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NECESSITY AND INTELLIGIBILITY IN THE *TRACTATUS*

> Wittgenstein's philosophy, throughout his life, is directed against certain ways of imagining necessity. Throughout his life, his treatment of logic aims at letting us see necessity where it does lie, in the use of ordinary sentences. The trouble with chickening out, or one trouble with it, is that it holds on to exactly the kind of imagination of necessity, necessity imagined as fact, that Wittgenstein aimed to free us from.
>
> —Cora Diamond 1991, p. 195

As many commentators have pointed out,[1] one of Wittgenstein's key concerns when he returned to philosophy in 1929 was the so-called color-exclusion problem; that is, the problem of how to account for the impossibility of attributing two colors to the same point in the visual field. However, although there are interesting analyses of this problem in the literature,[2] the questions of what is at stake in this problem and why it had the critical potential to destabilize the Tractarian framework have not yet been settled. What is so special about the mutual exclusion of colors? In the *Tractatus* the phenomenon of color exclusion appears as a very tangential problem, which is dealt with in a single section (6.3751). Color exclusion is one of the few examples that Wittgenstein gives in the *Tractatus* and, as such, it appears as a matter of detail without any special significance. So, one should think, Wittgenstein's dissatisfaction with the Tractarian treatment of the phenomenon of color exclusion should have called for no more than some tinkering within the Tractarian framework; and it would be quite surprising if this small problem could lead to a radical rethinking of the framework itself. In this chapter I will try to show that the color-exclusion problem is not as marginal as it seems at first sight. I will argue that this problem should be understood as a crucial test case of the new way of thinking about necessity that Wittgenstein proposes in the *Tractatus*, which

is in turn a new way of thinking about how we manage to make sense as we do in ordinary language. So, if I am right, to miss the significance of the color-exclusion problem would be to miss the most original insights of Wittgenstein's early philosophy.

The argument that follows is both constructive and diagnostic. On the one hand, I provide an interpretation of the Tractarian notions of necessity and possibility (in 1.1) and an analysis of the color-exclusion problem and its far-reaching implications (in 1.2 and 1.3). On the other hand, I try to explain how and why this problem has been systematically misunderstood (in 1.2). As we shall see, what has precluded commentators from seeing the problem in the right light is a deep-seated philosophical way of conceptualizing necessity: namely, necessity conceived as constraining language from without; or as Diamond puts it, "necessity imagined as fact." Ironically, this philosophical picture of necessity is precisely what Wittgenstein was trying to subvert with his remarks on the phenomenon of color exclusion at 6.3751. Throughout his philosophical career, Wittgenstein held that it is a fatal mistake to think of necessity as grounded in the structure of reality. He repeatedly argued that it is pointless and ultimately nonsensical to look for the source of necessity outside language. He insisted that we can make no sense of a realm of ineffable necessities that exists independently of the realm of contingencies we ordinarily talk about. In the *Tractatus* Wittgenstein tried to deontologize and demystify the concept of necessity by showing that it is a logical concept that has to be clarified by means of logical elucidations of our ordinary ways of talking about what is the case. For the author of the *Tractatus*, the project of deontologizing necessity and the project of clarifying the logic of linguistic representation and showing how meaning is possible go hand in hand; they are, in fact, one and the same project. As Diamond suggests, on Wittgenstein's view, understanding the logical structure of language enables us to see that necessity lies "in the use of ordinary sentences"[3]; and conversely, understanding necessity as a symbolic phenomenon that originates in language use enables us to recognize the necessary features of our symbolisms—that is, the logical underpinnings of our ordinary ways of making sense. As we shall see, the Tractarian treatment of necessity and the Tractarian treatment of meaning are inextricably interwoven. It is this intimate connection between meaning and necessity that the color-exclusion problem brings to the fore; and this, I will argue, explains the special place that this problem occupies in the *Tractatus* and in the development of Wittgenstein's thought (cf. 1.3 and chapter 2). Finally, I will conclude by exploring the implications that my account of this seemingly marginal problem has for the interpretation of Wittgenstein's early philosophy. In particular, I will examine (in 1.4) how my account bears on the interpretative dispute between realist and deflationary readings of the *Tractatus*.

1.1. Possibility and Necessity in the *Tractatus*

The notions of *possibility* and *necessity* are central pillars of the pictorial account of meaning provided in the *Tractatus*. "A picture depicts reality by representing a *possibility* of existence and non-existence of states of affairs"; it "represents a *possible* situation" (2.201–2.202; my emphasis). A proposition, like a picture, depicts a *possible* state of affairs (cf. 3.11ff). On Wittgenstein's view, it is consubstantial to the pictoriality of a proposition that the proposition can be deemed "correct or incorrect, true or false" (2.21). The possible state of affairs represented by a proposition may or may not obtain, and accordingly the proposition may agree or fail to agree with reality. "In order to tell whether a picture is true or false we must compare it with reality. It is impossible to tell from the picture alone whether it is true or false" (2.223–2.224). But only what is *possible* is so evaluable; what is necessary or impossible cannot be symbolically represented ("There are no pictures that are true a priori"; 2.225). In short, the essence of a significant proposition is to give expression to a "truth-possibility" (cf. 4.3ff).

Wittgenstein distinguishes between two different kinds of truth-possibilities, simple and complex, and between two corresponding kinds of propositions. If the truth-possibility expressed by a proposition is logically dependent on other truth-possibilities, the proposition is complex and therefore analyzable into simpler propositions. There *must* be a last level of analysis where we reach propositions of "the simplest kind" (4.21): "It is *obvious* that the analysis of propositions *must* bring us to elementary propositions" (4.221; my emphasis). These propositions are concatenations of names (4.22), that is, combinations of logically simple signs that designate objects (cf. 3.202–3.203). Elementary propositions express *primitive* truth-possibilities. Their defining feature is that they are *logically independent* of one another ("It is a sign of a proposition's being elementary that there can be no elementary proposition contradicting it"; 4.211). Complex propositions are "truth-functions" of elementary propositions, which are their "truth-arguments" (5). The truth-functional composition of a proposition can be exhibited in a truth-table, which schematizes the truth-possibilities contained in the proposition (4.31). The truth-table analysis of language shows the possible truth-functional combinations of elementary propositions. If we were given "*all* elementary propositions," we could determine what propositions can be constructed out of them and hence fix the whole range of logical possibilities expressible in language (4.51–4.52).

