How the Laws of Appearance Lie?

- A Preliminary Study into the Notion of "the Laws of Appearance"

By

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Abstract

In this work, I analyse the notion of "Laws of Appearance" as raised by Adam Pautz (2017; 2020). Specifically, I discuss two of these "laws": The "No Logical Structure" law – that we cannot have the representational content of an experience in disjunctive form; and the "Exclusion Law" – that a surface cannot be both red and green simultaneously. Towards the former, I endeavoured to show that the first "law" is the result of mistaking the phenomenological sense and the epistemic sense of the embedded proposition in propositional attitudes employed to characterised experience; towards the latter, I endeavoured to provide an illustration of Wittgenstein's answers to colour exclusion, with the theme of his answers being that the proposition "A is both red and green" is a logical impossibility, not a phenomenological one. Together, I hope that they show "Laws of Appearance" are really separate questions that require separate answers, and it is not the task of a theory of perception to provide an explanation of all of them as a whole.

Table of Contents

Introduction	. 3
Part I: Starting Points of "Laws of Appearance"	7
Part II: The "No Logical Structure Law"	16
Part III: The Colour Exclusion Problem and Wittgenstein's Answers	26
Conclusion	47
Bibliography	48

Introduction

On a couple of occasions (2017; 2020), Adam Pautz raised a notion of what he calls "Laws of Appearance" (LoAs henceforth). Through his writings, I suppose that he meant by Laws of Appearance the ways the appearance of experience is organised, and that these "ways" display regularity. "...[W]hy can't you have experiences that represent extremely bizarre scenarios?", asks he (2017, p. 36). Instead of giving a straightforward definition, Pautz illustrates LoAs by examples (2020), such as the Exclusion Law – you cannot experientially represent the same surface as pure blue and pure green at the same time; Or Berkeley's Law – you cannot experientially represent that something has a colour quality without also experientially representing that it takes up space in some way. Now the question arises: It seems *impossible* for someone to have an experience in which the LoAs are violated, but what does 'impossible' mean here? And what gives it the force it has? This, the modal status of LoAs, seems to be a puzzle for Pautz, as he goes on to argue that neither the theses of necessitism or contingentism on the modal status of these laws is satisfactory.

Rather than discussing the modal status of LoAs, I would like to figure out what they are, or what they are about. More specifically, I attempt answering the following questions: First, what is the starting point for discussing Laws of Appearance? What are the theoretical assumptions we have to make for us to begin talking about LoAs? Secondly, are these laws one *kind* of thing – are they all "brute facts" about our experiences, as Pautz (2017, p. 37) claims they are, or do they actually state entirely different matters, but *disguise* as statements about our experience? To answer these questions, I devise this work into three parts. In Part I, I discuss the

origins of the talk of "Laws of Appearance", namely, as it appears in both McGinn (1983) and Pautz (2020). In particular, I illustrate their views on experience as the starting point of which LoAs arise - for McGinn, it is the subjective nature of secondary qualities (Section 1); for Pautz, it is his representational view of experience and his idea of "experiential neutrality" (Section 2). I conclude by raising some doubts on whether the link between LoAs – propositions that seem to state facts about our experience are as firmly rooted in the two's respective views on perception as they believe. To support my doubts, Part II and Part III are devoted to analyses on two of these alleged laws. In Part II, I discuss the law of "no logical structure": "An experience cannot have as its only representational content: there is either red square in front of me or green sphere on [the] right" (Pautz, 2020, p. 258). I proceed the analysis in this part by engaging with Crane's and Grzankowski's adjacent discussion (forthcoming) on how, in the same way that representationalism of experience falls foul of "no logical structure" law, it falls foul of Frank Jackson's many properties problem still. I argue that the reason why it does so is because it takes the "proposition" in proposition attitudes too seriously. In short, the alleged problem arises out of confusing between what we can say about, or know from, an experience, and the phenomenology of it. In Part III, I embark on an interpretation of Wittgenstein's attempts to solve the colour exclusion problem, the traditional problem of "why can one surface not be both red and green simultaneously". Since Wittgenstein maintains that colour incompatibility/exclusion is a logical impossibility, studies on his answers should show that studies on colour exclusion are studies on the "logical structure of colour", not perception. I discuss his three different answers in three sections. If the analyses in the latter two parts are plausible, it should show that at least these two

"laws" are separate issues, the first one arises out of a confusion, and second one is not about experience at all. This shows, at least, that "Laws of Appearance" ought to be analysed individually. They simply do not concern experience in the same way. I end the introduction by providing a full list of "Laws of Appearance", as suggested by Pautz (2020).

