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Wittgenstein's Thought Experiments and Relativity Theory [1]

Abstract – In this paper, I discuss the similarity between Wittgenstein's use of thought experiments and Relativity Theory. I begin with introducing Wittgenstein's idea of "thought experiments" and a tentative classification of different kinds of thought experiments in Wittgenstein's work. Then, after presenting a short recap of some remarks on the analogy between Wittgenstein's point of view and Einstein's, I suggest three analogies between the status of Wittgenstein's mental experiments and Relativity theory: the topics of time dilation, the search for invariants, and the role of measuring tools in Special Relativity. This last point will help to better define Wittgenstein's idea of description as the core of his philosophical enterprise.

Keywords: Description, Language Games, Mental Experiments, Relativity Theory, Einstein, Wittgenstein.

1. Kinds of mental experiments in Wittgenstein

In his famous paper "On Thought Experiment"[2] Mach distinguished between those thought experiments that require confirmation and those that are not to be conceived as anticipation of real experiments but can work only in imagination. Probably thinking of Mach's second kind of thought experiment Wittgenstein comments: "What Mach calls a thought experiment is of course not an experiment at all. At bottom it is a grammatical investigation" (PR: 1). The reference to Mach follows a discussion on how an octahedron with pure colours is a "grammatical representation" of colour-space. This example suggests that we can give analogous "grammatical representations" not only of colours but also of other semantic fields: we need a logic that goes beyond the classical truth-conditional logic, a logic or grammar that is given by describing different *Bedeutungskörper*. Although critical of Mach, Wittgenstein probably found in that paper two suggestions very close to his own sensibility: (a) the idea that thought experiments are kinds of "variations" on a situation, and (b) the idea that "paradoxical" thought experiments "help thoughts not to come to rest". In what follows I propose to consider all or most of Wittgenstein's language games as thought experiments that typically take the form of counterfactual reasoning involving a concrete scenario, although a

[2] Mach's paper "Über Gedankenexperimente" was first published in 1897 in a little known journal of chemistry and later included in his book *Erkenntnis und Irrtum* (1905; 2nd ed. 1906) where Wittgenstein might have read it. It is probable that Wittgenstein was implicitly referring to Einstein's thought experiments, given the time of the entry in the late twenties, when Wittgenstein used to discuss with Waismann and Schlick, one of the main interpreters of Einstein's work (we find an echo of the discussions on Einstein's simultaneity problem in the first chapter of Waismann 1965)

clear conclusion does not always follow in Wittgenstein's text.[3]

Language games may be grossly[4] classified as follows: (i) "constructive": aimed at arguing central claims in Wittgenstein's view. These are typically presented as a *chain of variations*[5] that purports to give, in the end, not a theory but a perspicuous representation of the working of language. Variations on a situation are especially developed in *the Blue and Brown Books* and in *Philosophical Investigations*: for instance, the initial situation of builders with the progressive insertion of different kinds of words for colours, numbers and so on (see PI: 2, 8, 21, 48, 64, 86, but also OC: 566) or the situation of the pupil learning to follow a rule (see PI: 143, 151, 179, 185, 201); (ii) "destructive": almost exclusively designed to challenge erroneous "theories" on language, such as the case of human beings as reading machines on § 157, or the diary of private sensations on § 258 or the beetle in the box on § 293; their main origin is probably to be found in the strategy prominent in the first part of the *Big Typescript*, where a series of theories is presented to be challenged and dismantled; (iii) "paradoxical": they present bizarre cases whose point is not easily understood, and are sometimes called "alien language games" because of the awkward situations they depict. Paradoxical mental experiments are of two kinds:

(iiia) mental experiments in which general psychological or physical facts are different from the usual ones, such as the community of deaf people or people without dreams (Z: 371, 530), or situations in which objects suddenly disappear (RFM I: 37,137). Wittgensgein gives a clear description and purpose of (iiia) at the end of *Philosophical Investigations* II, xxxi:

> "if anyone believes that certain concepts are *absolutely* the correct ones, and that having different ones would mean not realizing something that we realize—then let him imagine certain very general facts of nature to be different from what we are used to, and the formation of concepts different from the usual ones will become intelligible to him. (PI II,xii)"

(iiib) mental experiments in which the general facts of nature are unchanged, but concepts entertained are so different from ours that it is difficult to understand their proper concern. Examples: wood sellers who exchange money with goods independently of the amount of money or value of goods (RFM I: 149-153), people who use elastic rulers (RFM I: 5, 19, 140), people that follow oracles instead of "our" knowledge of physics (OC: 609-12), people who have nothing like

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[3] I will speak interchangebaly of "thought experiment" and "mental experiment", keeping in mind that they are not intended as analysis of our psychological and biological activities but as the analysis of concepts. Wittgenstein was not studying the biological development of our capacity of categoriziation, but had an idea of concept more similar to the Fregean one. See Marconi 2015 for the contraposition between cognitive and metaphysical views of concepts. Roux 2011 defines the characteristic features of mental experiments as (i) counterfactual reasoning (ii) referring to concrete scenarios (ii) linked to a specific cognitive intention. Wittgenstein's thought experiments can be framed as counterfactual reasoning, with a concrete scenario (e.g. what if thing were different from what they normally are, for instance if a rigid rod shrinks? RFM I: 119). This does not imply a metaphysical viewpoint on possible worlds (as in Williamson 2007; see Marconi 2017 for a criticism) but a style of reasoning.

[4] From Horowitz-Massey 1991 to Ierodiakonou-Roux 2011 the literature on mental experiments has incredibly increased. Here I will simply use the basic classification given by Brown 1986 between constructive and destructive mental experiments, which I think helps understanding different roles of mental experiments in Wittgenstein's work. Wittgenstein's mental experiments are liable of being represented as arguments, although not always easy, given that we often need to reconstruct his arguments from scattered remarks. However, reconstructing arguments seems to be the best way to avoid "bad intuition pumps" (cfr. Bendel 2004).

[5] Picardi 2009 sees primitive language games as having the function "to enable us to arrange phenomena along a scale", using different extensions or expansions of it, as happens with the language game of the builders. One of the main claims of this remarkable paper is that "the conceptual tools required in certain extensions of the language depend on the availability of conceptual resources acquired at a lower level. Thus, in Dummett's terminology, there is a relation of relative priority among language-games; there is (partial) order in the motley".

our concept of "knowing" (OC: 562), people who see the pattern "I I I I I" as "I I II I I" (RFM I: 169), – or people who use the notion of "pain" to laugh when pain is expressed (Z: 380). Wittgenstein seems to implicitly refer to (iiib) of mental experiments when he says:

> Suppose you came as an explorer into an unknown country with a language quite strange to you. In what circumstances would you say that the people there gave orders, understood them, obeyed them, rebelled against them, and so on? Shared human behaviour is the system of reference by means of which we interpret an unknown language. (PI 206)

In this paper I will deal mainly with (iiib): here the focus is not on different facts of nature but on behavious and forms of life that appear different from our own (where here for "our own" we may mean the form of life of western culture).

