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# Wittgenstein on "Imaginability" as a Criterion for Logical Possibility in *The BigTypescript*

"There's no use trying," said Alice: "one can't believe impossible things."

"I daresay you haven't had much practice," said the Queen. "When I was your age, I always did it for half an hour a day. Why, sometimes I've believed as many as six impossible things before breakfast."

<div align="right">Lewis Carroll, <em>Alice in Wonderland</em></div>

## Abstract

Throughout his work, Wittgenstein seizes on a distinction between logical and physical possibility, and impossibility. Despite this continuity, and although Wittgenstein brings this distinction into various contexts and from different vantage points, he often only brushes over it without elaborating it in detail. In the so-called *Big Typescript*, however, he dedicates himself not only to the distinction between logical and physical possibility, but also to the distinction between logical possibility and impossibility in particular investigations. In the course of these investigations, another aspect arises and is tossed and turned repeatedly by Wittgenstein – namely, the place of "imaginability" in these considerations. On the basis of three focused chapters in the *Big Typescript*, I will argue that "imaginability" as an utterance of the form "being able to imagine 'what it would be like'" can be allocated the place of a criterion for logical possibility. To this end, I will first outline chapters 96, 27 and 26 in one section each. Although in these chapters Wittgenstein only indicates rather than claiming explicitly that "imaginability" is a criterion for logical possibility, I will discuss in the last section how this conclusion can be drawn by combining the results of the previous sections.

## 1. The Distinction Between Logical and Physical Possibility

The distinction between logical and physical possibility and impossibility is mentioned continuously and extensively in Wittgenstein's writings.[1] Often, the distinction occurs in the form of the diagnosis of a problem resulting from confusion between logical and physical (im)possibility (cf. exempl.: PR: §82; PG: 261 f.; BBB: 56; RFM VII: §61; RPP I: §581; RPP II: §199; LW I: §801; OC: §618) or in the form of the question "is this and that logically or physically (im)possible?" (cf. exempl.: PR: §119; PG: 392; RFM I: §22, III: §84; PI: §566; RPP II: §425; LW II: 94; OC: §194). In the paragraph "Divisibility. Infinite Divisibility" in chapter 96 of the *Big Typescript*, "Visual Space in Contrast to Euclidean Space", however, Wittgenstein focuses on this distinction specifically, and moreover, he formulates a criterion based on which logical and physical possibility can be distinguished. He discusses his considerations using the following example of the divisibility of a strip:

> I see a black strip on the wall in front of me – is its breadth divisible? What is the criterion for this? […] Above all, the meaning of "divisibility" could be stipulated in such a way that an attempt would show it; so then it isn't the "logical possibility" of division, but a physical possibility; and the logical possibility that is in question here is given in the description of the attempt at division – however this attempt may come out. (BT: 450r, transl. mod.)[2]

The divisibility of a "strip on the wall" can be assessed from two different angles: a physical and a logical one. The *physical* possibility of dividing a strip is given and limited by the precision of our instruments, whereas the *logical* possibility of its division persists infinitely. Together with the postulate of this distinction, Wittgenstein supplies a corresponding criterion, namely the criterion of an attempt (*Versuch*; cf. also BT: 620r). Success or failure of the attempt (or: of the experiment) will adjudge the physical possibility of a certain state of affairs – in this case, the divisibility of a strip. If the attempt should fail due to, e.g., a strip that is too slender or

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[2] Citations from *The Big Typescript* refer to the translation by C. Grant Luckhardt and Maximilian A. E. Aue (2005) but I have occasionally modified it.

instruments that are too imprecise, the division of this strip is physically impossible. What is physically possible proves itself by empirical experience such as an attempt. Thus, for Wittgenstein, questions about physical possibility have an empirical statement as an answer (cf. BT: 267r) and this empirical statement is the ascertainment of the very result of the attempt, such as the statement "the strip is not divisible because it is too slender". Thus, the scope of physical possibility is framed by empirical statements.

However, the logical possibility of division is given not in the attempt, i.e. not in empirical experience, but "in the description of the attempt at division", separately from how this empirical "attempt may come out". For the logical possibility of the division of a strip is not affected in the slightest if the physical division should prove impossible at a certain point. Connected to this, another, seemingly psychological aspect is mentioned in the *Big Typescript*: that something which turns out to be physically possible, e.g. as a result of an experiment, can be *surprising* in contrast to a logical possibility: "What surprises me is a physical possibility, not a logical one!" (BT: 318r, cf. PG: §71: "there are surprises in reality but not in grammar"). This aspect of "surprise" is only seemingly psychological insofar as it is founded in the nature of logical possibility itself that a "new possibility cannot be discovered later" (TLP: 2.0123; cf. Ts 219: 12), and if there are no new discoveries in logical space, there is hence no "surprise".[3] By reference to the lack of a "surprise" in logical space, Wittgenstein's characterization of the logical possibility as *description of the attempt* becomes clearer: for a "description of the attempt" is not – as it may appear at first glance – a sort of a documentary report of the empirical attempt. Rather, the description as a condition for the attempt is logically antecedent to it, insofar as the "description of the attempt" constitutes the principal possibility of an attempt as such, i.e. a description of the attempt defines what would *count* as an

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[3] Floyd (2010) points out that there are indeed no "deep surprises" but what she calls "aspectual surprises" in logic and mathematics if, e.g., we see an equation in a new way when in the course of working it out one of the variables vanishes (2010: 331–336). However, the point of surprise in seeing aspects in a puzzle picture such as the duck–rabbit figure is that "[t]he picture ← hasn't even the slightest resemblance to the → picture, one would like to say – although they are congruent" (RPP I: §881), which is not the case with vanishing variables in equations.

attempt in the first place. But how is logical *impossibility* to be imagined here? What does the failure of a description of an attempt, i.e. the failure of the mere option of an attempt, look like?