However, there is a *special* class of propositions that do not express truth-*possibilities*, for they have a fixed truth-value: they are necessarily true or necessarily false. These are propositions that have a *tautological* or *contradictory* form. What is most characteristic about them is that their

truth-value can be recognized "from the symbol alone,"[4] since they are true or false in virtue of their logical form. But, as we just saw, the correctness of a picture cannot be determined "from the picture alone" (2.224). So it follows that "tautologies and contradictions are *not pictures* of reality. They do not represent any *possible* situations. For the former admit all possible situations, the latter none" (4.462; my emphasis). And since they do not depict possible states of affairs, they have *no representational content*; they are entirely empty. By emphasizing the factual emptiness of tautologies and contradictions, Wittgenstein is trying to dissuade us from thinking about these peculiar symbolic constructions as expressions of a special kind of truth and falsehood about the world. As he remarks, a tautology is "unconditionally true" and "a contradiction is true on no condition," not because they have *special* truth conditions, but rather, because they have "*no truth-conditions*" at all (4.461; my emphasis). These symbolic constructions do not express *any* particular truth or *any* particular falsehood about the world because they do "not stand in any representational relation to reality" (4.462). Wittgenstein explains the factual emptiness of these constructions as follows:

> The truth-conditions of a proposition determine the range that it leaves open to the facts. [. . .] A tautology leaves open to reality the whole—the infinite whole—of logical space: a contradiction fills the whole of logical space leaving no point of it for reality. Thus neither of them can determine reality in any way. (4.463)

There are two crucial points that Wittgenstein's discussion of tautologies and contradictions brings out. The first one concerns the deontologization of necessity I alluded to in the introduction. According to Wittgenstein's discussion, there is no room in the world for necessities and impossibilities. For, on the Tractarian view, the world is composed of facts that can be depicted in language ("facts in logical space"; 1.13) but, as we just saw, necessities and impossibilities are not picturable facts. To imagine necessities and impossibilities as residing in the world would be to imagine facts of a special kind that are beyond the reach of our systems of representation. Wittgenstein tries to show that these elusive facts that we may be inclined to imagine vanish into thin air upon closer examination. For we have no model of these facts; the logic of factual discourse does not leave room for them. According to the *Tractatus*, when we talk about the world, we talk about contingencies; and when we talk about what is necessary and impossible, we are no longer talking about the world ("For example, I know nothing about the weather when I know that it is either raining or not raining."; 4.461). Thus Wittgenstein tries to convince us that, ultimately,

given the logic of our ordinary ways of talking about the world, we cannot make sense of necessities and impossibilities imagined as facts.

However, the advocate of a metaphysical account of necessity may be unimpressed by these considerations, arguing that necessities constitute a factual domain that is simply not reachable by the logic of ordinary discourse. As Diamond has pointed out, it is characteristic of this kind of metaphysical account to appeal to a dual logic; that is, to argue that "what is necessary has got its own logic distinct from the logic of our ordinary descriptions of what is the case."[5] According to Diamond, this is the illusion underlying metaphysical accounts of necessity which Wittgenstein sets out to dispel. According to Wittgenstein's logical analysis, any attempt to separate the logic of what is necessary from the logic of what is merely possible falls into incoherence. For the logic of necessity and the logic of possibility define each other; they are not simply inseparable, but in fact one and the same logic. Thus, by embedding the logic of necessity in the logic of possibility that underlies ordinary discourse, Wittgenstein undercuts the misguided tendency to think of necessities as constituting an ontological realm that lies beyond the reach of our ordinary descriptions of the world. Necessities (and impossibilities) are neither intraworldly nor extraworldly facts; they are not facts at all.

The deflationary potential in Wittgenstein's discussion of tautologies and contradictions has already been emphasized by Diamond.[6] Where my analysis departs from her interpretation is in the second point contained in Wittgenstein's discussion: a point that concerns the *propositional status* of tautologies and contradictions. Once we accept the vacuity of these symbolic constructions, what are we supposed to do with them? Do they have any role to play in our symbolisms? Diamond argues that tautologies and contradictions do not turn out to be genuine sentences, but only "sentence-like constructions formulable from sentences": "We shall not be tempted to think of tautologies and contradictions as saying that something or other is the case. We shall not be tempted really to think of them as sentences."[7] But Wittgenstein does not say that tautologies and contradictions should be regarded as pseudopropositions. He is in fact rather stingy in the use of the term "pseudoproposition" (*Scheinsatz*). He reserves this term for those symbolic constructions that involve a misuse of the word "object" (4.1272) and those that contain the equality sign (5.534–5.535; 6.2). Pseudopropositions are symbolic creatures that have a deceitful nature: they are combinations of signs that have the appearance of saying something while they are in fact "nonsensical" (*unsinnig*; cf. 4.1272). We learn at the end of the book that all the "propositions" of the *Tractatus* are deceitful in this way: they have a propositional appearance but are in fact *unsinnig* (6.54). But tautologies and contradictions are not deceitful. On the contrary, they make

their emptiness perspicuous: they "show that they say nothing" (4.461). Given their lack of representational content, tautologies and contradictions are certainly not *significant* propositions: they are "senseless" (*sinnlos*; 4.461). But Wittgenstein is quick to point out that they "are not, however, nonsensical [*unsinnig*]. They are part of the symbolism" (4.4611).

To think that the emptiness of tautologies and contradictions is tantamount to their lack of propositional status is to overlook the distinction between *sinnlos* and *unsinnig*. On Wittgenstein's view, a string of signs is nonsense, plain nonsense, and therefore a pseudoproposition only when it lacks logical form altogether (and not just pictorial form and representational content). Pseudopropositions are strings of signs which, strictly speaking, are uncombined since they have not been combined according to the rules of logical syntax. Tautologies and contradictions do not fall into this category, for, as Wittgenstein remarks, "signs are still combined with one another even in tautologies and contradictions" (4.4661). These non-pictorial propositions are very peculiar indeed, but they are not illicit combinations of signs. They are "the *limiting cases*—indeed the *disintegration*—of the combinations of signs" (4.466; my emphasis). They have logical form, albeit an aberrant one.[8] And it is in virtue of their aberrant logical form that tautologies and contradictions play a fundamental role in language: they show the limits of significance, the points at which logical form disintegrates; they constitute the boundary stones of what is expressible. The logical space for meaningful discourse is the realm of logical possibilities that lies between tautologies and contradictions: "A tautology's truth is certain, a proposition's possible, a contradiction's impossible" (4.464).

But why does Diamond want to banish tautologies and contradictions from our symbolisms? There are two different arguments one can draw from her discussion that speak against granting propositional status to tautologies and contradictions. First, one might think that keeping these symbolic constructions as genuine propositions would be what Diamond calls "chickening out," that is, holding on to the "ladder" that we are supposed to let go. But I don't see why this warranted worry about "chickening out" should apply here. What Wittgenstein and Diamond refer to as the "ladder" that has to be thrown away is supposed to encompass the propositions of the *Tractatus* and, more generally, all philosophical propositions. But there is no reason why we should treat tautologies and contradictions as Tractarian propositions or as philosophical propositions. The propositions of the *Tractatus* are certainly not tautological or contradictory. More importantly, unlike Tractarian propositions, tautologies and contradictions are not attempts to say anything philosophical, since (as Diamond herself shows) they are not attempts to say anything *at all*. The Tractarian remarks about necessity have to be ultimately discarded, not because they are empty,

but because they are *unsinnig* (cf. 6.54).[9] On the other hand, tautologies and contradictions are not *about* anything and a fortiori they are not about necessity either. They have to be granted propositional status precisely because of their emptiness, not in spite of it. For it is their emptiness that makes them harmless as well as useful. Without saying anything at all tautologies and contradictions show where logical form disintegrates and thus they demarcate the limits of language from within.