Some "alien" mental experiments occur in *Remarks on the Foundation of Mathematics*, as if they were an answer to Frege's challenge presented in the introduction of *Grundgesetze*. Here Frege claims that tribes who held different logical laws contradicting ours would represent "a hitherto unknown kind of insanity". Wittgenstein's comment was: "… but he never said what this 'insanity' would really be like" (RFM I: 152). Some examples of alien language games may be seen as an attempt to answer Frege, as if Wittgenstein wanted to describe this kind of insanity; however we are left with the question as to what the point of these examples is. Wittgenstein's answer to Frege's challenge therefore demands an explanation that goes beyond his reaction to Frege's thought (see later at § 3).

2. A Missing Background: the analogy between Wittgenstein and Relativity Theory

Discussion of alien mental experiments is typically framed in the contrast between relativistic interpretations (e.g. Winch 1964, Rorty 1979, Marconi 1987, Hacker 1996, Grayling 2001, Boghossian 2006, Glock 2007, Kush 2015) and anti-relativistic ones (Stroud 1965, B. Williams 1974, Broyles 1974, Anscombe 1976, Lear 1986, Conant 1994, Blackburn 2004, M. Williams 2007, Coliva 2010, Tripodi 2013, Kuusela 2017, Pritchard 2018).[6]

Relativists usually disregard the more constructive examples of language games that rely on similarities with our normal concepts, while anti-relativists[7] have a more complex strategy: according to them the first kind of language games (constructive ones) helps us in exploring our

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[6] The distinction is not so sharp, as many interpretations are more nuanced than it may appear. I make just one classical example: Winch 1964 attempts to do with Edward Evans Pritchard and his judgment on Zande culture what Wittgenstein did with James Frazer. Winch criticizes Evans Pritchard for thinking that Western scientific explanations are "in accord with the objective facts", while we cannot define a reality which is independent of social practices and institutions (e.g. Winch 1976: 12). He seems therefore to be a strong cultural relativist, and to support the idea that what is real depends on human mind (see also Burley 2012). Against the standard interpretation of Winch as a relativist, Hutchinson, Read and Sharrok 2008 claim that a correct rendering of Winch ideas is not as a relativist, but as a proponent of a more subtle and complex stance that would be not so different from what I propose in this paper.

[7] It is worth remarking that the anti-relativistic interpretation has been supported by Anscombe's translation of the passage of *Philosophical Investigation* 206 quoted above, where the phrase "*die gemeinsame menschliche Handlungsweise*" is translated as "the common behaviour of mankind". Accepting Anscombe's translation implies that there is a clear reference to something like universal features of human behaviour. Savigny (1991) was the first to point out the problem of an ambiguity in the German text. In a later edition (2009) the English translation has been changed into "shared human behaviour", permitting also a relativistic interpretation of the passage, where we *might* think of specific features of behaviour and reasoning shared in a local community. However, the German text permits both interpretations and is of no use in deciding which of the two is the right one. For a discussion of the development of the different editions of Wittgenstein's texts see Erbacher 2014.

conceptual structure; the second kind (bizarre ones) is a way to show that we cannot follow deviant concepts (we cannot conceive the inconceivable).

In what follows I suggest that a better consideration of Wittgenstein's discussion of relativity theory could help clarify the strategy behind his use of "alien" language games. The relevance of Relativity theory for Wittgenstein has been discussed by many authors, among whom Hintikka and Hintikka 1986, Wright 2002, Brebber 2003, Penco 2010, Kush 2011, 2015 and Mion 2018. It is reasonable to think that Wittgenstein was strongly influenced by the debate on Relativity Theory after his return to Austria in 1919, the year in which even newspapers, especially German and Austrian, were discussing the confirmation of Relativity Theory, and Einstein himself wrote in December 1919 in the *Berliner TageBlatt*[8]:

> "But the truth of a theory can never be proven. For one never knows if future experience
> will contradict its conclusion; and furthermore there are always other conceptual systems
> imaginable which might coordinate the very same facts".

Such a view, a forerunner of the Duhem-Quine thesis,[9] may have influenced Wittgenstein, together with other aspects of Einstein's revolution that seem to have had an impact on Wittgenstein's thought since the early Twenties. Relativity theory seems to constitute an red thread, linking Wittgenstein's early remarks on colour to his latest remarks on certainty. First, Wittgenstein's idea of a special "logic" of colour words, after his criticism of *Tractatus* in "Some remarks on logical form", may be prompted by a comparison with the idea of a system of coordinates as a necessary framework for the grammar of colour words:

> " The written sign without the coordinate system is senseless. Mustn't we then use something
> similar for representing colours?" (PR: 46).

The topic of colours is taken up more than once in this regard until the very effective discussion on rule-following in RFM VI 28:

> The certainty with which I call the colour "red" is the rigidity of my measuring-rod, it is the rigidity
> from which I start. (…) Following according to the rule is FUNDAMENTAL to our language game.

We cannot enter here the debate on rule-following considerations.[10] I gave just two of many

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[8] It is reasonable to imagine that Wittgenstein, coming back to Wien at the end of the war in 1919, could not avoid having a look at the many remarks on the topic in newspapers available in most Viennese cafes (and at home). On the presence in German newspapers of news about the confirmation of relativity theory see Elton 1986. Unfortunately there is no research on the presence of articles on relativity theory in the Austrian newspaper *Neue Freie Presse*, that Brian F. McGuinness suggested me to consult. As far as I have verified, Einstein himself was requested to publish a paper by the *Neue Freie Presse*, but he had to answer (December 6, 1919) that he could not give them the content of a paper already published in *The Times* on November 28 1919; however he would later publish an article on the Theory of Relativity for the *Neue Freie Presse* in 1920 (July 24: "Die hauptsächlichen Gedanken der Relativitätstheorie") and in 1921 (January14). The *Berliner Tageblatt* and the *Vossische Zeitung* had already published articles on the confirmation of Einstein's Theory by the solar eclipse (October 6, 1919 in *Berliner Tageblatt*: "The sun brings it to light"; October 15, 1919 in *Vossische Zeitung*: "solar Eclipse and Relativity Theory", where specifications of the bending of the light beam were given in details); the 14th of December 1919 the *Berliner Illustrierte Zeitung* published the famous picture of Einstein on its front page; The *Neue Freie Presse* continued to publish articles on Relativity theory (e.g. by Oskar Kraus on September, 11, 1920 and on October 27, 1923). German newspapers can be consulted at http://zefys.staatsbibliothek-berlin.de; Austrian newspapers at: http://anno.onb.ac.at.
[9] Views of the kind were not absent from the Vienna Circle, where Duhem's work was well known and discussed, given the translation into German, with a preface by Mach, in 1908.
[10] The debate on rule-following is almost endless. There are at least two dilemmas: Platonist vs. communitarian justifications of rule-following (truth conditions vs. assertibility conditions) and individualistic vs. communitarian