## 2. The Distinction Between Logical Possibility and Logical Impossibility

The questions raised above lead to the more specific issue of a distinction between logical possibility and impossibility, to which Wittgenstein explicitly dedicates a specific chapter in the *Big Typescript*: chapter 27, "'Logical Possibility and Impossibility'. – The Picture of 'Being Able To' Applied Ultraphysically. (Similar to: 'The Excluded Middle'.)". As the title of this chapter suggests, logical possibility and impossibility can be described metaphorically as an "ultraphysical" application of "being able to",[4] insofar as it is beyond a "merely" physical ability.

With respect to the divisibility of our strip on the wall, the physical divisibility is limited by the precision of our instruments, whereas the logical possibility of division persists independently of any such material constraints: in this sense, logical possibility can be described by Wittgenstein as an "ultraphysical" ability (cf. BT: 98r), that is to say, an ability which is free from attrition and friction. Similar to this (as Wittgenstein annotates in the title of this chapter), the validity of a logical axiom like that of the Excluded Middle seems to reach beyond any specific physical constraints, i.e. the validity of "p $\lor \neg$ p" seems to persist irrefutably and without any limits, such that one is inclined to say: it persists "ultraphysically".

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[4] There are several reasons why Wittgenstein's paraphrasing of "logical possibility" as an "ultraphysical" being-able-to is to be understood metaphorically. Firstly, Wittgenstein himself underlines the metaphorical nature by the addition of "The Picture of 'Being Able To'". Moreover, the following critical annotation indicates that the title of chapter 27 in the *Big Typescript* should not be taken literally: "In the theories and disputes of philosophy we found words whose meanings are well known to us from everyday life being used in an ultraphysical sense" (BT: 429r). Finally, Wittgenstein repeatedly emphasizes against the traditional view, according to which logic deals with specific, abstract kinds of object, that "logic talks about sentences and words in the ordinary sense, not in some abstract sense" (BT: 71r).

In chapter 27, Wittgenstein revisits the criterion of "attempt", but now with regard to logical possibility and impossibility: "I attempt something but I can't do it. – But what does this mean: 'not to be able to attempt something'? 'We can't even *attempt* to imagine a round rectangle'" (BT: 98r, transl. mod.). As mentioned in the preceding parts of this paper, physical possibility is determined by the outcome of an attempt, whereas logical possibility and impossibility are distinguished by the description, i.e. the mere possibility, of an attempt. Thus, concerning such logical impossibilities as round rectangles, there is not even the *possibility* of an attempt, insofar as it is impossible to describe an attempt at constructing or drawing a round rectangle – and beyond that: it is not even possible to attempt to imagine a round rectangle (cf. BT: 729r). Admittedly, a "round rectangle" is contradictory, insofar as the definition of the notion "rectangle" includes that it is constructed by straight lines and, hence, is not round, so that it appears *senseless* to speak of a round rectangle at all. However, does this mean that the scope of the logically impossible is restricted to contradictions and is therefore coextensive with what is senseless? Wittgenstein reversely considers a relation between "[l]ogical possibility and sense" in the same chapter 27 by alleging another example:

> Logical possibility and sense. Can one ask: "What must the grammatical rules for words be like for them to give sense to a sentence?"
>
> The use of a proposition – that is its sense.
>
> I say for instance, "There is no vase standing on this table now, but there could be; on the other hand it is nonsensical [Var.: senseless] to say that space could have four dimensions". (BT: 98r)

This example shows that it is as senseless to say that "space could have four dimensions" as it is to say "there could be a round rectangle" for, in both propositions, the notions "space" and "rectangle" are described in contradiction to their definitions, i.e. their grammatical rules or their use. Therefore, it is logically impossible that "space could have four dimensions" because otherwise it would not be our notion of (Euclidean) "space" any more (cf. Baker & Hacker 2009: 264). On the other hand, no grammatical rules are violated in the sentence "a vase could be standing on this table now" because it is logically possible that "a

vase could be standing on this table now" (whether it is physically possible would have to be proven again by means of an empirical attempt). But it is still not clear whether the scope of the logically impossible is restricted to contradictions – and reversely: does logical possibility embrace everything which is not excluded by logic itself?

## 3. The Grammar of "Being Able to Imagine"

In order to answer these questions, another aspect should be elaborated first, which Wittgenstein mentions in the previous chapter in the *Big Typescript*: chapter 26, "Being Able to Imagine 'What it Would be Like' as a Criterion for a Proposition Having Sense". Although Wittgenstein dedicates this chapter to imaginability as a criterion for the sense of a proposition, he indicates several times a connection between imaginability and the logical possibility of a state of affairs:[5]

> Consider: "In fact I've never seen a black spot gradually turning lighter and lighter until it was white, and then turning more and more reddish until it was red; but I know that that is possible, because I can imagine it. That is, using my imagination I operate within colour space and do with them what would be possible with colours." ((Cf. "logical possibility".)) (BT: 95r, transl. mod.)