There is another, more technical argument that Diamond offers for disqualifying tautologies and contradictions as genuine propositions. This argument has to do with the logical atomism of the *Tractatus*. According to Diamond, the logical independence that defines elementary propositions would be untenable if we were to allow logical truths and logical falsehoods to be expressed in propositions. An elementary proposition "p" cannot have a determinate truth-value unless it presupposes the truth of tautologies such as "p or not p" and the falsity of contradictions such as "p and not p." But then it appears that no proposition can be a candidate for truth or falsity independently of the truth-value of all other propositions, for the truth of tautologies and the falsity of contradictions must always be presupposed. Diamond argues that the only way out of this difficulty is to deny propositional status to tautologies and contradictions: "If tautologies and contradictions are genuine sentences, the idea of sentences as [. . .] capable of truth or falsity regardless of the truth or falsity of any sentence [. . .] has to go."[10] This ad hoc solution really smells like a dirty trick: "To avoid trouble let's not consider these peculiar constructions as part of the symbolism." This is a solution that flies in the face of Wittgenstein's words ("Tautologies and contradictions [. . .] are part of the symbolism"; 4.4611). But, at any rate, it is a solution that is not needed, for it answers an artificial problem. The difficulty that Diamond discusses is an artifact of an overly strong reading of the logical atomism of the *Tractatus*. The idea that "sentences must be capable of truth or falsity regardless of the truth or falsity of *any* sentence," which she attributes to Wittgenstein,[11] is nowhere to be found in the *Tractatus*. Elementary propositions are said to be logically independent only *from each other*, but not from every other proposition (cf. 4.211). An elementary proposition certainly enters into logical relations with *complex* propositions in which it figures as a component; and it is always logically related to all those propositions that have a tautological or contradictory form (since their logical truth or falsity is entailed by the truth-valuedness of *any* proposition). However, this does not present a problem. An elementary proposition expresses a primitive truth-possibility, a simple determination of reality, and it cannot presuppose any other simple determination of reality. But, as we saw, tautologies and contradictions do not "determine reality in any way" (4.463). Therefore, the fact that the

truth of tautologies and the falsity of contradictions are presupposed by all propositions does not undermine the logical independence that elementary propositions are supposed to have.

Commentators have often regarded the atomistic and the holistic strands in the *Tractatus* as being in conflict.[12] However, when we recognize that the Tractarian atomism has a very limited scope, that it concerns only the relations among elementary propositions, the alleged conflict disappears. The truth-possibilities of elementary propositions are said to be logically independent from each other (4.3ff), but they are not supposed to be independent from necessities and impossibilities. On the contrary, on the Tractarian view, something is a possibility only against the background of what is necessary and impossible. Logical truths and falsehoods provide the *logical space* in which possibilities can be pictured. As Wittgenstein observes, a proposition cannot picture a truth-possibility all by itself, but only against a background: "A proposition can determine only one place in logical space: nevertheless *the whole of logical* space must already be given by it. [. . .] (The logical scaffolding surrounding a picture determines logical space. The force of the proposition reaches through *the whole of logical space*)" (3.42; my emphasis). The whole of logic (all logical truths and falsehoods) must already be given when a truth-possibility is depicted in an elementary proposition. (Hence Wittgenstein's remark: "An elementary proposition really contains all logical operations in itself"; in it "we already have all the logical constants"; 5.47.) This logical dependence of elementary propositions on tautologies and contradictions is not an unwelcome result of the Tractarian analysis but the core idea that drives the analysis. This dependence is as should be and it could not be otherwise; for, as we saw, the logic of possibility and the logic of necessity (and impossibility) are inextricably intertwined and their separation is neither desirable nor possible.

So, according to the logical holism of the *Tractatus*, the linguistic representation of what is possible can only take place against the background of logical necessities and impossibilities. One might be suspicious of this conception of necessities and impossibilities as the requisite background of symbolic representation, for it is reminiscent of what Diamond takes to be the principal sign of "chickening out"—namely, "the idea of a realm of necessities underlying our capacity to make sense as we do."[13] However, as Diamond points out, we chicken out only when we think of necessities as constituting an *ontological realm*, that is, as grounded in "ontological categories, objectively fixed and independent of language, which the logical syntax of language is then required to mirror."[14] But when we appreciate the emptiness of tautologies and contradictions and we no longer imagine necessities and impossibilities as facts, then we can see that they are *nothing* to be afraid of, for we learn that necessities and impossibilities cannot

be thought of as *things* that are beyond the reach of language. What the emptiness of tautologies and contradictions shows is precisely that necessities and impossibilities do not reside in an ontological realm that logical syntax has to mirror, but rather, that they reside in the logical form of our symbolisms, in the "logical scaffolding" surrounding our symbolic representations (cf. 3.42). So to say that the significance of a proposition presupposes the necessary truths and falsehoods of tautologies and contradictions is just to say that it presupposes logical syntax. It is in this way that Wittgenstein's views of necessity and logical composition mutually support each other.[15]

1.2. What's Color Got to Do with It?

The logical account of necessity that Wittgenstein develops in the 6s draws on the truth-functional account of logical composition offered in the 4s and 5s. According to this account, necessarily true and necessarily false propositions cannot be elementary: they must have a complex logical structure in which elementary propositions are truth-functionally combined in such a way that the last column of the proposition's truth-table admits only one value (only T's or only F's), whatever the values of its truth-arguments happen to be. That certain combinations of truth-possibilities are either necessary or impossible can only be shown by complex propositions whose logical form is either tautological or contradictory. What is necessary and impossible is exhibited in the logical form of our symbolisms and is determined by the logical syntax of truth-functionality. Therefore, Wittgenstein concludes: "The only necessity that exists is *logical* necessity" (6.37); and, correspondingly, "the only impossibility that exists is *logical* impossibility" (6.375). This last remark precedes the introduction of the color-exclusion problem.

The phenomenon of color exclusion is presented as an illustration of the idea that whatever is impossible must be logically impossible: "For example, the simultaneous presence of two colours at the same place in the visual field is impossible, in fact logically impossible" (6.3751). Wittgenstein's choice of example is indeed peculiar. The mutual exclusion of colors does not seem to be the most appropriate example to convince someone of the logical nature of necessity. For, prima facie, color incompatibility appears to be a brute fact of nature, rather than a phenomenon patently derived from logical laws. However, Wittgenstein's remark that color incompatibility is a matter of logical impossibility is not meant as an obvious illustration of the hegemony of logical necessity, but rather, as a counterintuitive (but unavoidable) corollary of his thesis that there is only

logical necessity and impossibility. The contentious claim is that even this seemingly physical impossibility must, in the end, be reducible to a logical impossibility. And, given Wittgenstein's truth-functional account of necessity and impossibility, what this means is that a statement that attributes two colors to the same point in the visual field must be a complex proposition which has the aberrant logical form of a *contradiction*: "The statement that a point in the visual field has two different colours at the same time is a contradiction" (6.3751).

Now, if a proposition is contradictory, we must be able to recognize from its notational features—*from the symbol alone*—that the proposition is necessarily false: "If two propositions contradict one another, then their structure shows it" (4.1211). On Wittgenstein's view, the aberrant logical form of contradictory statements is to be brought to light by means of truth-functional analysis. The truth-functional analysis of a contradictory statement must show that there is no truth-value assignment that can make the statement true, and therefore no combination of states of affairs that can correspond to it. According to 6.3751, the statement "A (a point in the visual field) is both red and blue at the same time" is a logically impossible combination of elementary propositions and it must have the aberrant logical form of a contradiction. However, this aberrant logical form is in no way reflected in the surface form of the statement. On the contrary, the statement has the deceiving appearance of a simple conjunction ("P & Q"), and we are inclined to think that its truth-functional analysis must yield the truth-table for conjunction (TFFF). This is precisely why it is hard to see that color incompatibility is a *logical* impossibility: because we cannot recognize the necessary falsity of statements such as "A is both red and blue at the same time" *from the symbol alone*. So these statements seem to be necessarily false propositions that are not reducible to truth-functional contradictions. However, Wittgenstein's contention is that they *must* be so reducible. But how?