Other examples of LoAs:

Apart from the Exclusion Law and Berkeley's Law mentioned above, Pautz (2020, p. 258) listed

three other alleged Laws of Appearance:

No Logical Structure: An experience cannot have as its *only* representational content: *there is either red square in front of me or green sphere on the right...*

The *Perspectival Law*: An individual cannot experientially represent merely that *there is a cube somewhere in reality*, without any "perspectival information" about its location and apparent shape from "here".

No High-Level Law: There cannot be an experience whose *only* content is a free-floating "high-level" content, like *there's a tomato in front of me*, without having *any* contents attributing lower-level features like shape or colour.

This is not the end of the story however. Pautz rather casually mentions another example,

and claims that "everyone will agree that the following is metaphysically necessary" (2020, p.

259):

Resemblance: If anyone has an experience of blue, an experience of purple, and an experience of green, then their first colour experience is more like their second than their third.

Lastly, in his Remarks on Colour (1977), Wittgenstein discussed a series of issues

relating to impossible colours. Not only did he believe that there are impossible combinations of

colours - you cannot have a reddish green (by mixing the two colours together), he also claims

that we cannot have transparent white (see, e.g. Part II, §3). If Wittgenstein was indeed right

about impossible colours, do we now add more to our stock of existing "laws"? What are the criteria? I do not think that there should be any, since I believe that these "laws" are separate issues, each requiring their own explanations. But if what follows shows that I am right in believing so, Pautz cannot reject an explanation for *one* "law" for its inability of explaining the rest – a move that he employs in rejecting Tye's *tracking representationalism* (2020, p. 261).

Part I - Starting Points of "Laws of Appearance"

I. Section 1: McGinn's Starting Point: The "Disposition" Thesis of Secondary Qualities In his *The Subjective View* (1983), Colin McGinn raised the notion "Laws of Subjectivity". McGinn's terminology is different from Pautz's, because to McGinn, apart from experience, the analysis of subjectivity includes the workings of indexical thoughts as well. The point of this move, although not directly relevant to our thesis, should become clear later. In what follows of this section, I first discuss McGinn's view on the distinction between primary and secondary qualities, and then move on to assess his claim that secondary qualities constitute a subjective point of view (p. 8). Finally, I analyse McGinn's thesis of Laws of Subjectivity.

Secondary qualities, according to McGinn (p. 5), are "those whose instantiating in an object consists in a power or disposition of the object to produce sensory experiences in perceivers of a certain phenomenological character"; whereas primary qualities are not to consist in such dispositions to produce experiences. What this distinction entails is this: When we say that a stick half-submerged in a glass of water *seems* bent, we know that in fact it *is* not bent. But when we say that the poppy *seems* red, it simply *is* red. We can be *factually wrong* about primary qualities, but for secondary qualities, what they seem like simply is what they factually are.

According to McGinn (1983, p. 10), this result suggests that unlike on primary qualities, there is no genuine disagreement between perceivers on secondary qualities. An example of this would be the infamous internet sensation of the blue/white dress (Smith, 2015). Although people

are divided into those that see the dress as white and those that see it as blue, they are not disagreeing on facts about the dress independently of how anyone sees it — in this sense secondary qualities as relative to perceivers as toxicity: the same object might be poisonous to some but nourishing to others, just as the same picture of a dress can seem white to some and blue to others.

McGinn then claims that indexical thoughts¹ express the same kind of relativity: two people would not disagree if one calls the same place 'here' and the other 'there'. To have an indexical thought is to take a first-person point of view, to entertain an egocentric mode of presentation (1983, p. 20). We can now see why McGinn finds similarity between secondary qualities and indexical thoughts: Enjoying secondary qualities, as well as having indexical thoughts are abilities possessed by the privileged subject.