This example illustrates that the *knowledge* of whether or not such a colour change is possible does not necessarily require actual experience of the colour change itself, but requires no more than *imagination*. For the possibility in question is its logical possibility. Even stronger, one seems inclined to say: "I know that that is possible, *because* I can imagine it" (my ital.), *because* one can "operate within colour space" by using imagination and can do "what would be possible with colours". This last addition might misleadingly suggest that Wittgenstein is alluding to the imagination of a physical experiment, such that what is possible with colours in imagination would be based on what is physically possible with actual colours.

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[5] A similar connection between the *conceivability* of a state of affairs and its logical possibility is already mentioned in the *Tractatus logico-philosophicus*: "A thought contains the possibility of the situation of which it is the thought. What is thinkable is possible too" (TLP: 3.02).

Rather, what is possible with colours, e.g. which colour transitions are possible, is determined by the grammar of our colour concepts (cf. BT: 236r). For such an empirical experiment to explore the physically possible colour transitions of red presupposes the grammar of "red", insofar as grammar determines what is called "red" and which rules "red" obeys. Statements like "there is no 'reddish green'" are not empirical, factual statements, but they formulate grammatical rules, which define the scope of "possible or impossible conceptual moves in the semantical space of the system of our colour concepts" (Majetschak 2000: 145, my transl.). This can furthermore be seen by the following circumstance: if one actually undertook such an empirical experiment to explore the possibility of a colour transition between red and white, e.g. by means of mixing the colours and painting the transition, and if this experiment showed that such a transition is impossible, the very result of the experiment would simply not be considered a refutation of the possibility of such a transition. Rather, one would ascribe the failure of the experiment to its practical application or to the impurity of the colours used. This is not an isolated case: in fact, no such empirical experiment would be considered a refutation of the possibility of a transition between red and white (cf. PR: §178), for its possibility – as well as the impossibility of, e.g., a "reddish green" – is presupposed by grammar (cf. BT: chs. 56 and 57). Grammar, however, "is not accountable to any reality. The rules of grammar determine meaning (constitute it), and therefore they are not answerable to any meaning and in this respect they are arbitrary" (BT: 233r):

> For when I say that the rules are arbitrary I mean that they are not determined by reality, as is the description of this reality. And that means: It is nonsense to say of them that they correspond to reality; that, say, the rules for the words "blue" and "red" agree with the facts about those colours, etc. (BT: 297r)

However, it remains unclear how the knowledge of the logical possibility (e.g., of the mentioned colour transition) is founded in its imaginability. What does Wittgenstein mean by "imaginability"? Obviously, in the above-mentioned cases "imaginability" is not a matter of someone's power of imagination or phantasy – it is not

meant in a creative way such that "I can't imagine" would have the same meaning as "in the sentence 'I can't imagine a skull'", i.e. indicating "a lack of imagination" (BT: 95r). Thus:

> [w]hat does it mean when one says "I can't imagine the opposite of that" or "What would it be like if it were otherwise?"?. For example, when someone has said that my mental images are private or that only I can know whether I am feeling pain, and things like that.

> If I can't imagine how it would be otherwise then I also can't imagine how it can be *like this*. (BT: 95r)

> What does "to discover that a sentence has no sense" really mean? Or let's put the question this way: How can one reinforce the senselessness of a sentence (say: "This body is extended") by saying "I can't imagine how it could be otherwise"? (BT: 96r)

In these remarks, Wittgenstein connects the imaginability of a state of affairs with the sense or lack of sense of a proposition. However, instead of talking about "imaginability" in an abstract way, he investigates the meaning of "imaginability" in these cases by means of a grammatical investigation of characteristic expressions, such as "I can't imagine the opposite of that" or "what would it be like if it were otherwise?"[6] He elaborates the grammar of such expressions by using the example of grammatical statements: it seems here as if the propensity to respond to such grammatical statements "I can't imagine the opposite of that" is reasoned by their self-evidence, which no one can refrain from affirming. But, as Wittgenstein objects, "[i]f I can't imagine how it would be otherwise then I also can't imagine how it can be *like this*". The surface-grammatical resemblance with factually meaningful, i.e. senseful, statements deludes us into neglecting the insight that grammatical statements as rules of linguistic meaning in some measure build the frame of senseful propositions and are consequently themselves senseless.[7]

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[6] This difference, namely that Wittgenstein does not use "imaginability" in a psychological sense but investigates the grammar of our language games with "imagination", has not been pointed out by Stern when he claims: "However, imagination is a dangerous guide to logical possibility, for logic is not the only factor at work in determining the limits of the imagination. It may be one's preconceptions that prevent one imagining an alternative" (1995: 164).

[7] In the *Tractatus*, Wittgenstein differentiates between "senseless" (*sinnlosen*) and "nonsensical" (*unsinnigen*) statements (TLP: 4.461; 4.4611): tautologies and contradictions are hence senseless but not nonsensical, for they are not like ill-formed nonsense but "part

On account of this delusion, one is apt to respond to grammatical statements (e.g. "this body is extended") "I can't imagine the opposite", an enunciation which is, strictly speaking, itself senseless:

> For can I possibly try to imagine it? Doesn't it mean: To say that I am imagining it is senseless? So how then does this transformation from one piece of nonsense into another help me? – And why *does* one say: "I can't imagine how it could be *otherwise*" and not "I can't imagine what that would be like" – which, after all, amounts to the same thing?
>
> Seemingly one discovers something like a tautology, as opposed to a contradiction, in the nonsensical sentence. But that too is false. – One says, as it were, "Yes, it is extended, but how could it be otherwise? So why say it!"
>
> It is the same tendency that causes us to respond to the sentence "This rod is of a certain length" by saying "Certainly!" rather than "Nonsense!".
>
> But what's the reason for this tendency? It could also be described this way: if we hear the two sentences "This rod has a length" and its denial "This rod has no length", then we take sides and favour the former (rather than declaring both to be nonsense).
>
> But the reason for this is a confusion: We consider the first sentence verified (and the second falsified) by "The rod has a length of 4 metres". And we'll say: "After all, 4 metres is a length", forgetting that what we have here is a grammatical proposition. (BT: 96r)