The statement "A is both red and blue at the same time" cannot be the logical product of two elementary propositions, for, if it were, it could "neither be a tautology nor a contradiction" (6.3751). In his review of the *Tractatus*, Ramsey drew the following conclusion from Wittgenstein's remarks at 6.3751: "That 'This is both red and blue' is a contradiction [. . .] implies that the apparently simple concepts red, blue (supposing us to mean by those words absolutely specific shades) are really complex and formally incompatible."[16] Ramsey's thought seems to be that since "This is red" and "This is blue" cannot be elementary propositions, that is, concatenations of names, some of their component terms must be complex expressions susceptible of further analysis. And Ramsey assumes that the only candidates for further analysis are the terms "red" and "blue." So he concludes that

color terms cannot be logically simple expressions, that elementary propositions must be curled up in them somehow. For if "red" and "blue" were not complex predicates but unanalyzable names, their concatenation could not possibly yield a contradiction. So on Ramsey's reading of 6.3751, the color-exclusion problem is, at bottom, a problem about *simplicity and elementariness*: a problem about which signs qualify as logically simple, and which combinations of signs as elementary propositions. Following Ramsey's interpretation, Shanker contends that the immediate implications of the claim that "A is both red and blue" is a contradiction are "that 'red' cannot be the name of a simple, and thus that 'A is red' is not fully analysed."[17]

But we must proceed with caution in drawing these conclusions, for the contradiction discussed in 6.3751 is not between 'A is red' and 'A is blue' *simpliciter*, but rather, between 'A is red at time t' and 'A is blue at time t'. The contradiction arises when a point in the visual field is said to have "two different colours *at the same time*." This is what Wittgenstein's analogy with statements about velocity emphasizes: "a particle cannot have two velocities at the same time; that is to say, it cannot be in two places at the same time" (6.3751). The phenomenon of exclusion only occurs when a temporal element is introduced. Nothing in Wittgenstein's discussion suggests that a statement about a particle (A) being in a particular place (P^1, P^2, P^3 . . .) cannot be elementary. Strictly speaking, the propositions "AP^1," "AP^2," "AP^3," . . . , are logically independent; any one of them makes a simple determination that does not exclude any other unless we introduce the idea of simultaneity. The logical product of any two of these propositions is not a contradiction. The contradiction that Wittgenstein alludes to is not "AP^1 & AP^2" (objects can change place!), but rather, "AP^1T^1 & AP^2T^1." So it follows that "AP^1T^1" and "AP^2T^1" cannot be elementary. But nothing follows about "AP^1" and "AP^2." Similarly, it is not statements *about color* as such that are deemed complex in the argument of 6.3751. A proposition ascribing two colors, say red (R) and blue (B), to a point in the visual field ("RP^1 & BP^1") is not a contradiction if the element of simultaneity is not introduced (points in the visual field can change color!). The propositions that are mutually exclusive and therefore complex are "RP^1T^1" and "BP^1T^1." Nothing follows about "RP^1" and "BP^1."

At 6.3751 Wittgenstein does not address the issue of whether or not colors are primitive simples. His claim is that statements ascribing colors to spatiotemporal points in the visual field cannot be elementary propositions. But he does not try to determine whether the logical complexity of these statements stems from the spatiotemporal individuation of points in the visual field, or from the ascription of colors to these points. Wittgenstein's point is simply that "A is both red and blue at the same time" *must* turn

out to be a more complex logical product than it seems at first sight, that its full analysis *must* reveal that it is in fact a truth-functional combination of elementary propositions that cannot be true under any assignment of truth-values. This conclusion is established on a priori grounds; it is presented as a direct consequence of the truth-functional account of logical composition and logical necessity developed previously. But Wittgenstein does not attempt to specify exactly how we are supposed to transform incompatible color attributions into truth-functional contradictions. In fact, it would be very surprising if he did. It would be surprising if Wittgenstein made the attempt to identify elementary propositions and the logically simple names of which they are composed in a few parenthetical remarks in the 6s, after carefully avoiding the issue throughout the *Tractatus*. Moreover, he explicitly states in the *Tractatus* that it is not possible to identify the names of objects a priori and, therefore, "we are also unable to give the composition of elementary propositions" (5.55).

But why cannot we specify the names of objects a priori? One might think that the reason is that we need to carry out an investigation of the world in order to determine what its most basic components are. But Wittgenstein remarks that the objects that names designate are utterly independent of what is the case (cf. 2.024). According to the *Tractatus*, objects are not specifiable either a priori or a posteriori; they simply are not specifiable at all (cf. 3.26–3.261). On a realist reading of the *Tractatus*, this is regarded as an indication that objects belong to the ineffable metaphysical structure of reality: they subsist *necessarily*, they are the building blocks, not just of this contingently developed world, but of all possible worlds; and this special metaphysical status makes them ineffable. However, in the *Tractatus* the claim that objects cannot be specified is suggested by logical and semantic considerations, not by ontological ones. To say that the meanings of names are specifiable would be to say that names are definable; but names belong to the last level of analysis, they are "primitive signs," and there is no further level in which they can be "dissected" (3.26). Every complex sign is definable—that is, reducible to names—but the names themselves "*cannot* be anatomized by means of definitions" (3.261). Names are the building blocks of all linguistic representations and, therefore, their meanings cannot be captured in descriptions, for these would have to be linguistic representations without names. But the claim that names are indefinable does not indicate anything mysterious about their meanings. As Wittgenstein remarks, the meanings of primitive signs cannot be described, but they can be *elucidated* by means of "propositions that contain the primitive signs" (3.263). The meanings of names are exhibited in how they are *used* in propositions, for as Wittgenstein puts it, echoing Frege, "only in the nexus of a proposition does a name have meaning" (3.3).

   As Hidé Ishiguro has observed,[18] we do not have to wait until the
Investigations to find the idea that meaning (*Bedeutung*) is determined by
use. Ishiguro has argued persuasively that the Tractarian notion of *meaning*
is not a purely extensional notion. On her interpretation, the meaning of a
name, the object (*Gegenstand*) it designates, is a function of the semantic
contribution the name makes to the sense of the propositions in which it
figures: "We settle the identity of the object referred to by coming to under-
stand the sense, i.e. the truth conditions, of the proposition in which [the
name] occurs."[19] Thus Ishiguro's interpretation suggests that the Tractarian
notion of *object* is not an ontological notion, but a semantic notion that can
be fully explicated in terms of the interchangeability or semantic equiva-
lence of names: "Two names refer to the same object if the names are mutu-
ally substitutable in all propositions in which they occur without affecting
the truth-value of the propositions."[20] This interpretation has been further
elaborated by Brian McGuinness, who argues that Tractarian objects are to
be viewed as the "truth-value potential" or "semantic role" of names.[21]
What the Ishiguro-McGuinness interpretation calls into question is the real-
ist view of objects as entities that exist independently of language and deter-
mine (from without, as it were) how we can talk about them.[22] The upshot
of this interpretation is that objects, the meanings of names, are not myste-
rious *things* that we may or may not be lucky enough to bump into; but
rather, that they should be thought of as discourse entities, that is, as enti-
ties whose profile is configured by the semantic features exhibited in the use
of simple signs in our symbolism.[23]