A consequence of McGinn's way of drawing the line between primary and secondary quality and indexical and non-indexical thoughts, he claims, is that the latter ones are explanatorily idle, excluded from a picture of causal interactions between physical objects (*ibid*, p. 22). We can now see how Laws of Appearance as a notion can arise for McGinn: The causal interactions of the world, excluded from the subject's view, are ultimately determined by laws of physics. What is then left for the world from the subject's point of view? Why do secondary

¹ The difference between indexical thoughts and indexical expressions are in McGinn (1983, p. 17): Indexical expressions are used by their utterers, upon having indexical thoughts. When someone has an indexical thought such as "I am here now", the references of 'here' and 'now' are fixed as one's having the thought, while before an indexical expression is used — before the utterer's having an indexical thought, this expression itself does not refer to anything.

qualities appear to us in one way rather than in another? To McGinn (1983, p. 23), laws of subjectivity "formulate how the world *must* be represented in experience" (my italics).

Indeed, the position McGinn (1983, p. 27) takes is that the distinction between primary and secondary qualities entails that primary qualities are for things to *have*, while secondary qualities are how things *seem* (to perceivers, who take a subjective point of view). Consider the following treatment of the Exclusion Law: A table cannot appear both round and square to the same perceivers at the same time. Must then the Exclusion Law include incompatible primary qualities as well? This would be a mistake, if we follow McGinn's line of thoughts; That the same table could not *appear* both round and square is "grounded" (McGinn's own word, 1983, p. 28) by its not *being* both round and square, meanwhile we have little to look beyond our experience for the table's not *appearing* red and green at the same time. For shape exclusion, the exclusion of an object's not being so and so is "conceptually prior" (*ibid.*) to the exclusion of its appearing so and so; For colour exclusion, an object's not being so and so coloured *is* its not appearing so and so coloured.

Is this assessment of McGinn's correct? Consider the case of Waterfall Illusion (Crane, 1988): If we stare at a spinning spiral for a while, it would seem to us to be both spinning and static at the same time even when it ceases to spin and stays still. Motion — an object's changes in spatial locations — is a primary quality, but in which primary quality of the spiral exactly is its appearing to be spinning grounded? McGinn may perhaps retaliate by saying that the impossibility of seeming for primary qualities follows from the impossibility of being "plus some non-trivial property of experience as a vehicle for the representation of the objective

qualities of things" (1983, p. 28), that the spiral appears to spin is due to a feature in our visual/cognitive system. But my point is this: If experience enables us to be presented with an object that has two incompatible primary qualities, then it is not as if *experiencing* the primary qualities of an object does not require us to take the subject's point of view. It now seems that it makes good sense to ask, even for something that has the primary quality of being still, "does it look to be stationary, or does it look to be in motion?" In other words, that the spiral appears to be spinning after it stops does not seem to be "grounded" in any primary quality the spiral has. Let me reframe McGinn's grounded thesis this way: The table cannot appear to us to be both square and round is because being square and round are not compatible primary qualities for the table to have, whereas the table's incapability of being both red and green is because of the colour exclusion law – a law of subjectivity that is not grounded in any primary qualities. My objection with the waterfall illusion shows that an object can appear to have a primary quality that is not "grounded" in the primary quality it contradicts with. If my argument is sound, then how the primary quality of an object seems may not be how this object is - the subjective view should not restrict its scope on secondary qualities. However, it is not as if McGinn can give up the "grounding" thesis, since if we say that how primary qualities can seem is irrelevant to how they are, then how primary qualities can seem need to be subjected to "laws of subjectivity" as well. Do we then need to not only include a law that excludes a surface's being in two colours at the same time, but also a law that *allows* an object to be moving and stationary at the same time? This strikes me as wildly implausible.