The superficial grammatical resemblance between the sentences "this rod has a length" and "this rod has (a length of) 4 metres" misleads us into responding to the first "certainly, I can't imagine how it could be otherwise", whereas it is a grammatical statement which marks a boundary of senseful propositions, such as tautologies and contradictions. For, the notion "rod" and the predicate "have a length" are grammatically, i.e. internally, related such that there cannot be a rod without its having a length and,

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of the symbolism" (TLP: 4.4611); they "describe the scaffolding of the world, or rather they represent it" (TLP: 6.124). In the *Big Typescript*, Wittgenstein seems to use the notions "senseless" and "nonsensical" interchangeably for what he called "senseless" in the *Tractatus*. Thus, grammatical statements are not "ill-formed nonsense" either; rather, grammatical statements have a surface-grammatical resemblance to factually meaningful statements (see also above). In the following, I will also use "senseless" and "nonsensical" interchangeably for what Wittgenstein called "senseless" in the *Tractatus*.

conversely, if there is something without having a length, it is no rod.[8] In the case of grammatical statements there is thus the tendency to respond "I can't imagine how it could be *otherwise*", but not "'I can't imagine what that would be like' – which, after all, amounts to the same thing". Since both enunciations *would* amount to the same thing, but in the actual use of language they *are not mutually substitutable*, it becomes apparent that the enunciation "I can't imagine how it could be *otherwise*" is precisely *not used as negation*, i.e. as rejection of the "imaginability of how it could be otherwise". Rather, this enunciation means "that I am imagining it is senseless", i.e. the concept of imagination cannot be applied because grammatical statements are not senseful propositions. We say, "I can't imagine how it could be *otherwise*" *because* we also cannot imagine "how it would be *like*", for grammatical statements such as "this body is extended" or "this rod has a length" are merely rules of use for certain notions and are therefore senseless. This shows that Wittgenstein does not use the notion of "imaginability" in the sense of power of imagination or phantasy, i.e. he does not use it in the sense of a psychological faculty or capacity.

Rather, his grammatical investigation shows how characteristic expressions of "imaginability" are bound to and restricted by language and grammar itself.

> "But language can expand" – Certainly; but if this word "expand" has a sense here, then I know *already* what I mean by it. I must be able to specify how I imagine such an expansion. And what I can't think, I can't now express or even hint at. And in *this* case the word "now" means: "in this calculus" or "if the words are used according to *these* grammatical rules". (PG: §71)

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[8] As it has been pointed out by Munz (2005: 164 f.), one could object that Wittgenstein's examples like "This rod has a length" or "This body is extended" differ from Kant's definition of analytical propositions like "All bodies are extended" insofar as Wittgenstein uses demonstrative pronouns and thus talks about a certain singular rod or a certain singular body (cf. 164). However, since Wittgenstein himself classifies these statements as grammatical ones, and since he also uses the general from in other writings (see, e.g., his *Lecture on Necessary Proposition*, which he starts with the example "Every rod has a length", cf. Munz 2005: 165) it is more likely, that he used the demonstrative pronoun in order to embed these statements in ordinary, everyday life situations and to show thus, the meaninglessness of the very statements in practical life.

In order to return to the vantage point of chapter 26, it can be said that the knowledge of the (logical) possibility of a certain colour transition does not require its actual experience but mere imagination *insofar* as it is determined by grammar and implies that one could specify *how* it is to be imagined or "*what* it would be like". And in the very same sense it is to be understood that the imaginability of how it would be *like* can serve as a criterion for the sense of a sentence or, as Wittgenstein puts it in the chapter title, "being able to imagine 'what it would be like' as a criterion for a proposition having sense".

## 4. "Imaginability" as a Criterion for Logical Possibility

By combining the previous discussions, I will argue in this section of the paper that imaginability can serve as a criterion for logical possibility. It should be mentioned first that Wittgenstein's use of the word "criterion" (not only) in these contexts is not to be understood in the sense of a "defining criterion" or as a necessary and sufficient condition (cf. Schulte 2006: 366); rather, his uses "of the term 'criterion' taken together are somewhat of a mish-mash" (Hunter 1974: 211). In this discussion of imaginability "as a criterion for a proposition having sense" or as a criterion for logical possibility, one could say, "criterion" is used as a "semantical" criterion whereas "semantical criteria are nothing beyond those *indicata* which they indicate because they constitute their concretion in the first place", like the criteria for "understanding" (Birnbacher 1974: 61, my transl.). In this less strict sense, imaginability can be understood as a *criterion* for logical possibility.

As mentioned before, grammatical statements are rules of use for certain notions and mark the boundary of senseful propositions. In this way, grammatical statements can be said to be normative because they constitute meaning and are not derived from it: to "say that a word has a certain meaning *is* to say that it is used according to certain semantic norms" (Schröder 2017: 263 f.). Grammatical statements are thus norms of description and as such they are not descriptive themselves but build the framework of what can be said meaningfully; they distinguish sense from nonsense.