   On a realist reading, the objects of the *Tractatus* are said to be inde-
pendent of what is the case because they have a special kind of existence, a
necessary existence that is ineffable.[24] By contrast, McGuinness suggests
that the reason why the existence of Tractarian objects cannot be either
asserted or denied is not that they have a special kind of being, but rather,
that they are "beyond being" altogether.[25] This deflationary interpretation
suggests that Tractarian objects should be conceived as logical entities, as
possibilities for language and thought, not as *things* that actually exist
(whether contingently or necessarily). These objects are given independent-
ly of what happens in the world, not because they constitute the metaphys-
ical furniture of all possible worlds, but because they are *possible* objects of
discourse and their possibility is already contained in the logical structure
of language and thought. The reason why most commentators have inter-
preted the Tractarian notion of *object* as an ontological notion is because it
is first introduced in the ontological remarks that open the book (cf. 2.01ff
and 2.02ff). However, there is a way of reading these opening sections that
is consistent with the Ishiguro-McGuinness interpretation: they can be read
as offering an "ontological myth" that ultimately cancels itself, leaving us

only with certain logical insights into the structure of language and thought. As McGuinness suggests, this "ontological myth" erases itself, since it is used to help us attain a particular view of language and "one of the chief results of the view of language so attained is the rejection of all such myths."[26] In a similar vein, Diamond argues that "object" is one of those inflated philosophical words that Wittgenstein ultimately wants to eliminate by means of logical analysis.[27]

However, in his review of the *Tractatus* Ramsey assumed that this was first and foremost a metaphysical treatise and that the view of language presented in it was based on an ontological doctrine. It is this assumption that led Ramsey to misunderstand the nature of the color-exclusion problem, which he took to be, at bottom, an ontological problem. According to Ramsey, what makes this problem particularly interesting is that the logical issues raised in it give way to a fundamental ontological issue. Ramsey seems to reason as follows: in order to analyze the truth-functional composition of statements of color attribution we need to determine how they can be resolved into elementary propositions; and this in turn requires that we be able to identify the names of which these propositions are composed and thereby also the simple objects that these names designate. We are thus led from a logical problem about elementariness and simplicity to a metaphysical problem about the structure of reality. On Ramsey's reading, the solution to the problem of color exclusion calls for the identification of the fundamental structure of reality that corresponds to the logical structure of language. But is there any textual evidence for this reading? Does Wittgenstein make any attempt to solve the problem along these lines? Ramsey thinks that he does. According to Ramsey, the middle paragraph of 6.3751 offers a hint as to how we can carry out the analysis of statements of color attribution. He interprets the excursus about velocity and the logical impossibility of a particle being in two places at the same time, not as an analogy, as yet another phenomenon of exclusion, but rather, as the actual explanation of the phenomenon of color exclusion. According to Ramsey, Wittgenstein was trying to explain colors "in terms of vibrations."[28] And this explanation suggests that color terms are in fact descriptions of the movement of particles. On Ramsey's reading of 6.3751, Wittgenstein's solution to the color-exclusion problem is an attempt to reduce colors to the physical properties of particles. But by appealing to a physicalistic reduction, Ramsey replies, Wittgenstein does not show that the phenomenon of color exclusion involves a *logical* impossibility. On the contrary, such a reduction strongly suggests that color exclusion is a matter of *physical* necessity. As Ramsey puts the objection:

> Even supposing that the physicist thus provides an analysis of what we mean by "red" Mr. Wittgenstein is only reducing the dif-

ficulty to that of the *necessary* properties of space, time, and matter, or the ether. He explicitly makes it depend on the *impossibility* of a particle being in two places at the same time. These necessary properties of space and time are hardly capable of a further reduction of this kind.[29]

So what is achieved by reducing colors to the movement of particles? Nothing. And this should be taken as an indication that Wittgenstein did not cite the impossibility of a particle being in two places at the same time as a physicalistic explanation of the phenomenon of color exclusion. (How could he, if 6.3751 is a corollary of the principle that there are only *logical* impossibilities?) Rather, the excursus about velocity simply offers another example of the phenomenon of exclusion. As Hintikka and Hintikka have noted, "the middle paragraph of 6.3751 is not an explanation of the *physical basis* of color incompatibility, as most interpreters have taken it to be. Instead, it presents a solvable (Wittgenstein thinks) *analogue* to the problem from the field of particle mechanics."[30] However, Wittgenstein does not give us a hint of how to carry out the analysis that would transform the phenomenon of exclusion in the field of particle mechanics into a logical impossibility. So what is gained by the analogy? How is it supposed to shed light on the color-exclusion problem? The point of the analogy seems to be to give plausibility to the conclusion, established a priori, that colors exclude one another as a matter of *logical* necessity. This reading is supported by a passage in the *Notebooks* (from August 16, 1916):

> A point cannot be red and green at the same time: at first sight there seems to be no need for this to be a logical impossibility. (. . .) The fact that a particle cannot be in two places at the same time *does look more like a logical impossibility*.[31]

But why is it more plausible to say of the latter incompatibility that it is a logical impossibility? Presumably because the surface form of statements about the position of particles in *space and time* shows more perspicuously their complexity. Logical relations of exclusion are clearly displayed by the purely notational features of the symbolisms we use for the spatiotemporal individuation of particles. (Think, for instance, of how the trajectory of a particle is represented in a system of coordinates.) Wittgenstein's analogy underscores that statements of color attribution are as complex as statements about the spatiotemporal individuation of particles. In both cases it is the element of *simultaneity* that gives rise to the phenomenon of exclusion. Admittedly, it is still unclear how the analysis of statements that attribute mutually exclusive properties can yield truth-functional contradictions. But Wittgenstein's aim is simply to make plausible the claim that in the full analysis we *must* find logically impossible combinations of

elementary propositions underlying such statements, whatever those propositions turn out to be.

Ramsey's physicalistic reading of 6.3751 has not had a noticeable impact in the literature, but unfortunately his metaphysical interpretation of the color-exclusion problem has determined the way this problem has been perceived by commentators. Thus while Hintikka and Hintikka reject the idea that 6.3751 contains the sketch of a physicalist account of color, they still follow Ramsey in thinking that what is at stake in the color-exclusion problem is the ontological issue of the identification of simples. To Ramsey's physicalistic interpretation Hintikka and Hintikka oppose a phenomenalistic one, suggesting that colors can be Tractarian simples after all. They emphasize that the *Notebooks* attest to Wittgenstein's leanings towards phenomenalism, and that in the *Tractatus* he held that the analysis of ordinary-language statements can be carried out "in a purely phenomenalistic language."[32] According to Hintikka and Hintikka's interpretation of the *Tractatus*, experiential terms are the names of simples, and sense-data propositions are elementary.[33] However, even if Wittgenstein flirted with phenomenalism in the early 1910s, there is no evidence that he held this view in the *Tractatus*. Moreover, there is textual evidence that suggests that he *could not* hold this view. As indicated above, Wittgenstein did not think that it was possible to specify the nature of elementary propositions and their component terms (cf. 5.55). In the *Tractatus* the existence of elementary propositions and logically simple terms is required by Wittgenstein's a priori argument concerning the conditions of possibility of significance. As he puts it: "The requirement that simple signs be possible is the requirement that sense be determinate" (3.23). For sense to be determinate there must be a last level of analysis; our logical analysis of propositions must reach primitive units of significance that cannot be analyzed any further (cf. 4.221). But *nothing* in the general argument of the *Tractatus* depends on what these units might turn out to be. Not even the claim that the mutual exclusion of colors is a logical impossibility. The problem that this claim poses does not concern, as Ramsey thought, whether or not colors can be counted as primitive simples, as irreducible particulars. Whether or not colors are amenable to a physicalistic reduction is in fact quite immaterial for the logical problem of exclusion. Even on Ramsey's reading, the exclusion problem is left untouched by explaining color incompatibilities as the surface expression of some other (deeper) nonlogical incompatibilities, such as the impossibility of a particle being in two places at the same time. For, since the latter is not a *logical* impossibility, it cannot be the last level of analysis. This seems to be Wittgenstein's central point at 6.3751. Ironically, this very point is also Ramsey's objection.

