events, like in the middle period. Let us see more closely.

In GB he denies the usefulness of the probability for the past (p.77).

In contrast, the religious belief as »I believe that this and this will happen« looks for hypothesis for probability (LC, p.57).

In PI he repeated that we go on in the same way after certain experience, what »is simply based on induction«. The previous experience is the cause of our certainty to behave in the same way in the future, what depends on the system of hypotheses, of natural laws (I, 324-5, 481). The occurrences are probable on the basis of such standard (482, 484). The probability is based on the frequency (539).

At the end of OC where he is interested in certainty, the probability is taken as the preferable way of speaking of those people which rather

take in to account the probability of things than the certainty (338).<sup>4</sup>

3.5. Speaking about *criteria* late Wittgenstein differentiated again the sense and truth, and it seems again that criteria didn't change the place of proof and verification.

The criterion is not something above the proof, because the proof shows alone »what counts as the criterion of unprovability« (RFM, App.I 15). It is part of proof to have an accepted criterion for the correct reproduction of a proof (II, 21, 24). The language-game is trained so that there is no need for the criteria outside the game (V,33), the criteria save the same treatment in the appropriate system (II,14).

In LC he mentioned the criterion as probability, i.e. the criterion of reliability as reasonable weight of probability (57), depending on the appropriate system, game (58-59).

To the notion of criteria he ascribed outside character in Z repeating the difference between a symptom and a criterion and emphasizing the logical criteria upon everything. We have our criterion for the experience's transfer (433), for understanding (245), for imaginability (263), but nothing is only inside me (136). A phenomenon we regard sometimes as a symptom, sometimes as a criterion of a state of affairs (Sachverhalten) – in science we »make phenomena that allow of exact measurement into defining criteria...« (438). Common to sense-experience is that it gives us partly right knowledge of the external world, because it »points to a *logical criterion*« (477,571,716). He is mostly interested in logical criteria, because he is »keen on completeness« (465-6).

In PI 'criterion' is coupled with correct, right experience /sensation/ behaviour, with test, familiarity and, as usual, it is connected with the symptoms. The notion is often coupled with the correct (I, 145, 265, II, p.147), but mostly *with the mastering a particular technique* (682). Linked with right the notion 'criteria' means following the 'rules in common behaviour of mankind (I, 206, 217, 378, II, p.201). The criterion is often coupled with experience/sensation/ behaviour (I, 290, 344, 509, II, p.198), but the most specific interpretation is following: a criterion of something is, if somebody *later said* just that (I,542) and that »circumstances decide whether, and what, more detailed specification are necessary« (II, p.199).

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<sup>4</sup> Against the same notion, developed by Hintikka in his epistemic logic KB, K. Collier wrote that it is »no viable concept of certainty available strong enough to answer to Hintikka's...« (1987:187) strong sense of knowing, which after all is not in actual use (ib.,182). It is interesting that M. Hand calls Collier's paper in such sense »disappointing« (1988:84-86) and Hintikka himself misleading because this critique is based almost on Hintikka's 1962 system (Hintikka, 1987:309).

The connection with a test we shall see later.

He mentioned the familiarity as criterion (II, p.203) and the third time the difference between the symptom and the criterion (II, p.112- 113).

It is very interesting that he didn't mention criteria at all in OC.

In RC Wittgenstein says that the criterion of the use of the words for us is commonly accepted (14,42), it is familiar to us (11, 163, 329) and under certain circumstances to normal persons (97). So, it seems, that »to men is their criterion for its *being so*«. (98). In such a manner RC mostly approved the opinion of Winch (1958) and Baker (1974), repeated by Hintikka (1975,1980) and Klenk (1976)<sup>5</sup> that Wittgenstein spoke about public, external and defeasible character of criteria.

3.6. Let us go now to the last task – test/check question in the last period.

The test for justification for using the word is to »survey its employment«, but not »looking at some facet of its employment« (RFM, App. II, 18). A systematic testing, its technique, is founded in logic (II, 52), it isn't the hasty applying on particulars and the quick generalisation (III, 10).