quotations[11] to suggest the reasonable assumption that we may find implicit links with Relativity theory in many of Wittgenstein's examples, especially when discussing the idea of coordinate system or frame of reference in a very general way, which is sometimes to be understood as "conceptual system"[12]. Since the Twenties Wittgenstein often uses the terms "coordinate system" and "system of reference" ("*Bezugssystem*", literally "reference system", is a term typically used in physics also by Einstein to refer to a coordinate system). The previous quotation on the idea that "the written sign without the coordinate system is senseless" (PR: 46, see also Z: 432) seems an echo of Einstein's idea that a statement of simultaneity of events without a specified coordinate system is meaningless: "unless we are told the reference-body to which the statement of time refers, there is no meaning in a statement of the time of an event." (Einstein 1916, p. 31).

This is a reminder of the verificationist account, which is explicitly connected, both by the Vienna Circle and Wittgenstein, to Einstein's view: "The verification is not one token of the truth, it is the sense of the proposition. (Einstein: How a magnitude is measured is what it is)." (PR: 166; see also BT I: 60; PG II: 39). The discussion of Wittgenstein's use of the metaphor of measurement has been much developed in two papers by Kush (2011, 2015), according to which metrology has a central role in Wittgenstein's critique of the *Tractatus* and beyond. Kush relies on the comparison between the rigidity of rods and clocks in Einstein theory and the rigidity of "grammatical" rules in Wittgenstein – where for "grammatical" we mean also our mathematics: "mathematics as such is always measure, not thing measured" (RFM III: 75). Kush 2011 claims that "just as Einstein brings the rulers and clocks into the empirical world, so the later Wittgenstein rejects the transcendental status that the *Tractatus* accorded to rules, and situates them firmly inside our real and empirical language-games." Somebody might object that Wittgenstein also insists on non-empirical language games (for Wittgenstein "the limit of empirical is concept formation" RFM IV: 29). However there is something in this interpretation of Wittgenstein, which is also connected with the discussion on scepticism in *On Certainty*, where we find Wittgenstein's last explicit remark on Relativity Theory:

"Here once more there is needed a step like the one taken in relativity theory"(OC: 305).

The passage should be read in the context of the problem of scepical doubt[13] discussed in *On Certainy*, which has a starting point on mathematical certainty: "The mathematical proposition has, as it were officially, been given the stamp of incontestability. I.e.: Dispute about other things; *this* is immovable—it is a hinge on which your dispute can turn." (OC: 655) How does these remarks help

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mastering of rule-following (Kush's communitarian view is dealing with the latter). This duplicity makes it difficult to give a proper assessment of the contrasts among interpretations. For a discussion see also see Miller 1997, Baker-Hacker 2009, § IV and Horwich 2010: 133. In RFM VI 49 Wittgenstein suggests the following anti-consensualist view: "If what a proposition of logic said was: Human beings agree with one another in such and such ways (…) then its contradictory would say that there is here a lack of agreement. Not that there is an agreement of other kind. The agreement of humans that is a presupposition of logic is not an agreement *in opinions*, much less in opinions on questions of logic". An anti-consensualist view is developed by Crispin Wright who claims that Wittgenstein's analogy between his philosophy and Relativity theory suggests a more *constructive* kind of response to the rule-following considerations, that partly undermines the interpretation of Wittgenstein's quietism (see also footnote 15).

[11] For a more complete list of quotations we can find in different phases of Wittgenstein's philosophy see Penco 2010.

[12] While Wittgenstein often uses the term "coordinate system" (since PR 46,83, 206) or "system of reference" he also uses, although rarely, the term "system of concepts" (e.g. RPP I 47)

[13] The following analysis is coherent with the general idea of "hinge epistemology" (Coliva 2016). The suggestion is that we may view the idea of "hinge" as a metaphor of a coordinate system. What is a coordinate system if not a theoretical hinge on which we rely to organize our descriptions?

in facing sceptical doubts? Kush would say that mathematics is measure and we agree in putting it "in the archive". But, concerning scepticism in particular, Mion 2018 gives a further suggestion, grounded on the basic tenet by Wittgenstein according to whom

> "Every empirical proposition may serve as a rule if it is fixed, like a machine part, made immovable, so that now the whole representation turns around it and it becomes part of the coordinate system, independent of facts" (RFM VII: 74)[14]

The suggestion is that empirical propositions like the ones presented by Moore against the sceptic are not actual empirical propositions, but belong to the background, to the coordinate system with which we describe reality. As Mion (2018: 6) says: "both Einstein and Wittgenstein seek a solution to their problems by rising mere empirical data to the role of apriori postulates. So, for Einstein, the fixity of the speed of light becomes an assumption of his theory of relativity; while, for Wittgenstein, mere empirical propositions such as 'there are physical objects' become assumptions that are generally presupposed in all empirical inquiries"

While this point may help to understand Wittgenstein's analysis of the problem of scepticism in *On Certainty* we still need an answer about the role Wittgenstein gives to "our" frame of reference (although subject to changes). We have to be cautious in the use of the term "frame of reference", and not to assume that Wittgenstein were always concerned with "our" frame of reference as the only one we have (OC 83). It is true that the scientific and technological view of the world seems to unify the world as a whole, as Wittgenstein claims in one of his most pessimistic and apocalyptic passages: "science and industry with infinite misery will unite the world" (VB: 14.7.1947). However, in Wittgenstein's view, a frame of reference may also be intended as one of different possible choices, as discussed in a late remark of 1947:

> "A religious belief could only be (something like) passionately committing oneself to a system of coordinates. Hence although it's belief, it is really a way of living, or a way of judging life. Passionately taking up *this* interpretation. And so instructing in a religious belief would have to be portraying, describing that system of reference & at the same time appealing to the conscience. And these together would have to result finally in the one under instruction himself, of his own accord, passionately taking up that system of reference" (VB: 21.12.1947).

In this last case, it seems apparent that speaking of "system of coordinates" for religious beliefs at least implies that there may be different systems of coordinates or systems of reference. Our frame of reference may be one among many.