I. Section 2: Pautz's Starting Point: "Experiential Neutrality" and the Content View Alternatively, Pautz (2020) claims that the problem of laws of appearance arises out of the "existence-neutrality" of experience, which representationalists of experience endorse: For one to see that *p* does not necessarily require *p* in my vicinity, or for *p* to even exist. The theoretical underpinning for this claim however, is the representationalist/intentionalist view of the mind. In sketching this background of Pautz's claim, I introduce two features this background hinges on that I consider essential to a characterisation of experience: one being the notion of *content*, and the other being the notion of the *representational character* of experience.

The basic idea of intentionality, or Brentano's Thesis, is the "of-ness", or "about-ness" of an intentional state (Brentano, 1874 [2015], p. 68). Take belief as an example. If believing is an intentional state, then in believing in something, one takes the world to be in a certain way, or one takes a certain state of affairs to be true. That state of affairs that one takes to be true is the content of the belief. The conventional "wisdom" in philosophy, since at least Russell,² is that mental states such as beliefs ought to be characterised as propositional attitudes, which takes the form "*S Vs* that *p*". The *V* here are "propositional verbs", signifying a relation between the subject and a proposition. This is significant, for this way of modelling mental states is combined with Brentabo's thesis of intentionality,³ that every mental phenomenon refers to a content. The structure of intentional/mental states, then, roughly follows the structure of propositional

² See his *The Philosophy of Logical Atomism* ([1918] 2010, p. 60)

³ It is important to note that Brentano himself never employed the concept of propositional attitude, evident from his *Psychology from an Empirical Standpoint* (1874 [2015]). For a seminal example that suggests this employment, see Davidson "Mental Events" (1970).

attitudes: Subject -- Intentional Mode -- Content (Crane, 2001, p. 32), in which the intentional mode is specified by the propositional verb, and the content is specified by the proposition expressed by *p*. Indeed, some claim that we should understand propositional attitudes as relations to propositions, as we can see from the following statements:

"Propositional attitudes should be analysed as relations. In particular, the verb in a sentence like 'John believes it's raining expresses a relation between John and something else, and a token of that sentence is true if John stands in the belief-relation to that thing." (Fodor, 1978, p. 502)

"Propositions are objects of the attitudes...; that is, these attitudes are relations to propositions.. To believe that S is to believe the proposition that S." (Soames, 1988, pp. 105-6)

Now, although enjoying an experience is surely a mental affair, and that the propositional

attitude "S sees that p" can surely be used to regiment it, the claim that seeing something

involves our S to be related to a proposition is at least not obvious. One might as well say that in

having a belief, S believes in a proposition, that is, the content of the belief is propositional. But

how is the content of an experience propositional, as some representationalists say it is (see, e.g.

Byrne 2005, p. 232; McDowell, 1996, p. 26)?

David Chalmers, in his 2004 (pp. 154-5), expounds the thesis that a perceptual state

instantiates two kinds of properties: Phenomenal properties and representational properties.

Phenomenal properties are the appearances, the what-it's-likeness to be in a perceptual state -

the brownness of the table that I see, the scratchiness of it that I feel.⁴ Representational properties

⁴ In his paper, Chalmers paid heavy emphasis on the conscious nature of the phenomenal – under normal circumstances of seeing, if I say that I see that the table is brown, then I am consciously aware of the brownness of the table.

are properties that perceptual states have in representing certain states of affairs. Under Chalmers's exposition, representational properties are further distinguished into pure and impure ones: Philosophers who believe that phenomenal properties are equivalent to representational properties call representational properties *pure*. For those philosophers, an experience's having representational properties is the same as its having a phenomenal character – in an experience, all that is phenomenal is what represents.⁵ Here I follow Crane (2009 [2014]) in calling those philosophers pure intentionalists.⁶ Meanwhile, Impure intentionalists hold that representational properties are impure in virtue of representing contents in one manner or another⁷: It could be that the content is represented under a "mode of presentation". Chalmers (2004, pp. 157-8) then argues for the impure intentionalist thesis that phenomenal properties entail representational properties⁸: It is at least intuitively plausible that when my visual experience gives me a phenomenology such and such, it represents the world as such and such. It is the representational properties that are subjected to accuracy conditions: If *S* had an experience of seeing pink rats, the question of whether *S*'s experience is a hallucination is a question of whether this experience

⁵ There is a weaker version of this, which claims that phenomenal properties supervene on representational properties. Crane (2009 [2014], p. 155) suggests that the upshot of this is that there cannot be two intentional states with the same representational character but different phenomenal character.