In the work someone makes test (probieren) and this is explainable by giving examples which »will be taken from our life or from a life that is like ours« (Z, 103). In science the problem of reference (Bedeutung) must be connected with »testing particular cases« (438) and testing of the statement is connected with the word 'statement' in language game. (549)

OC is particularly important for his word 'test', because it is posed widely enough to embrace the other already mentioned terms, as verification/falsification, proof, confirmation/corroboratorion. First, he mentioned our world-picture as the substratum of all our enquiring and asserting. But the propositions describing it are not all equally subject to testing (163). An empirical proposition can be tested (109- 110), whether I know something must be possible to test (574) and all testing of a hypothesis takes place already within a system, because the system is the element in which arguments have their life (105). The same proposition may get treated at one time as something to test by experience, at another as a rule of testing (98). Hence, »What counts as an adequate test of a statement belongs to *logic*. It belongs to the description of the language game« (82, 165).

In C he mentioned the test and confirmation in connection with the sense-data (84, 166).

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<sup>5</sup> See H. Festini (1987/1988:9).

PI shows that correct (criteria), test and confirmation are together (I, 265). The test is fused with what has to be accepted, with – *form of life*.

The term 'check' (Kontrolle) has in general the same sense as the test.

A »new way of checking« we find in RFM (I, 41).

In PI to check has to do with the rules of sentence formation and with the use of the sign in the language game, i.e. with its grammar (I,136).

The term 'check' is used sometimes for prüfen (test in translation) as in OC (77, 79, 163), or for 'untersuchen' (519), or superfluos (650).

4. We can draw conclusion emphasizing first new similitude and difference which we find in relation to Schlick. Schlick used the term 'confirmation' as Wittgenstein, but after him. There is a difference between Schlick and Wittgenstein in the interpretation of scientific foundation. Wittgenstein was less convinced of its constancy. Waismann developed further some Wittgenstein's ideas. Before Carnap Wittgenstein in term 'test' embraced the most important terms from nowadays science. Hence, Wittgenstein was in such idea original.

Wittgenstein introduced his idea of verification as early as 1914. From an early period he employed himself with the hypothesis connected with laws of nature and probability.

In the middle period he made the difference between empirical, mathematical and hypothetical propositions finding for each of it the appropriate test:; verification, proof, confirmation. The hypothetical assumptions have the important role for him, they are the logical structures the rules of which form the method of the representation of the experiential material which we choose on the basis of the induction.

In the late period Wittgenstein made his key-terms. The confirmation/corroboratorion is a method for successful testing of hypothesis within appropriate game (system). The 'probability' he developed, however, mostly as the theory of induction in its frequency aspect. The term criteria didn't change the term hypothesis, but criteria serve to save the same treatment in the system. The criteria of reliability as reasonable weight of probability, as following a rule show their character – they are in common behaviour of mankind. The terms verification/falsification and proof are also embraced in their class term test.

Sharping such terms for nowadays scientific use, Wittgenstein at the same time made some errors – the term 'probably' sometimes he cannot separate from exactitude and he cannot forget his preference for certainty.

Our question now is – can his notion of rule testing be generalised and who is nearer to his position – Dummett or Hintikka.

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*Heda Festini: DUMMETTOVA KONCEPCIJA KAO TEORIJA ZNAČENJA ZA  
HINTIKKIN TIP SEMANTIKE TEORIJE IGRE (II),  
(Wittgensteinova koncepcija verifikacije)*

S a ž e t a k

U ovom dijelu razvitka teme obratit će se pažnja na vrlo originalnu koncepciju verifikacije koju nalazimo u Wittgensteina. Analiza je posvećena 100-toj godišnjici njegova rođenja.

Svrha je da se pokaže kako ta koncepcija nije prva formulacija strogog principa verifikacije, kao što je mislio Carnap (1936-37), nego traženje takve teorije provjere/kontrole koja obuhvaća pojmove verifikacija/falsifikacija, dokaz i potvrđivanje/potkrijepljivanje anticipirajući kasni neopozitivizam/analitičku filozofiju i dokazujući time elementarna oruđa današnje znanosti.

Wittgenstein je preformulirao Duhemov opći pojam provjere kao principa verifikacije i falsifikacije u koncepciju provjere pravila i tako je dobio originalnu teoriju s kojom se mora uspoređivati svaka kasnija.