3. Alien Mental Experiments and Relativity Theory

Crispin Wright suggests considering Wittgenstein's remarks on Einstein as as something central to Wittgenstein's project of philosophy and as the seeds of a constructive perspective, which gives philosophy a theoretical aspect beyond mere quietism.[15] In what follows I try to develop the

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[14] See also OC 321: "any empirical proposition can be transformed into a postulate—and then becomes a norm of description". Mion 2018 remarks that this entry has been written immediately after the claim about Relativity theory in OC 305.

[15] Wright (2002: 32-35) presents the comparison with Relativity theory as follows: "Just as, from the relativistic standpoint, we abandon the idea that our measurement practices answer to absolute and independently constituted determinations of spatiotemporal values, instead regarding those very practices as grounding of our concepts of spatio-temporal parameters and of the content of statements concerning them (...) So we should abandon the idea that in basic

suggested similarity between Wittgenstein and Relativity, partly expanding what was very shortly hinted at in Penco 2010, and partly going beyound a mere textual interpretation. I attempt to make my earlier remarks more explicit, trying to answer the following more specific questions:

(1) How do time dilation and light contraction fit into Wittgenstein's discussion on alien language games?

(2) Where can we look in Wittgenstein for invariants and transformations that permit the comparison among different coordinate systems – or conceptual systems?

(3) How should we interpret the similarity between describing measuring tools (clocks and rods) and describing concepts or judgments?

I will try to answer these three questions with the help of one of the most debated Wittgensteinian thought experiments: the wood sellers.[16] The case of the wood sellers at first appears as an answer to Frege's worry as to what kind of insanity it would be not to follow our logical rules.[17] Wood sellers, at first sight, *seem* not to be following basic rationality: they sell wood depending on the extension of the wood on the ground, independently of the height of a pile of wood, so that a smaller quantity of wood would be sold for a higher price than a larger quantity if it were laid out with a larger base. Their system appears, therefore, illogical or incoherent. Wittgenstein suggests that we might try to help them and show that a high pile of wood with a smaller base could be transformed into a larger base and then be shown to be more wood than the other pile. This presentation would help the wood sellers to realize the real quantity of wood of different piles. This solution might work, but Wittgenstein imagines also a possible reaction: "perhaps they would say: 'Yes, now it's a *lot* of wood and costs more' – and that would be the end of the matter." (RFM I: 150) What is the point of this example? Is Wittgenstein trying to show that there are systems of beliefs incommensurable with ours (relativist answer)? Or that our inability to describe the incoherent system of wood sellers will help us to clarify, by contrast, "our" concepts (anti-relativist answer)? Probably neither answer is right, and the analogy with Relativity Theory

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rule-following, our moves and judgments answer to independently constituted determinations of correctness, instead regarding our propensities to convergence as grounding our concepts of what it is to follow such rules correctly and the content of the judgments on which we converge." At first sight it might appear that these remarks could be interpreted as a move from an absolute Platonist account towards a communitarian or consensualist account of rule-following (as claimed, following Kripke, by Kush 2015). However, as Wright insists, rule-following still cannot be identified, as a matter of conceptual necessity, with what most human beings converge on. Although *arising from* our primitive dispositions to converge, we cannot identify convergence or consensus as *what constitutes or guides* our *basic* rule-following, e.g. judgments about colours (see RMF VI, 28 where Wittgenstein connects his analogy to Relativity theory to rule-following considerations). In these basic cases we are not really "guided" by anything. It is correct to say that "basic rule-following, like all rule-following, is rational in the sense that it involves intentionality and a willingness to accept correction in the light of error." (Wright 2007: 497-8). But this does not mean that it requires a justification on some further level of analysis, e.g. that it depends on consensus. We rely on the rigidity of our basic judgments on colours just as we rely on the rigidity of clocks and rods. This rigidity permits us understanding what is error and what is correct and incorrect application.

[16] Kush 2015 abundantly uses the mental experiment of wood sellers to verify the compatibility of Wittgenstein with a "standard model" of relativism defined according to a model of "metrological relativism". However I will avoid this kind of compariso, in order to find a fresh start on Wittgenstein's similarity with Relativity theory independent of the debate on relativism.

[17] Speaking of logical madness Frege 1893 appears to hint at some *way of thinking* in which we cannot participate. However, as Cerbone 2000 has shown, it is not as simple as that. There is in Frege both a *normative* strand (logical laws are a norm of correct thinking; there may be people that do not follow them, and therefore are wrong in their judgments – and we might not be able to think the way they think) and a *constitutive* strand (logical laws do not prescribe how we *should* think but form the background that constitutes thinking; in principle there cannot be people who *think* and at the same time disagree with logical laws). According to Cerbone, Wittgenstein would follow the second strand, concluding that if we imagine beings who infer and argue, then we cannot imagine them as if they were outside the realm of logic.

may provide some new suggestions.

3.1 Time dilation and concept deformation.

Einstein considered the variations of measuring systems according to different frames of reference (coordinate systems); his mental experiments concerning clocks and rods are first developed in his treatment of Special Relativity, and it is therefore in connection with Special Relativity that we may first look for the putative analogy between Wittgenstein and Einstein. In Special Relativity if two Coordinate Systems (CS) approximate the speed of light, from the point of view of one CS, in the other CS clocks slow down and rods shrink.[18] Following the analogy in the conceptual realm, we might ask what happens to our concepts when they are placed in a different conceptual framework. We should expect that in an alien conceptual system our concepts would shrink or be somehow deformed. For instance, our concepts of "selling" and "money" should not be applied as such to the wood seller's conceptual system. Anti-relativistic interpretations claim that the "distance" from our normal concepts is given just to make us understand that our concepts are the only ones we have. But we might also say that the concepts we normally use are analogous to the tools provided by Newtonian principles in dealing with problems in classical mechanics. As Newton's principles don't work properly in a coordinate system that nears the speed of light, our usual concepts don't work properly in an "alien" conceptual system.

We would then suggest that our basic concepts are rigid, like Einstein's measuring rods, but are deformed or bent in alien conceptual systems, as rods shrink relative to a different coordinate system. A limitation of the anti-relativistic interpretation is that we cannot apply our concepts as if they were "absolute": as Einstein showed that time is not an "absolute" measure, but depends on systems of coordinates, Wittgenstein criticises the belief "that certain concepts are absolutely the correct ones, and having different ones would mean not realizing something that we realize" (PI II: 12). Following this quotation, we are led to think that our concepts of "quantity" depending on our paradigm of economic exchange are not the absolutely correct ones, and therefore we could *not* claim that, if the wood sellers did not accept them, they simply did not realize something that we realize. Perhaps we could get them to understand our viewpoint, but they might be not interested.