As norms of description, which mark the boundary of senseful propositions, grammatical statements formulate not what is logically possible, but what counts as logically *necessary* within a certain community, which is bound together by language or a system of convictions. "Whenever we say that something *must* be the case we are using a norm of expression", e.g. when we say "there *must* be causes", "[w]believe that we are dealing with a natural law *a priori*, whereas we are dealing with a norm of expression that we ourselves have fixed" (AWL: 16). Therefore, the difference between necessary, grammatical and, e.g., empirical statements is dynamic, such that the logical status of statements depends on *how we use* them: an empirical statement can serve as a grammatical norm and, conversely, a grammatical norm can "sink back" to the status of an empirical statement. Although this view is not elaborated fully by Wittgenstein until later in *On Certainty*, the way is already prepared in the *Big Typescript*:

> What do we do to give a sense to the group of words "I divide red"? Well, we could turn it into completely different things: an arithmetical proposition, an exclamation, an empirical proposition, an unproven mathematical proposition. Thus I have any number of choices. And how is this number limited? That's difficult to say: by various kinds of usefulness and also by the formal similarity of these creations to certain primitive propositional forms; and all of these boundaries are fluid. (BT: 78v, cf. also chapter 57)

This remark shows that the dynamic status of statements concerns not only the difference between necessary, grammatical and empirical statements, but also the difference between meaningful and senseless statements. Hence, the (hitherto) senseless sentence "I divide red" could turn into a meaningful arithmetical or empirical proposition (etc.) if we use it accordingly. This means if we, e.g., can specify how this statements is to be verified, what follows from it or under which circumstances it is uttered: in other words, how it is embedded in our life. In this way, the status of statements depends on how we use them and what is called a "logical necessity" or an "empirical statement" is a difference that "we ourselves have fixed", i.e. a community of language or of a system of convictions. From this it also follows that Wittgenstein's distinction between logical and physical possibility, discussed in the first section, is dynamic and

cannot be clearly drawn for each case. If, e.g., someone were to find out whether it is possible for her to jump to the moon, it is not clear what would count as an attempt at doing so, i.e. how such an attempt is to be meaningfully described, such that we may render it as logically impossible.

This relative vicissitude of the status of our statements is underlined by Wittgenstein, when in this period he tends to call the rules of grammar "conventions" rather than "norms":[9]

> Wittgenstein calls the rules of "grammar" conventions in 1929–30. I think that this emphasizes that rules of language are not to be *reduced* to rules given *a priori*, as in the T [TLP, my ann.]. This is a consequence of the comprehensive notion of "grammar". However, this should not imply that the rules of "grammar" aren't rules that express necessary (internal or formal) relations among propositions. After all, as rules, they determine what follows from what. For Wittgenstein in PR, the fact that they cannot be justified by empirical propositions shows that they are necessary: if they were empirically justifiable, they would depend on contingent facts. Therefore, they could not express necessary relations (what follows from what). (Engelmann 2013: 60 f.)

Other than traditional and contemporary conceptions of the nature of necessity,[10] for Wittgenstein neither is "necessity" founded in the nature of things, necessity *in re*, nor do necessary propositions, such as that a square consists of two right-angled triangles, express an essential, internal property (cf. Baker & Hacker 2009: 246).[11]

> Necessary propositions exhibit neither factual or super-factual ('metaphysical') nor ideational (psychological) truths, but rather *conceptual* connections. They *determine* concepts and transitions from one concept to another. Internal properties and relations are shadows cast by grammar upon the world. (Baker & Hacker 2009: 247)

As Wittgenstein had already stated in the *Tractatus*, one could circumscribe "logical necessities" in the following way:

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[9] A more detailed discussion of Wittgenstein's use of the rules of grammar as "conventions" can be found in Uffelmann (2018: 129 ff.).

[10] See, e.g., Aristotle's *Prior Analytics* (Bk. I, chs. 8–22), Kripke (2001) or Chalmers (2002).

[11] Although Baker and Hacker (2009) and Hacker (2000a, 2000b) refer to Wittgenstein's *Philosophical Investigations*, I cite those passages where they relate to remarks in the *Philosophical Investigations* that can be traced back to the 1930s, or vary from or elaborate on remarks that stem from the 1930s.

> A speck in the visual field, though it need not be red, must have some colour: it is, so to speak, surrounded by colour space. Notes must have *some* pitch, objects of the sense of touch *some* degree of hardness, and so on. (TLP: 2.0131)

And in a similar remark in the *Philosophical Remarks*, he adds that therefore the "forms *colour* and *visual space* permeate one another" (PR: §207). Wittgenstein delineates the connection between logical necessity and grammar by a further example in the *Big Typescript*:

> If someone were to state: "our visual space is in colour", then we'd be tempted to answer: "But we can't even imagine (conceive of) it otherwise". Or: "if it weren't in colour then it would differ from our visual space in the sense in which a sound differs from a colour". But one could say, more correctly: "Then it simply wouldn't be what we call 'visual space'". In grammar the application of language is also described – what we would like to call the connection between language and reality. If it weren't described then on the one hand grammar would be incomplete, and on the other it couldn't be completed from what was described. In the sense in which we can't think of it otherwise, "being coloured" is contained in the definition of the concept "visual space", i.e. in the grammar of the words "visual space". (BT: 441r)

By stating that colourfulness is included in the grammar of the notion "visual space", Wittgenstein means the logical necessity that everything in visual space must have *some* colour and that this logical necessity is defined by the use of the notion "visual space". If one denied this grammatical necessity, i.e. the principal colourfulness of visual space, it would simply not be "what we call 'visual space'". However, from this it follows that the denial, the negation of a logical necessity, is equal to logical impossibility insofar as it is logically impossible, i.e. excluded by grammar, for visual space not to be colourful or, to revisit the earlier example, for a rod to have no length or, as mentioned in the beginning, for a rectangle to be round. Analogously, the flipside of logical impossibility is not – as one might assume – logical possibility but logical necessity. Hence, both logical necessity and logical impossibility are defined by grammar (cf. Uffelmann 2018, 137 f.). To come back to the question posed earlier, of whether the scope of logical impossibility is limited to contradictions like "round rectangle", it can now be said that it is more broadly defined insofar as it embraces not only the

contradictions but the whole scope of what is excluded by logical necessities as they are formulated by grammatical statements.