Pace Ramsey, the color-exclusion problem is not a problem about metaphysical simples at all. It is a *general* problem about the logical form and the truth-functional analysis of the statements of *ordinary language*. What makes 6.3751 so special is that it is one of the few places where the abstract argument of the *Tractatus* touches on ordinary language directly. In the argument of 6.375–6.3751 Wittgenstein draws a specific conclusion about statements of ordinary language; namely, that statements that assert color incompatibilities *must* contain a truth-functional contradiction. The core of the color-exclusion problem is, I contend, whether or not we can make sense of the idea of a *hidden contradiction*. What is at stake in this problem is not whether or not phenomenal predicates like "red" and "blue" can represent Tractarian objects. What is really at stake is whether or not the notions of *logical form* and *logical analysis* can actually play the role assigned to them in the *Tractatus*.

1.3. The Myth of "Hidden Bodies"

The general significance of the color-exclusion problem and its crucial role in the development of Wittgenstein's thought are missed if the problem is understood to be about whether color is a primitive dimension of reality. That the color-exclusion problem concerns the identification of simples has been a very influential interpretation (endorsed by G. E. M. Anscombe[34] and Max Black,[35] among others). Shanker has suggested that Ramsey's objection about the futility of a physicalistic analysis of color terms was probably what moved Wittgenstein to come back to the exclusion problem in 1929. He writes: "Ramsey would undoubtedly have pressed home this point when Wittgenstein returned to Cambridge, and it thus seems likely that 'Some Remarks on Logical Form' reflects Ramsey's success in persuading Wittgenstein that the argument at 6.375–6.3751 needed emendation."[36] However, as we shall see, in Wittgenstein's discussions of that argument in 1929–30 there is no mention of the issue of whether or not colors are genuine simples, or of whether a physicalistic reduction of sensory qualities is needed—neither in "Some Remarks on Logical Form"[37] nor anywhere else where Wittgenstein discusses the color-exclusion problem. Instead, what Wittgenstein seems to find problematic in the argument of *Tractatus* 6.375–6.3751 is the idea that statements that assert color incompatibilities must contain a *hidden* contradiction.[38] He began to doubt that a truth-functional analysis can solve the color-exclusion problem; and this led him to lose faith in logical analysis as conceived in the *Tractatus*. So let's examine more closely what is involved in the claim that a hidden contradiction can be uncovered by means of logical analysis.

As noted above, the contradiction underlying a statement that asserts color incompatibility is not displayed by its surface form. But it follows from the Tractarian account of logical composition that a contradiction must be contained or *hidden* in the aberrant combination of elementary propositions in which the statement consists. Now, why is this a problem? After all, on the Tractarian view, every statement of ordinary language is supposed to have a *hidden* logical form. So the aberrant logical form underlying a contradictory attribution of colors is no more hidden than the customary logical form of any factual statement of ordinary language. The logical form of ordinary statements does not lie on the surface; it resides in a calculus of propositions that is not open to view. Behind each well-formed sentence of ordinary language there lies a logical body composed of truth-functional combinations of elementary propositions. The shape of this *hidden body* is what Wittgenstein calls *logical form*. Diamond explains this picture of language as follows: "We have to think of lifting up an ordinary sentence, and noticing, attached to it, like little wires, all the sentences which entail that it is true or that it is not. The ordinary sentence, together with all its little wires, is the same sentence as the fully analyzed one."[39]

The Tractarian view of language demands that every statement be decomposable into a truth-functional combination of elementary propositions. But notice that this is a *logical*, not an epistemic, requirement. Speakers are not required to know the truth-functional decomposition of the statements they utter: "Man possesses the ability to construct languages capable of expressing every sense, without having any idea how each word has meaning or what its meaning is—just as people speak without knowing how the individual sounds are produced" (4.002). Statements signify, not through the knowledge of the speakers who utter them, but through their own underlying logical structure. So what is so problematic about the idea of a "hidden contradiction"? Isn't it just to be expected that in the truth-functional analysis of ordinary statements we will find tautologies and contradictions as well as combinations of elementary propositions that express truth-possibilities?

The possibility that a statement of ordinary language whose *form* seems to be in order can contain a contradiction is less innocent than it may seem. The sentence "A is red and blue at the same time" has the same form as "A is red and round at the same time." However, while the latter expresses a significant proposition, the former is entirely empty. But we cannot distinguish between these two statements as instances of two different logical types on the basis of their surface form alone. Logical analysis must uncover the combination of elementary propositions *hidden* in the visible signs and determine, for each statement of ordinary language, whether *or not* it is a factual proposition, a proposition that pictures a *possible* state of

affairs. In the light of 6.3751 it appears that the surface form of the statements of ordinary language is not a good guide for the statements' meaningfulness. This has led some commentators to conclude that, according to the *Tractatus*, ordinary language is logically defective and needs to be replaced by a logically perfect notation that can *show* perspicuously the logical form of propositions. In such notation, statements containing incompatible color attributions would be distinguished, *by their very form*, from statements about color with factual content. This is the conclusion that Hintikka and Hintikka draw from their interpretation of *Tractatus* 6.3751. They contend that Wittgenstein "thought he could in principle devise a notation to *reflect* the necessities of color concepts and thereby to show how the appropriate structures (forms) are built into the objects we are dealing with in color attributions."[40] According to Hintikka & Hintikka's reading, 6.3751 reveals that the Tractarian view of language applies first and foremost to ideal languages, to logically perfect notations, and only approximately and derivatively to ordinary languages.

According to this interpretation of the implications of the color-exclusion problem, there is a close relationship between 6.3751 and sections 3.323–3.325, which are usually interpreted as stressing the logical flaws of ordinary language and the need for a perfect notation. In these sections Wittgenstein notes that in ordinary language different words are employed "in what is superficially the same way" and the same word is used to convey different meanings (3.323). He remarks that this has led to "the most fundamental confusions" (3.24), and that in order to avoid these confusions, we must construct "a sign-language that excludes them" (3.325). In the light of these sections, 6.3751 could be read as suggesting that the statements of ordinary language are just as logically defective as the words of which they are composed. However, this interpretation of 3.323–3.325 and 6.3751 flies in the face of a long-standing view of Wittgenstein that runs from the *Tractatus* to the *Investigations*, namely, the view that ordinary language has no *logical* flaws: "*all* the propositions of our everyday language, just as they stand, are *in perfect logical order*" (5.5563; my emphasis).[41] And how can Wittgenstein state what seem to be clearly contradictory theses about ordinary language in a book as carefully drafted as the *Tractatus*?

There is indeed a close analogy between sections 3.323–3.325 and 6.3751. But this analogy does not have the revisionistic implications that Hintikka and Hintikka suggest. The common point of these sections is that the surface forms of the statements of ordinary language are not a good guide to their logical structure: in ordinary language superficial uniformity frequently *hides* logical diversity. However, from the fact that the expressions of ordinary language are "superficially" ambiguous (cf. 3.323 and

3.325), Wittgenstein does not conclude that ordinary language lacks logically simple signs with definite meaning. On the contrary, the upshot of Wittgenstein's argument is that simple names must be somehow contained in ordinary language; otherwise we would not be able to communicate at all. Similarly, although the surface form of ordinary-language statements gives no indication of how these statements can be constructed out of elementary propositions, Wittgenstein still holds that their logical analysis "must bring us to elementary propositions" (4.221). So the point is that the surface structures of ordinary language *hide, but do not contravene*, the underlying logical structure that a meaningful language must have. As Wittgenstein puts it: "The outward form of the clothing is not designed to reveal the form of the body" (4.002).