What is wrong then in applying our concepts (of selling, quantity, money...) in the context of the wood sellers? Barry Stroud and others anti-relativists claim that trying to understand a Wittgensteinian alien society is almost impossible, but this attitude – as Marconi 1987 suggests - may simply reflect a lack of imagination. Ray Monk (2005: 79) claims that "what is required to free us from the picture that holds us captive is an enriched imagination..." I like the idea and, against Monk's own interpretation of wood sellers, I assume a properly "enriched" imagination would imply to imagine something new, which is not our traditional commercial exchange. We have no need to go very far, and we may be content to think of phenomena like the institution of *Potlach*, a kind of economic system where people give away goods for nothing in exchange.[19] Anticipating

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[18] It is difficult to understand how much Wittgenstein knew about Relativity theory. Probably his remarks fundamentally concern Special Relativity and Wittgenstein maybe influenced by the idea of preferred global space-time coordinates to which Einstein gave a direct physical and intuitive reading. On this limitation of Special Relativity see Dieks 2018.

[19] This is obviously a very simplified vision of the institution of *potlach*, in which natives of the northwestern coast of America gave away things of great value as gifts. The institution of potlach was prohibited because it was considered irrational. However it was much studied after the work by Durkheim's nephew, Marcel Mauss in his *Essay sur le done*

Quine's criticism of the idea of Lévi-Bruhl's "primitive logic" – partly depending on an erroneous translation of the speech of the inhabitants of the Trobriand Islands – Wittgenstein remarks that we might have *mistaken* the translation for "selling". If the reactions of the natives seem absolutely contradictory and irrational to us, maybe we did not get what was going on. In his '39 *Lectures on the foundation of Mathematics* Wittgenstein suggests translating "selling" as "giving away", and justifies the wood sellers behaviour by saying that, although "we might call this a kind of logical madness", in fact, "there is nothing wrong with giving wood away" (LFM: 202): we may see no point in it, but we do a great many things without a clear point. Therefore, attribution of insanity is not well placed, and other reasonable explanations of an awkward behaviour relative to a specific community are always possible with enriched imagination: perhaps the wood sellers don't care how much money they possess, but rather about the quality of the interaction between them. And this way of exchanging wood for money may be seen as a good way of not accumulating too much money (something perhaps considered unfair and inelegant). Or the time used to distribute pieces of wood in large areas may be considered a kind of artistic endeavour that is very much appreciated. And so on.

Following the analogy with relativity theory, the application of our concepts to an alien society will produce a kind of regular deformation that has to be taken into account. What is wrong in the application of our concept of "selling" is the inability to detect the deformation that this concept undergoes when applied in a different frame of reference. In order to use our concept of "selling" we have to take into consideration their frame of reference, the surrounding circumstances, institutions, habits, and principles of their form of life. Only by this careful anthropological analysis, we may find a different interpretation of what we call "selling", "value", "more", using our concepts in a new way and at the same time giving a more correct translation of the native lexicon that will make the natives more coherent than it appeared. Reasoning on the influence of Relativity Theory, therefore, converges towards the same conclusion reached by Cerbone: "the initial appearance of error, when pressed, reveals instead a lack of understanding on our part. The problem we confront in thinking about this community is not a problem in their practices, but rather a problem for us in interpreting just what it is they are doing."[20]

Therefore, contrary to what anti-relativists think, alien mental experiments are not necessarily devoted only to making our basic concepts more salient, but also to showing that our basic concepts cannot be used *as such* in distant conceptual systems, but require some adjustment:[21] we need to make the right transformations in order to adapt our concepts to the conceptual framework of people with different habits. Most basic concepts are family resemlance concepts; we need to make the right transformation to use our concepts in a different frame of reference. What seem to be totally different concepts then will be revealed to be a possible non standard application of the

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(1925), until it became apparent that the economy of *potlach* is of a completely different kind from ours, and its prohibition from Western colonialism was based on misunderstanding (see for instance Bracken 1997). Another example of correcting a bad interpretation derived by not realizing that our concept cannot be applied as such in alien systems comes from Malinowsky's critique of Frazer and Durkheim. They claimed that Australian aborigines just "lacked" an economy, as if they were a primitive stage of human society; contrary to this idea Malinowsky shows that totemism amounts to a "magical economy", very different from ours (e.g. Thornton et alia 2006, p. 45). Wittgenstein's critique of Frazer is probably an application to anthropology of his idea that our normal concept cannot be applied as such to an alien system.

[20] Cerbone 2000

[21] We may interpret in this way what Tripodi 2013 claims regarding the point of these experiments: to see *how far our concepts can be stretched*. This is not done without a purpose; we try to stretch them in order to find out how we can understand others.

concepts we use in our typical environment. Our concepts of "value" or of "selling" may be reconstructed, with some imagination, in order to be adapted to the particular setting in which the alien system is organised (and the fact that we may describe the economic system of *Potlach* using our concepts is an evidence of this possibility). Here we are not speaking of radically different concepts, as it may happen when facts of nature are different, but we are studying different systems where our concepts can be adapted if we recognize the difference of frameworks. Or maybe Wittgenstein wants to say that what we see as radically different concepts are not so different after all. Maybe alien wood sellers have just "a quite different system of payment from us"(PI: 150).[22]

We could summarize the analogy with time dilation and light contraction in the following claim:

> CONCEPT DEFORMATION – Our concepts are like our clocks and rods. When placed in a reference system of an alien society, *our* concepts – to be properly applied – will be deformed in their system, like clocks and rods in a coordinate system slow down and shrink in relation to another coordinate system. We should therefore understand the new applications of our concepts to compensate the difference uses in these systems of reference, in analogy with the transformations needed to compensate the deformation of clocks and rods in coordinate systems that approximate light speed.

While Einstein worked on measuring tools and Coordinate Systems to compare events and verify when two events can be said to be simultaneous, Wittgenstein worked on "grammatical" judgments and conceptual frameworks, to verify whether two concepts belonging to two different conceptual frameworks can be said to be the same concept. The discussion of the wood sellers seems to be an application of this attitude, which amounts to saying that our concepts of "quantity", "selling" or "value" cannot be applied as they are applied in our frame of reference, but need to be modified up to a point that they may match the alien frame of reference, permitting a right translation and arriving at understanding a sameness of meaning between our concepts and theirs. Analogously, when the two events in the two different coordinate systems are not simultaneous from the perspective of one of the two coordinate systems, we need the right transformations to check what we may define as simultaneous. Simultaneity is sameness of time like synonymy is sameness of meaning. To reach sameness of meaning we need to adequate our lexicon (our use of words) to the new frame of reference.