⁶ I do not follow Chalmers's terminology "representationalists" to avoid confusion -- all intentionalists commit to representation to some degree.

⁷ Chalmers (2004, p. 155) relates impure representational properties to the idea of an intentional mode mentioned above. For example, "I think (about) the stars setting" and "I see the stars setting" have the same representational content, yet they are represented in different ways (based on their respective intentional modes).

⁸ Although not the other way around, for the reason that there are unconscious states that also have representational content, and almost all contents can be represented unconsciously (Chalmers, 2004, p. 157). For example, I can have a glance outside the window, see that it is raining, and go to take the umbrella with me outside. I may not have the conscious thought that the umbrella is going to keep me from getting wet, but by grabbing the umbrella such a belief is represented implicitly.

represents a state of affairs. Here we see the advantage of analysing experiences as propositional attitudes: In "*S* sees that there are pink rats", the phenomenological properties are the what-it's-like-ness for one to see pink rats, while these properties entail that the experience represents that there are pink rats. If there are not, then *S* is under a hallucination. The proposition – indicated by the embedded sentence behind "seeing that" – regiments what is represented, and the truth and falsity of the proposition enables us to analyse how accurately this experience represents the world.

Is Pautz's thesis of "experiential neutrality" now warranted? Pautz says (2020, p. 257):

"Representationalists hold that experience is like believing in one respect: it is a matter of representing the world to be in a certain way... The phenomenal character of the experience is fixed by its representational content... So representationalists endorse *existence-neutrality*: it can visually appear to you that something is *F*, even if there exists no *F* in your vicinity."

So far, Pautz's representationalism seems to be consistent with the picture of standard representationalism we sketched in this section. The thing I take issue with in the quote above, however, is "The phenomenal character of experience is fixed *by* its representational content". The use of "by" here *inclines* to suggests that it is worth asking whether whatever can be a representational content can have its corresponding phenomenal character. If this is how the passage is read, then things have gone a little topsy-turvy: Surely we *start* with the phenomenal character, and *then* ask what representational properties the phenomenology *could* entail. I am afraid that the analogy with belief precipitates this topsy-turvy-ness: Say that I believe that Robert Walpole was the first British Prime Minister. The representational content of my belief is a historical event. Do we then take this content and ask what its phenomenal character is? Surely

not – I did not *witness* the event, I was not there to see it. Or take another example, I can think about square-rooting -1, but it would be absurd to ask what the phenomenal character of this content is, yet the content is representational nonetheless. This shows that we simply cannot take *any* representational content, and ask for its corresponding phenomenal character. The trouble is, what sort of representational content is capable of having phenomenal character? What propositions that represent the world *cannot* be experienced by my senses? To what extent do we take a string of words, and say: "I can *believe* that, but I cannot *see* it"? I do not undertake this mammoth task here, but if the analyses in Part II and Part III are plausible to an extent, then they should show that the *space* of phenomenal character is much smaller than the *space* of the representational content in the form of disjunction, is a result of forcing a representational content that is *only* in the space of believing, thinking or knowing to belong to the space of appearing. In Part III, I try to provide an interpretation of Wittgenstein's thought that propositions like "A is both red and green simultaneously" do not represent anything at all, instead, they are merely nonsensical.

Part II - The "No Logical Structure Law"

The "*No Logical Structure*" states that an experience cannot have only its content: *there is either a red square in front of me or a green sphere on the right*... It is suggested by Crane and Grzankowski (forthcoming) that most theories of perception, representationalism especially, rely on assuming the truth of this "law" to explain the nature of experience. In section I, I present the details of their argument in what follows. In section II, I provide my argument on why I think the problem – the supposed reliance on this "law" – arises out of a misunderstanding of experience, generated by analysing them as propositional attitudes. If the argument I make in section II is correct, then the question "why cannot there be phenomenology to 'either... or..." is that the form of the proposition "either... or..." is not one that we use in a phenomenological sense, but an epistemological one.