An interesting example to illuminate this point is the impossibility of trisecting an angle in Euclidean geometry. For, if one likes to see Euclidean geometry itself as a kind of "grammar", i.e. a system with rules which only allow for certain moves, then "I can no more ask for the trisection of an angle than I can search for it" (PG: 387). In order to raise the question of trisection, one has to "locate the problem of the trisection of an angle within a larger system" (PG: 387), which "is also shown by the fact that you *must* step outside the Euclidean system for a proof of the impossibility" (PR: 177f.). Once this proof has been accepted, what does it mean to assert that "a sentence such as 'There is/is not a Euclidean procedure for trisecting the angle' is true or is false" (Floyd 2000: 252)? One possible answer could be that such a sentence is nonsensical, either because it is "misleading us about the very nature of what we take ourselves to express in its use" (Floyd 2000: 252) or because it violates grammatical rules. There are, however, at least two ways to use this sentence: one way is to use it in our ordinary language when, e.g., we teach a child geometry. In that case the sentence "There is no Euclidean procedure for trisecting an angle" is not at all "misleading" about what we want to express (cf. above), but is a meaningful, true assertion. The mention of "Euclidean procedure" here is merely an expression that stands for the particular methodological restrictions Euclid set in his *Elements* and could as well be reformulated without alluding to his system of geometry by name. Another way to use this sentence is within, so to speak, Euclidean "grammar". In that case the sentence is nonsensical because it does indeed violate the rules of what it makes sense to say in terms of Euclidean elements – to say "There is no Euclidean procedure for trisecting an angle" lies beyond Euclidean "grammar" and is hence neither true nor false but senseless.

As pointed out above, the scope of the logically impossible thus lies beyond grammatical statements, which, as norms of description or as limits of what can be said sensefully, surround and thereby altogether define the scope of the logically possible. In this sense, Wittgenstein can say: the logical "impossibility […] corresponds to a

form of representation that we have set down" (BT: 257r) and this form of representation is grammar, for what belongs to grammar are "all of the conditions necessary for the understanding (of the sense)" (PR: §207; cf. BT: 43r). What is logically impossible hence corresponds to grammar in the sense that it is negatively defined or excluded by grammar.

How is this related to the criterion of imaginability? *In what way* is imaginability a criterion for what can be said meaningfully, for logical possibility? Or to begin with,

> [w]hy does one view being able to imagine what a proposition says as proof that it makes sense? I could say: Because I would have to describe this mental image with a proposition that's related to the original. (BT: 96r–97r, transl. mod.)

What Wittgenstein means by this answer may become clearer by considering another remark from the *Big Typescript*, in which he again discusses the criterion of imaginability by the example of the divisibility of a strip:

> But then there is the criterion of the imaginability of division. We say "Oh yes, I can quite easily think of (or imagine) this strip as divided." […] And here one says: Surely I can imagine in this case that the strip is halved. But what does this mental ability consist in? Can I do it if I attempt? And what if I don't succeed in doing so? You can find out what is meant here by "I can imagine …" by asking "How is it that you can now imagine the halving?" The answer to that is: "All I have to do is imagine the black part of the strip as a little wider"; and obviously it's assumed that to imagine that is no longer difficult. But in this case it actually isn't a question of the difficulty of calling up a particular image before my mind's eye, nor is it a question of something that I can attempt but fail at; rather it's a question of acknowledging a rule for a mode of expression. To be sure, this rule can be based on the ability to imagine something; that is to say, in this case a mental image works like a model, that is, like a sign, and of course it can also be replaced by a painted model. (BT: 451r–452r, transl. mod.)

Here, Wittgenstein again emphasizes that in this context, "imagination" or "imaginability" is not to be taken as the faculty to call up "a particular image before my mind's eye", "that I can attempt and fail at". For, as Hacker puts it, "to reply, 'Well, try again next week' or 'Maybe you will be able to do it when you are older' would

be wholly inappropriate" (Hacker 2000a: 87). Rather, "imaginability" is in the form of the *enunciation* "I am able to imagine it" an expression of "acknowledging a rule for a mode of expression". In other words, the utterance "I am able to imagine it" expresses the acceptance of "a rule for a mode of expression", i.e. the acceptance of grammatical norms. For the utterance that something is imaginable is an application of language, of grammar *itself*, and therefore an expression of the acceptance of the rules of grammar. Thus, the considered remarks in *The Big Typescript* do not deal with a psychological capacity; rather Wittgenstein focuses on certain language-games with "imaginability" that underlie *public* rules of grammar. And yet, it is not surprising that some of these grammatical rules "can be based on the ability to imagine something", for there are similar grammatical statements which are based on the ability to calculate or to see. Stating that "something cannot be both red and green all over simultaneously" in a trivial sense is based on the ability to see, but the point is not to inform someone about one's ability – and the same applies to the utterance "I can imagine what it would be like". This means, "in this case, a mental image works like a model – that is, like a sign – and of course it can also be replaced by a painted model".