The problem is that, in Relativity theory, transformations are definitely stated by a precise calculus, while it seems impossible to give fixed rules of transformation in Wittgenstein's "deep grammar". Our concepts may be deformed in extremely different reference frameworks like the one of the wood sellers, but it seems we have no precise way to do so, no invariant that helps us in doing the right transformation. Where to find in his view the supposed invariants that contribute to transformation rules allowing to pass from one system to another, and to show the different behaviour of rods and clocks in different coordinate systems to make them comparable?

3.2 An *invariant across different conceptual systems*

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[22] Marconi (2017: 115) shows that the difference with wood sellers and us may be interpreted both as a semantic difference (we have different concepts) and as difference of facts (we have different habits). The thought experient may be intended to show something about differenc concepts of selling and buying, measuring, "more of" and "less of", etc, but also that for them "sales are not necessarily what we had assumed them to be".

Abandoning the idea of absolute space and absolute time, Relativity Theory is a search for invariants in our description of physical reality, a unifying way of describing physical events in our space-time continuum through systems of transformations. The problem then becomes, for Wittgenstein, to find invariants that permit the right transformations for using our basic conceptual tools in other ("alien") conceptual systems. But our common judgments ("they sell goods for value") cannot be invariants, given that they are "deformed" in their use in alien systems. And invariants like physical laws or the speed of light would be of no use in the conceptual realm.

Here we should put the quotation on shared human behaviour from PI 206 in focus. Wittgenstein, after having concluded his master argument on rule-following considerations (PI: 201-2), seems to try an application of this argument in treating the problem of understanding an alien society. He suggests looking for the surrounding environment and habits – that is the "shared human behaviour" considered as "*the* system of reference (*Bezugssystem*) by means of which we interpret an unknown language." (PI: 206) Given that this passage follows the conclusion of the discussion on rule-following, and begins with the remark "Following a rule is analogous to obeying an order", we are led to think that rule-following behaviour is a central feature of shared human behaviour. It differentiates humans from other animals, and – besides basic features like walking, chasing, eating, and other usual behaviours, the central ferature of shared human behavious is rule following, which is connected with speech acts. We may thereby understand why Wittgenstein speaks of shared human behaviour, after the argument of rule following, as an answer to the question: "In what circumstances would you say that the people there gave orders, understood them, obeyed them, rebelled against them, and so on?" (PI: 106; cfr. RFM VI: 42) The answer is that the right circumstances are those in which the behaviour shared by the alien community shows coordination of sounds and intentional action, which amounts to basic rule following behaviour.

The thought experiment that follows the remark on shared human behaviour may provide a further suggestion in this direction: what if we met people behaving in an apparently rational way, but with sounds that are totally disconnected from their behaviour? "Are we to say that these people have a language: order, reports and the rest? There is not enough regularity for us to call it 'language'" (PI: 207). The conclusion of this thought experiment seems to claim that we need to recognize some kind of *regularity* in the relations between actions and sounds in order to properly speak of language and language games. Only with the recognition of such regularity, we may say that we have a proper language (and therefore the possibility of translating a conceptual system). The point of the thought experiment of PI 207 also seems a reminder of the difference between *rule-following* and *natural regularity* or *expression of a uniformity*, more widely discussed in RFM (VI: 26, 41-49), as well as a distinction between a process *involving* a rule and a process being *in accordance* with a rule, discussed in BB (p.10). We may describe natural regularities (e.g. rotation of planets or behaviour of animals, or our neurophysiological structure for preceiving regular patterns), but natural regularity is not rule-following. Rule-following *presupposes* the recognition of uniformity, but we have to distinguish rule-following from the natural expression of uniformity. Rule-following characterizes linguistic behaviour, whose mark is the distinction between correct and incorrect (following and disobeying a rule), which grounds the possibility of making a mistake (PI: 54).

Therefore, even rejecting the idea of a kind of behaviour common to all mankind, and considering the "human common behaviour" of PI 206 as behaviour shared in an alien society, we should always look for something invariant, those aspects of behaviour that permits to distinguish

what is considered correct or incorrect. Even relativists, therefore, should accept that there is a universal invariant according to which we have to interpret alien societies: rule-following behaviour, that is the central core of human behaviour that permits the organisation of socially shared activities through the use of language. It is therefore this invariant aspect of human behaviour that permits us to compare different conceptual systems. This does not mean that there are *specific* rules common to all societies, but that the analysis of rule-following behaviour is a universal lead to interpret an alien society and an alien language: comparing alien criteria of correctness with ours, we may begin to understand how our concepts may be bended to be used in different conceptual systems. Understanding rule-following behaviour helps us to adapt *our* concepts to an alien frame of reference, as in Relativity theory we use transformations to adapt our measuring tools to different frames of references. We may summarize these remarks in the following claim:

> CONCEPT ADAPTATION – If we meet people that behave in a way that does not match our normal use of concepts, in order to understand their frame of reference we need to adapt our concepts according to their criteria of correctness, according to the way they follow rules; rule-following behaviour is the invariant feature that permits us to make the right transformations from our system of reference to theirs.

This claim does not imply that we have to *accept* any alien frame of reference: we may understand it as we may understand Aristotle's physics or the Ptolemaic system, without adhering to it. But we also have to accept, conversely, that they may understand us and will not accept our frame of reference. Here it is reasonable to refer to an idea of Wittgenstein, for which, when the chain of reasons comes to an end, only persuasion remains. The famous passage in OC: 612 ("at the end of reasons comes persuasion") continues as: "Think what happens when missionaries convert natives". This comment hints at the idea of a commitment to a coordinate system by a religious believer presented above. The missionary is a religious believer with a strong system of coordinates and the only way to convert an alien native cannot be logical reasoning, but the presentation of his own system of coordinates, through examples, methods, habits, and rules. And it may happen that the missionary changes his mind and accept the native viewpoint.

The problem with the analogy between Wittgenstein's thought and Relativity theory is that in a scientific theory invariants are fixed and clear (physical laws and light speed permit the right transformations). On the contrary, in Wittgenstein's view of philosophy we cannot have any *fixed* rules that apply universally to all different conceptual frameworks. We are left with few hints or examples of variations among different forms of life that all are characterized by rule-following. But rule-following is not a fixed set of rules, but a general ability that may be expressed in many different ways. The degree of indefiniteness and flexibility of rule-following behaviour make it impossible to give a formal method for devising how our concepts have to be modulated to adapt to other conceptual systems. It is therefore not very clear *how* we can use rule-following considerations in specific cases of comparison with an alien society, and we are left with the indication of an attitude.