It is also important to notice that the "fundamental confusions" that, according to Wittgenstein, result from the ambiguous surface forms of ordinary language are not linguistic confusions that obstruct communication and preclude meaningful discourse; they are, rather, philosophical mistakes: they constitute "the whole of philosophy" (3.24). So Wittgenstein's claim that we need to construct "a sign-language" that prevents these confusions (3.325) should not be understood as the claim that ordinary language must be *replaced* by a perfect notation. For the purpose of this "sign-language" is not to correct the logical flaws of ordinary language, but to prevent *philosophical* misunderstandings. The kind of "language" that Wittgenstein has in mind is something like the T-F notation that he goes on to propose in the 4s, that is, a notation that *shows* "what is common to all notations for truth-functions" (3.3441). But a logical notation of this kind could not possibly be meant as a perfect language that can replace ordinary language. For, strictly speaking, a logical notation is not a language (a representational system) at all, since its propositions do not picture facts: "the propositions of logic say nothing" (6.11); they show "the formal—logical— properties of language and the world" (6.12). Logical notations have a special status because they are the *tools* of logical analysis (3.3441–3.3442), not because they are perfect *languages*. They are not intended to improve ordinary languages, but to bring them to their bare bones. They are supposed to display on the surface what already lies in the hidden structure of ordinary languages. The target of logical analysis is to dissect complex sentences and to resolve them into "completely analysed" propositions (3.201); that is, to exhume the hidden bodies of propositions that lie beneath the statements of ordinary language. The spirit of this analysis is nonrevisionary. According to the *Tractatus*, there is no privileged symbolism or "perfect" notation; every language or system of representation stands on a par: every notation is a truth-functional calculus of elementary propositions with the same logical structure. Admittedly, logical form is not

identified with the surface forms of ordinary language; it is rather something that only a suitable logical notation can bring out. But these hidden structures that logical analysis is supposed to reveal are not structures to be imposed on ordinary language; they are, instead, the logical structures that are required to be already *there*, underlying meaningful discourse. So the general approach to ordinary language that we find in the *Tractatus* does not seem to leave room for drawing revisionistic conclusions from the color-exclusion problem.[42]

As discussed above, tautologies and contradictions, being "the limiting cases of the combinations of signs," show where logical form "disintegrates" (cf. 4.466), thus constituting the boundary stones that separate what is significant from what is pure nonsense. According to the *Tractatus*, every symbolism must have definite limits which are marked by the "disintegration" of logical form. In order to identify the domain of significance of a symbolism we must be able to recognize its limits, which are displayed by tautologies and contradictions. In the language of color attribution, for example, we must be able to recognize which combinations of signs are tautological (e.g., "A is not both red and blue at T") and which ones contradictory (e.g., "A is both red and blue at T"), in order to see the domain of factual discourse that lies between them. But the problem is precisely that statements of color attribution containing tautologies and contradictions are in fact indistinguishable, by their surface form alone, from factual statements. Fortunately, the formalist requirement that logical form be displayed in the permissible combinations of signs, and its dissolution in the limiting cases of those combinations, does not apply to the surface form of statements but to their underlying structure.

The thesis that the statements of ordinary language are "in perfect logical order" is thus maintained in the *Tractatus* by appealing to their *hidden* logical composition. However, the possibility that ordinary language can contain tautologies and contradictions that are not recognizable from the surface form of its signs is still disquieting. To be sure, given the a priori argument of the *Tractatus*, we can rest confident that the *meaningful* statements of ordinary language are "in perfect logical order." But which statements of ordinary language are *meaningful*? A statement is meaningful if it contains a logically *possible* combination of elementary propositions. But this is not something open to view; rather, it is something that requires logical analysis. We must await logical analysis to tell us which statements of ordinary language express significant propositions. This is brought to light by the claim at 6.3751 that statements of color incompatibility are contradictions. This claim is presented as a harmless corollary about the logical nature of necessity and impossibility that does not deserve further elaboration. But, in fact, it is crucial to determine *exactly how* statements of color

incompatibility can be transformed into truth-functional contradictions by logical analysis. This is not just a matter of detail peripheral to the argument of the *Tractatus*, as it seems to have appeared to Wittgenstein before 1929.

In order to demarcate the logical space for meaningful discourse in ordinary language, we need a *method* of logical analysis that can enable us to unmask tautologies and contradictions—that is, to identify the "limiting cases of the combinations of signs." Since no such method is provided in the *Tractatus*, the idea that logical analysis will bring out combinations of elementary propositions contained or *hidden* in complex statements is not given a precise meaning. As Wittgenstein put it in the early 1930s, "the only way in which something like a logical product can be hidden in a proposition is the way in which a quotient like 753/3 is hidden until the division has been carried out."[43] The problem is that we have a precise method for determining quotients, but we do not have a method for bringing elementary propositions out into the open! This is the criticism that Wittgenstein posed to the Tractarian notion of logical analysis in the 1930s: "Can a logical product be hidden in a proposition? And if so, how does one tell, and what methods do we have of bringing the hidden element of a proposition to light? If we haven't yet got a method, then we can't speak of something being hidden or possibly hidden."[44]

As Diane Gottlieb, for one, has pointed out, in the *Tractatus* Wittgenstein talks about the "complete analysis" of statements "as if there were a calculus according to which the analysis could be carried out"; but he does not provide a precise method for resolving complex statements into elementary propositions.[45] One might reply: How about the truth-functional analysis of statements that Wittgenstein proposes? Don't the rules of truth-functionality provide a method of logical analysis? The problem is that truth-functional analysis is presented and used in the *Tractatus* as a method of logical *composition*, not as a method of decomposition. The rules for truth-functional compounding enable us to *construct* complex propositions out of elementary ones (cf. 4.51). But we cannot decompose statements according to these rules *unless* we are given their elementary constituents. Hence it is not surprising that we find ourselves at a loss when we want to transform incompatible color attributions into truth-functional contradictions.

But by demanding the availability of a method of logical decomposition, are we not turning the *logical* requirement that every sentence be analyzable into a truth-functional combination of elementary propositions into an *epistemic* requirement? We cannot demand that speakers have knowledge about the logical composition of the sentences they utter. As we have seen, there is a strong *externalist* element in the Tractarian view of meaning. It is not the case that if I make sense I must know that I do, and how I

do it. In order to make sense one only needs to use signs according to the rules of logical syntax. Speakers do not need to have access to a precise method of logical analysis in order to speak meaningfully. However, *Wittgenstein* does need such a method for his a priori argument in the *Tractatus* to honor the thesis that the statements of ordinary language are "in perfect logical order." In order to show that ordinary language meets the conditions that the *Tractatus* imposes on any representational system, we would have to be able to uncover a truth-functional calculus of elementary propositions beneath the statements of ordinary language. And this can only be done by means of a precise method of logical decomposition.