When Wittgenstein thus espouses imaginability as a criterion for what can be said meaningfully as such, this is reminiscent of Hume, according to whom the limits of sense (for Hume: the non-contradictory) and hence the possible are determined by the scope of our imaginability:

> Now whatever is intelligible, and can be distinctly conceived, implies no contradiction, and can never be proved false by any demonstrative argument or abstract reasoning a priori (Hume 1999: IV.ii.2).

> 'Tis an establish'd maxim in metaphysics, *That whatever the mind clearly conceives includes the idea of possible existence,* or in other words, *that nothing we imagine is absolutely impossible.* We can form the idea of a golden mountain, and from thence conclude that such a mountain may actually exist. We can form no idea of a mountain without a valley, and therefore regard it as impossible. (Hume 1965: Bk. I ii.2)

However, Wittgenstein's remarks in the *Big Typescript* are not to be understood in a Humean sense, such that we cannot imagine or form

the idea of "a mountain without a valley, and *therefore* regard it as impossible" (my ital.). For Wittgenstein, imaginability is not the *reason* for something to be logically possible. On the contrary, for Wittgenstein the scope of imaginability is determined by language, i.e. by the grammatical limits of sense. Therefore, the expression "being able to imagine 'what it would be like'" can serve not only as a public criterion for what can be said meaningfully, but also as a criterion for logical possibility.

For, with our enunciations of "imaginability", the grammatical norms of the senseful virtually have already been accepted, so that the discussion takes place within the scope of what is logically possible:

> "How do I know that the colour red can't be cut into bits?" That isn't a question either. I would like to say: "I must *begin* with the distinction between sense and nonsense. Nothing is possible prior to that. I can't give it a foundation." (BT: 79r)

Given the grammatical statement that each speck in the visual field must have *some* colour, I can imagine that this rose in front of me is red, but I can just as well imagine what it would be like if the rose were light blue, as this lies within the scope of what is logically possible – although the statement might be wrong as a description of a matter of fact. For what is determined as logically necessary and logically impossible by the rules of grammar is not "true" or "false": as the rules of grammar are arbitrary, they distinguish sense from nonsense but not truth from falsity (cf. BT: 236r). This is related to Wittgenstein's statement quoted above, that one regards imaginability as a proof that a proposition has sense "[b]ecause I would have to describe this mental image with a proposition that's related to the original" (BT: 96r–97r). For this "related" means the logical space of the proposition to be proved – in the case of the rose, the logical space of colours. This is not to be understood as if grammar was "justified by reference to objective logical possibilities, *as if logical possibilities were shadowy actualities*" (Hacker 2000b: 219).

> Far from logical possibility constituting the language-independent limits of all possible worlds, it is merely the limits of language, as determined by our conventions for the uses of words. We labour under an illusion if we think that logical possibility corresponds to something in reality –

> as if logical possibility were more real than a logical impossibility. But nothing corresponds to a logical possibility – and there cannot be less than nothing to correspond to a logical impossibility. A logical impossibility is not a possibility that is impossible, and a logical possibility is not a shadow of an actuality. For if something is merely logically possible then it does not exist – and how can something that does not exist cast a shadow? If a logical possibility is a shadow, then it is a shadow of any form of words that makes sense. (Hacker 2013: 125)

Rather, grammar, i.e. grammatical statements determine the scope of the logically possible, i.e. what can be said meaningfully, and insofar as they do, in grammar "the application of language is also described – what we would like to call the connection between language and reality" (BT: 441r). Imaginability *can* serve as a criterion for logical possibility, because it describes such an application of the proposition in logical space:

> "I can imagine what it would be like" or – what is just as good – "I can draw what it would be like, if p is the case" gives me an *application* of the sentence. It says something about the calculus in which we use p. (BT: 97r)

> To say "I can draw how it is if that's the way it is" is a grammatical stipulation about the proposition under consideration (for I don't want to say that *I* could draw this, say, because I had learned to draw, etc.). (BT: 97r, cf. 87r)

Hence, the *point* of the enunciation "I can imagine what it would be like" is not to inform someone about one's own individual psychological capacities; rather its point is the same as the point of the enunciation "I can draw / describe / etc. what it could be like", i.e. the enunciation *means* that something is possible. For it is in the form of a description or a representation of an attempt at a practical application of the proposition. However, the enunciation "I cannot imagine how it could be otherwise" is misleading, since it is not used as a negation of the "imaginability how it could be otherwise". Rather, it gives utterance to the senselessness of its imaginability and can therefore reversely serve as a criterion for the senselessness of the respective proposition. Thus:

> […] "I can imagine it" has the same meaning as "it is possible", and is not a ground for it. "I can imagine such-and-such a state of affairs" is more akin to "Such-and-such a state of affairs can be drawn"; it is an

assertion connecting a linguistic representation with another form of representation. (Hacker 2000b: 220 f.)

To conclude, it has been said that the scope of the physically possible and impossible is determined by empirical statements, acquired in the course of empirical attempts and experiments, such that what is physically possible proves itself by the success of the attempt or experiment, whilst what is physically impossible proves itself by its failure. Grammatical statements, however, determine and distinguish the scope of what is logically possible and impossible.