There is a similarity with Quine's radical translation: a kind of charity principle emerges from Wittgenstein's discussion of the wood sellers. If we cannot give a rational explanation of their rule-following, maybe we made a wrong translation: internal logic or coherence will emerge from the careful description of alien language games. But there are differences: according to Wittgenstein,

translation is not just grounded on assent and dissent in the face of empirical observational sentences, but on a wider variety of observations on shared behaviours in the community, on what counts as obeying and disobeying orders, of what counts as accepting or rejecting patterns of behaviour. Besides, far from Quine's attitude of continuity, Wittgenstein poses a strong hiatus between philosophy and science: philosophy should not aim – as science does – at explaining what is hidden, but should restrict itself to describing what is in plain view. In order to better understand the analogy with Relativity Theory we should, therefore, take into account the specific character of Wittgenstein's philosophy, whose central core is not explanation, but description (PI: 109, 140).

3.3 *Describing descriptions*

A suggestion connecting the concept of description and relativity theory is expressed in a remark written in the latest years (1944-45) that already prompted the attention of many scholars. The passage is worth citing:

> Someone asks me: What is the colour of this flower? I answer: "red".—Are you absolutely sure? Yes, absolutely sure! (...) The certainty with which I call the colour "red" is the rigidity of my measuring-rod, it is the rigidity from which I start. When I give descriptions, *that* is not to be brought into doubt. This simply characterizes what we call describing. (...) Following according to the rule is FUNDAMENTAL to our language game. It characterizes what we call description. This is the similarity of my treatment with relativity theory, that it is so to speak a consideration about the clocks with which we compare events. RFM VI: 28

On first reading, it seems that rule-following characterizes what we call "description" because, in order to describe, we need to follow rules, to have standards, to distinguish measurement devices and the measured objects, and this sounds coherent with the recognition of rule-following as an invariant. The analogy Wittgenstein proposes between his work in philosophy and Einstein's work in physics seems therefore to confirm a standard reading: as Einstein analyses the tools with which we measure events in coordinate systems, and the description of the working of these tools is part of the overall theoretical system, philosophy analyses the tools we use in describing facts, tools that belong to the grammar of description, or "logic" in a most general view. This reading is confirmed by a famous passage of *On Certainty*:

"Everything descriptive *of* a language game is part of logic" (OC: 56)[23]

On the other hand, Wittgenstein makes a specification that requires clarification:

"Philosophy is not a description of language use" (LW I: 121).

The claim in the second quotation seems in sharp contrast with the first. It might be made coherent with the first, saying that philosophy is never a description of the use of words, but always

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[23] And later: "what counts as an adequate test of a statement belongs to logic. It belongs to the description *of* the language game." (OC 82)

a description of systems, of language games, in which words get their sense.[24] But this answer is not yet clear enough.

Wittgenstein says that there are many *kinds* of descriptions[25] (PI: 24, 291); in fact, saying that rule-following characterizes what we call "description" we have to distinguish at least two kinds of descriptions, concerning different objects of description:

(1) descriptions of language games

(2) descriptions of alternative descriptions of language games

In the first, we describe how the same expression may have different roles in different language games.[26] In the second we describe which descriptions are used in describing language games. The first is concerned with the question: "How does a language game work? Which is the logic – the grammar – of a language game?" The second is concerned with the question: "How do we compare different descriptions of a language game?" This last question, for instance, requires to describe the wood sellers' descriptions of their actions, and to compare them to our initial description, checking which kind of presuppositions they reveal.

According to (1), in describing alien language games, we may try to extract their background logic or their reference system, and thereby we should be ready to accept the possibility of alternative logics or alternative worldviews. In this case what Wittgenstein calls "logic" belongs to the language games being described. This sounds not so distant from the perspective held by Mikel Burley. Burley (2012: 8), speaking of "the language game of describing", suggests that a description of an event as a manifestation of Azande witchcraft or in terms of classical mechanics reveals important conceptual differences: "they are all playing the language game of describing or reporting an event, yet they are doing so in a way that evinces important conceptual differences." This would amount to saying that we have different kinds of descriptions of an event, equally relevant and possibly incompatible. This apparently seemingly relativistic trend is compatible with the idea that there *might be* different theoretical systems with logics that would be different from ours,[27] putting some doubts on interpreting Wittgenstein as stating the fact that we need to rely on *our* logic as it has been developed – contingently – as the only logic we have – and we cannot conceive of another one[28].

However, if we follow the distinction between "describing a language game" and "describing a description of a language game", we may gain some further insight. I was brought to underline this

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[24] In this concern the latest Wittgenstein is no more certain of his grammatical systems of the intermediate period: "What am I after? The fact that the description of the use of a word is the description of a system, or of systems.—But I don't have a definition for what a system is." (RPP I: 294)

[25] In Wittgenstein's work there are many examples of different kinds of descriptions (internal or external, verbal descriptions or conventional descriptions,...) but the main difference seems to rely on the kind of objects being described: geometrical constructions (PR 131, 135), logical forms (PG 40), visual space (PR 87), states of mind (LW 1,20-51), colour patches (PR 213), language uses (LW 121, 294...969), feelings (LW I, 400-1), perceptions (LW I, 540-553, PI II;xi), moods (LW I.614), etc. But what is to be taken as a description depends on the language game in which words are used; e.g.: "are the words 'I am afraid' a description of a state of mind? It depends on the game they are in" (PI II, ix, pp. 187f).

[26] The debate on the boundary between semantics and pragmatics (from Travis 2000, Recanati 2011, Carston 2013, Unnsteinsson 2015 and others) seems an attempt to define these kinds of systems. Donnellan's distinction between attributive and referential uses may be a paradigmatic application of the kind of work Wittgenstein was aiming to (Penco 2015)

[27] This attitude seems more supported from the kinds of alien mental experiments where Wittgenstein imagines different physical laws. If things disappeared irregularly should we have a different mathematics? For instance, a probabilistic mathematics? Something like Quantum Logic? But also, if things disappeared irregularly, our classical mathematics might help to detect how many things disappeared while calculating.

[28] This is basically the typical anti-relativistic conception from Stroud 1965 to Coliva 2010.

difference by a paper by Heather J. Gert.[29] Think of the way Wittgenstein describes the descriptions of a state of mind that characterizes a certain game (LW I: 20-51), or, better, the way in which he compares different descriptions of a perceptual report (LW I: 180). What is Wittgenstein doing in these cases? He is not just describing a phenomenon (a language game). He is describing descriptions of phenomena, descriptions of a state of mind or descriptions of perceptual reports. Philosophy is a description of descriptions. Even the paradigmatic mental experiment of the builders (PI: 2) may be interpreted in this way: the remarks in the *Philosophical Investigations* are not important because they describe what two builders do when passing a brick or a slab. The point of Wittgenstein is not just describing the builders' use of words, but describing different descriptions of the builders' interaction: at the beginning Wittgensein presents the builders' as "a language for which the *description* given by Augustine is right" (PI: 2), but soon he criticises the standard description of the meaning of words as evoking images, as it is supposed to be in the Augustinian picture: "in the language of §3 it is *not* the purpose of the words to evoke images" (PI: 6). He then gives a different description of the linguistic interaction of the builders, as "one of those games by which children learn their native language" (PI: 7), and eventually he put doubts on the possibility that "on can reduce the *description* of the use of the word 'slab' to the statement tht this word signifies this object" (PI: 10). This seems to me evidence to claim that, at the beginning of the *Philosophical Investigations*, Wittgenstein is describing and comparing different descriptions of the uses of words.