Wittgenstein remarks that our ignorance about the truth-functional composition of statements does not affect our capacity to make sense. He illustrates this point with an analogy between our capacity to produce meaningful statements and our capacity to produce sounds. The analogy suggests that we can separate the products of these capacities from their processes of production: We speak meaningfully "without having any idea *how,*" just as we emit sounds "without knowing *how* [these] sounds are produced" (4.002; my emphasis). But this analogy is misleading. For *how* the sounds of our vocalizations are produced does not determine *what* these sounds are (or *whether* they are sounds). And the reason is that the identity of sounds is independent of their genesis. We have independent (acoustic) criteria for the individuation of phonemes that do not rest on their processes of production. However, according to the *Tractatus*, we do *not* have independent criteria for what counts as a meaningful statement apart from its truth-functional composition. What determines the identity of a statement is how its constituents are put together. The hidden logical composition of statements is *constitutive* of what those statements are: significant propositions, tautologies, contradictions, or pure nonsense. The investigation of the processes of sound production is extraneous to the individuation of sounds; it is merely a matter of empirical detail. But the examination of the internal constitution of statements is *not* a peripheral question of detail, as the analogy with sounds suggests. What is at stake in the logical analysis of statements is not simply *how* they signify, but also *whether* they do. In order to ascertain whether a statement has sense or only contains an appearance of meaning, we need a method of analysis that can determine whether the statement contains a *possible* combination of elementary propositions. Of course speakers need not have knowledge of the underlying structure of their statements. But Wittgenstein needs to specify how the logical composition of statements is to be determined, how the hidden bodies of propositions that lie beneath them are to be exhumed. Otherwise, his a priori argument about the conditions of possibility of significance would fail to show that ordinary language is "in perfect logical order."

Given the abstract account of logical composition offered in the *Tractatus*, Wittgenstein concluded that a statement that is necessarily false *must* contain a hidden contradiction. But his *modus ponens* in the *Tractatus* will be his *modus tollens* in the late 1920s. In 1929 he came to the conclusion that no hidden contradiction is to be found in the logical analysis of incompatible color attributions and that, therefore, something must be wrong with the abstract account of logical composition given in the *Tractatus*. However, he did not think that what was wrong was any metaphysical doctrine about the nature of elementary propositions and their component terms. In a conversation with the Vienna Circle in 1931 Wittgenstein remarked that the *Tractatus* is a "*dogmatic*" book, and he went on to explain that its dogmatism consists not in any unwarranted view about elementary propositions, but rather in the unwarranted assumption that elementary propositions must be there, that there must be a calculus of elementary propositions hidden in the statements of ordinary language.[46]

1.4. Deflationism and Realism in the *Tractatus*

The interpretation of the Tractarian notions of possibility and necessity articulated in section 1.1 and the account of the color-exclusion problem developed in sections 1.2 and 1.3 cast doubt on the traditional realist reading of the *Tractatus* as a metaphysical treatise that erects a view of language on the basis of an ontological doctrine. By the same token, my arguments in those sections give support to the deflationary interpretations of Ishiguro, McGuinness, and Diamond. As these interpretations suggest,[47] the *Tractatus* offers a view of language that helps us overcome metaphysical problems by bringing about a perspective in which these problems cannot even be formulated. This is a perspective that leaves no room for metaphysical realism or antirealism, a perspective from which all metaphysical positions appear as one and the same (cf. 5.64) because they are all equally nonsensical.[48] The attainment of this deflationary perspective is the primary goal of the Tractarian elucidation of the logical underpinnings of language. As argued above, too much of the *Tractatus* is left in the dark if we ignore its deflationary moves—if, for example, we continue to imagine necessity as fact or to think of objects as the metaphysical joints of reality. However, this metaphysical deflationism is achieved at a high price, for the view of language that makes it possible rests on substantive assumptions about logical form and logical analysis. The a priori argument of the *Tractatus* brings with it very strict demands concerning the logical structure of language. In particular, as McGuinness observes, it "demands that every proposition be capable of a full analysis in just one form, whether or not such analysis has ever been

reached."[49] This involves a peculiar *realism* and *monism* concerning logical form. According to the *Tractatus*, it is possible to give a unified account of the logical form of everything that can be expressed (cf. 4.5), for there is a *single* logical structure underlying all possible symbolisms. For every proposition, there is one and only one complete analysis that can uncover its logical form; and this underlying logical form is something that a proposition has *in itself*, whether or not it is recognized by any speaker: it is the shape of a truth-functional calculus of elementary propositions hidden in the unanalyzed proposition. This is what I have called "the myth of *hidden bodies*": the idea that beneath every significant statement there lies a hidden body of propositions attached to it "like little wires." As Diamond puts it, in the *Tractatus* Wittgenstein assumed that "the little wires are all there, all fixed by the logical structure of language."[50]

So, despite the strong metaphysical deflationism of the *Tractatus*, Wittgenstein's early philosophy still contains a residual realism, albeit a deflated one: a *logical* realism without ontological commitments. This logical realism has to do, not with a special realm of objects, but with the necessary features of symbolic representation. Therefore, it does not involve ineffable truths about reality[51] but only certain insights into the underlying logical structure of language. The *Tractatus* promotes a realist attitude with respect to the limits of intelligibility by presenting them as fixed, not by the metaphysical structure of reality, but by the logical form of any possible symbolism. Wittgenstein does say that the possible combinations of objects set the limits to what can be symbolically represented (cf. 2.0123–2.0124). However, as suggested above (cf. 1.2), when Wittgenstein talks about objects and their "internal properties" (2.01231), he is not talking about the denizens of an ontological realm and their inner natures; rather, he is talking about the *possible* objects of language and thought and their logical properties. According to the *Tractatus*, all the *possible* objects that we can think of and talk about are already contained in the logical structure of any system of representation. An examination of the logical form of language can reveal all the logical possibilities that can be symbolically represented. As Wittgenstein remarks: "Logic deals with every possibility and all possibilities are its facts" (2.0121). "There cannot be a proposition whose form could not have been foreseen" (4.5).

So the logical realism of the *Tractatus* is a realism about *possibilia*.[52] On the Tractarian view, logic determines *sub specie aeternitatis* the range of possibilities that are thinkable and expressible in language. This grid of logical possibilities that constitutes the domain of significance of any symbolism is the *logical space* that lies between the logical truths of tautologies and the logical falsehoods of contradictions (cf. section 1.1). According to the *Tractatus*, propositions can make sense only against the background of this

logical space (3.42). In his later view, however, Wittgenstein rejects the idea that what sustains the significance of our statements is an invisible logical background (cf. esp. PI §102). In the *Investigations* he describes this idea as a philosophical illusion that arises when we abstract from our actual practices of language use and ask "How do sentences manage to represent?" (PI §435), as if this were something that sentences could do by themselves. Under the spell of this illusion we are inclined to think that there must be a "logical scaffolding" surrounding every significant proposition[53] (cf. *Tractatus* 3.42), that there must be hidden logical bodies that support the significance of our statements: we proceed "as if our usual forms of expression were, essentially, unanalyzed; as if there were *something hidden* in them that had to be brought to light" (PI §91; my emphasis). But now Wittgenstein insists that "nothing is hidden" (PI §435), that "everything lies open to view" and "what is hidden [. . .] is of no interest to us" (PI §126). As we shall see, the rejection of the myth of *hidden bodies* is one of the main points of evolution from the *Tractatus* to the *Investigations*.[54] And this explains the crucial role that the color-exclusion problem played in the development of Wittgenstein's thought. For, as I have argued, this problem calls into question the Tractarian assumption that ordinary statements contain hidden bodies of propositions that logical analysis must dig up.