> Therefore, what we call possible and what not depends entirely on our grammar, i.e. on what it permits. (BT: 99r)

> "Possible" here means the same as "conceivable"; but "conceivable" may mean "capable of being painted", "capable of being modelled", "capable of being imagined"; i.e. representable in a particular system of propositions. (PG: §82)

### References

Aristotle, 1989. *Prior Analytics.* R. Smith, transl. Indianapolis: Hackett.

Baker, G. & Hacker, P., 2009. *Wittgenstein: Rules, Grammar and Necessity. Volume 2 of An Analytical Commentary on the Philosophical Investigations*, Essays and Exegesis of §§185–242. Oxford: Blackwell.

Birnbacher, D., 1974. *Die Logik der Kriterien – Analysen zur Spätphilosophie Wittgensteins.* Leipzig: Felix Meiner.

Chalmers, D., 2002. "Does Conceivability Entail Possibility?" In: T. Gendlar & J. Hawthorne, eds., *Conceivability and Possibility.* Oxford: Oxford University Press, 145–200.

Engelmann, M., 2013. *Wittgenstein's Philosophical Development: Phenomenology, Grammar, Method, and the Anthropological View.* New York: Palgrave Macmillan.

Floyd, J., 2000. "Wittgenstein, Mathematics and Philosophy". In: A. Crary & R. Read, eds., *The New Wittgenstein.* New York: Routledge, 232–261.

Floyd, J., 2010. "Wittgenstein on Aspect-Perception, Logic, and Mathematics". In: W. Day & V. Krebs, eds., *Seeing Wittgenstein Anew.* Cambridge: Cambridge University Press, 314–337.

Hacker, P., 2000a. *Wittgenstein Mind and Will. Volume 4 of an Analytical Commentary on the Philosophical Investigations*, Part I Essays. Oxford: Blackwell.

Hacker, P., 2000b. *Wittgenstein Mind and Will. Volume 4 of an Analytical Commentary on the Philosophical Investigations*, Part II Exegesis. Oxford: Blackwell.

Hacker, P., 2013. *Wittgenstein: Comparisons and Context*. Oxford: University Press.

Hume, D., 1965. *A Treatise of Human Nature*. Oxford: Clarendon Press.

Hume, D., 1999. *An Enquiry Concerning Human Understanding*. Oxford: Oxford University Press.

Hunter, J., 1974. "Critical Notice". *Canadian Journal of Philosophy* 4 (1), 201–211.

Kripke, S., 2001. *Naming and Necessity*. Cambridge, MA: Harvard University Press.

Majetschak, S., 2000. *Ludwig Wittgensteins Denkweg*. Freiburg: Alber.

Munz, V., 2005. *Satz und Sinn: Bemerkungen zur Sprachphilosophie Wittgensteins (Studien zur Österreichischen Philosophie, Band 39)*. Amsterdam: Rodopi.

Schröder, S., 2017. "Grammar and Grammatical Statements". In: H.-J. Glock & J. Hyman, eds., *A Companion to Wittgenstein*. Oxford: Wiley, 252–268.

Schulte, J., 2006. "Kriterien und Symptome bei Wittgenstein". In: C. Kaminsky & O. Hallich, eds., *Verantwortung für die Zukunft*. Berlin: Lit Verlag.

Stern, D., 1995. *Wittgenstein on Mind and Language*. Oxford: Oxford University Press.

Uffelmann, S., 2018. *Vom System zum Gebrauch. Eine genetisch-philosophische Untersuchung des Grammatikbegriffs bei Wittgenstein*. Berlin: DeGruyter.

Wittgenstein, L., 1974. *On Certainty* [OC]. G. E. M. Anscombe & G. H. von Wright, eds. Oxford: Blackwell.

Wittgenstein, L., 1978. *Remarks on the Foundation of Mathematics* [RFM]. G. H. von Wright, R. Rhees & G. E. M. Anscombe, eds. Oxford: Blackwell.

Wittgenstein, L., 1979. *Wittgenstein's Lectures, Cambridge 1932–35, From the Notes of A. Ambrose and M. MacDonald* [AWL]. A. Ambrose, ed. Oxford: Blackwell.

Wittgenstein, L., 1993. *Philosophical Grammar* [PG]. R. Rhees, ed. Oxford: Blackwell.

Wittgenstein, L., 1998. *The Blue and Brown Books* [BBB]. Oxford: Blackwell.

Wittgenstein, L., 1998. *Last Writings on the Philosophy of Psychology Vol. I* [LW I]. G. H. von Wright & H. Nyman, eds. Oxford: Blackwell.

Wittgenstein, L., 1998. *Philosophical Remarks* [PR]. R. Rhees, ed. Oxford: Blackwell.

Wittgenstein, L., 1998. *Remarks on the Philosophy of Psychology Vol. I* [RPP I]. G.E.M. Anscombe & G.H. von Wright, eds. Oxford: Blackwell.

Wittgenstein, L., 1998. *Remarks on the Philosophy of Psychology Vol. II* [RPP II]. G.H. von Wright & H. Nyman, eds. Oxford: Blackwell.

Wittgenstein, L., 1999. *Last Writings on the Philosophy of Psychology Vol. II* [LW II]. G.H. von Wright & H. Nyman, eds. Oxford: Blackwell.

Wittgenstein, L., 1999. *Philosophical Investigations* [PI]. Oxford: Blackwell.

Wittgenstein, L., 2005. *The Big Typescript* [BT]. C. G. Luckhardt & M. A. E. Aue, eds. Oxford: Blackwell.

Wittgenstein, L., 2006. *Tractatus logico-philosophicus* [TLP]. London: Kegan Paul.

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