Therefore, according to (2), we might say that rule-following characterizes the activity of describing descriptions of language games. Wittgenstein often describes everyday descriptions[30] (describing a picture, an impression, a sensation, an economic exchange), but often these descriptions are descriptions of language games, especially when presenting alien thought experiments. We might still claim that, trying to describe alternative descriptions of alien language games, we refer to *our* standards of description: our frame of reference supporting the description is presented as something like a universal logical or grammatical structure, the only one we have. However, it is not always mandatory to interpret Wittgenstein's use of "we", or "us", as referring to Western culture or to logic as it has been developed in Western society. Although sometimes he seems to uses "we" referring to Western culture, it is reasonable to understand some central uses of "we" in his remarks on rule-following as referring to us as humans and not as Western people.[31] Therefore the reference to "shared human behaviour" seems to open the way to considering the activity of describing descriptions as something that can possibly be shared among human beings, although very distant in their customs, like native Australians, wood sellers and experts in quantum

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[29] Gert 1997 gives a clear analysis of this attitude: "...in the quotation from *Philosophical Investigations* §24 he [Wittgenstein] does not ask us to describe facial expressions, sensations, or moods, or the use of terms for facial expressions, sensations, or moods. He asks us to compare descriptions of facial expressions, sensations, and moods. And in *Zettel* §204 he does not ask for a description of an attitude, nor does he ask how attitude is used. He asks what a description of an attitude is like. In all of these passages the topics are the descriptions themselves." Besides a criticism of Kripke's view on rule-following, Gert seems to derive conclusions not dissimilar to ours, although given in a different context.

[30] Cf. Gert 1997: 226.

[31] This remark does not oblige the reader to accept the interpretation of the Wittgensteinian use of "we" as a *transcendental* "we" intended to supersede the transcendental ego of the *Tractatus* (as in Williams 1974 or Lear 1982). Actually we (scholars) would need some more evidence about Wittgenstein's *different* uses of the term "we" in different contexts, and a search in the electronic data may offer space for this work. I didn't have time to make an extensive search, and I rely on my limited understanding in reading the texts, with the help of Andronico (1998, 2013) who discusses different trends in the Wittgensteinian uses of "we".

mechanics (although apparently there would be a lot of work on both sides to make the right translation, at least a master in physics and a course in witchcraft). Is there a unique logic behind describing descriptions? Something like a chomskyan innate module that we share as human beings? *Philosophical Investigations* were published a few years before Chomsky's *Syntactic Structures*, and we have no idea how Wittgenstein would have reacted. But it seems apparent from our suggestions that the logic behind describing descriptions is derived by our being compelled to make continuous adjustments of our descriptions, confronting different descriptions of language games. Therefore, we may try to find a logic, or a grammar, we might share or build together with other human beings (or, in the future, with non-human beings who follow rules).

Which of the two perspectives should we choose? Probably there is no clear answer, as often with Wittgenstein. Concerning the two kinds of descriptions (1) and (2), the point of the former is to recognize that every society (or components of a society) has different language games, and our descriptive work of alien systems consists in finding which deep grammar is lying in their conceptual systems, which concepts perform the role of norms of grammar. The point of the latter is to see what happens when we try to describe not simply the language games of an alien society, but what happens when we try to describe their descriptions of their language games and compare theirs to ours. This project seems to point to a more general universalistic perspective, where we humans share a common ability that guides our translations

In this connection the comparison with Relativity theory makes the work of philosophy analogous to the work of theoretical physics: while theoretical physics describes the laws (the systems of measurement) with which we compare events, applied physics deals with using such laws to devise new applications in other areas of science and technology. Analogously, philosophy describes different possible descriptions of language games, leaving to applied philosophy of language (and linguistics) the work of choosing the right description (the right theory) of how words have different meanings in different contexts.

5. Conclusions

This paper puts forth two main claims: first, that we have to distinguish among different kinds of thought experiments in Wittgenstein and, second, that the particular thought experiments concerning people who behave in a different way from us can be better understood on the background of the similarity with Relativity theory that Wittgenstein often advocates. After some reminders on how this similarity has been discussed in the critical literature, I tried to define three possible directions in which this discussion may help to illuminate Wittgenstein's attitude towards "alien" people, who apparently think differently from "us".

Wittgenstein was a philosopher, and the similarity between his philosophy and Relativity theory cannot be strict: when Einstein speak of transformations guiding us in comparing events in different reference frameworks he can guide us with specific mathematical formula; on the contrary, Wittgenstein's idea of comparing concepts in different conceptual frameworks cannot afford precise instructions, but only a very general method: describing descriptions, leaving to applied philosophy to define more specific strategies to describe the working of language in different contexts, be they the most usual ones, or very far from the usual surroundings.

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Wittgenstein, L. *abbreviations:*

BT: *The Big Typescript*, TS 213. Edited and translated by G. G. Luckhard and M. A. E. Aue, Oxford: Blackwell 2005

LFM: *Lectures on the Foundation of Mathematics*, Cambridge, 1939. Edited by Cora Diamond, Ithaca: Cornell U.P. 1976.

LW: *Last Writings on the Philosophy of Psychology*, vol. 1, Blackwell, Oxford, 1982.

OC: *On Certainty/Über Gewissheit*. Oxford: Blackwell, 1974.

Nachlass Berggen Electronic Edition, Oxford: Oxford University Press, 2000.

PR: *Philosophical Remarks/Philosophische Bemerkungen*. Oxford: Blackwell, 1964. Engl.transl. Oxford: Blackwell, 1975.

PI: *Philosophical Investigation/Philosophische Untersuchungen*. Edited and translated by G.E.M. Anscombe. Oxford: Blackwell 1968.

RFM: *Remarks on the Foundations of Mathematics*. Oxford: Blackwell, 1978 (Third edition).

RPP: *Remarks on the Philosophy of Psychology*, 2voll., Oxford: Blackwell, 1980.

VB: *Vermischte Bemerkungen*. Edited by Von Wright, Frankfurt aM, 1977.

Z: *Zettel*. Oxford: Blackwell, 1967