II, Section I – The Full Force of the "Many Properties Problem"

So here I present our problem, this is the short version of it. Jackson's objection (1975) to Adverbialism – the "many properties problem", can be generalised into a problem for theories of perception that adopt the thesis of "content". In particular, those who hold that there is a relationship of logical entailment between contents suffer from the same problem. What this reveals, is that representationalist/intentionalist theories of experience *assume* the "*No Logical* *Structure Law*" in Laws of Appearance (Crane and Grzankowski, forthcoming). I provide a detailed illustration in the following.

Adverbialists agree with representationalists that perception is not *essentially* a relation between the perceiving subject and the perceived object. What they disagree on, however, is what the nature of experience is. Instead of claiming that experiences are mental representations, Adverbialists claim that objects *seem*, or *look* so-and-so to a subject *S*, because *S* is seeing soand-so-ly, or *S*'s experience is in a "so-and-so" way. In other words (Kriegel, 2011), Adverbialism suggests that experiences are *non-relational modifications* of the mind. Paraphrasing Jackson (1975), we now have the following:

(1) S sees something red and round.

is analysed as

(1') S sees red-ly and round-ly.

Accordingly,

(2) S sees something red and square, and something green and round.

turns out to be

(2') *S* sees red-ly and square-ly and green-ly and round-ly.

Because conjunction is commutative, (2') entails (1'), while (2) does not entail (1). The lesson from this, is that the way Adverbialism regiments experience fails as an account capturing what our experiences are like: As Jackson says (1975, p, 130), seeing something red and something square is clearly a different experience than seeing something red and square, but Adverbialism accounts for these two things in the same way.

Adverbialists could respond by saying that in (2'), 'red-ly" modifies "square-ly", while "green-ly" modifies "round-ly", hence (1') and (2') becomes

(1") S sees red-round-ly.

(2") S sees red-square-ly and green-round-ly.

Now, (2") does not entail (1'). Is our problem solved? No, as Jackson rightly observes. According to the way Adverbialism works, "red-square-ly" signifies the unique way our experience is modified. But no matter how my experience is modified when seeing a red square, I have no trouble picking out the "redness" in my experience. But if the Adverbialist model requires "fusing" redness with squareness, it does not seem that I would be able to do this. The minimum of what I can pick out is red-square-ly. Consider,

- (3) *S* sees something red.
- (3') S sees red-ly.

No one would disagree that (1) entails (3). As far as our Adverbial modifications are concerned, even (1') entails (3'), but (2'') does not entail (3'), at least not logically. Since (2'') is the version we now want, this consequence of fusing is undesirable. If Adverbialists respond that since it is just obvious that (1) entails (3), it is simply a brute fact that (2''), or (1'') entails (3'), then their response seems begging the question – in order for their model to work, they would have to assume that certain sorts of entailment holds, but it is exactly the same entailment that causes the trouble for them in the first place.

So much for the objection to Adverbialism. Why is it something that concerns us? It does because while talking about contents, representationalists use logical entailments to explain the relationship between contents of some experiences. For example, an experience during which S sees something red and round entails an experience during which S sees something red. That is, representationalists would like to preserve the entailment from (1) to (3). They can do this in the following two ways. First, they can say that:

 $\exists x((\text{Red}x\&\text{Round}x)\&\text{S}x),$

in which "S" is the predicate "Seen by our subject S". I do not see any problem in this entailing:

 $\exists x(\text{Red}x\&Sx).$

But I doubt this is the kind of formulation representationalists want, for two reasons. First, many representationalists (including Pautz (see his 2017) and McGinn, who both uphold the notion of Laws of Appearance) reject that it makes any sense for us to talk about the colour of an object independently of us seeing it. Since " $\exists x(\text{Red}_x)$ " can be true when " $\exists x(\text{Red}_x \& S_x)$ " is false, that is, this first formulation of ours supports the claim that an object can be red whilst unseen, I doubt that representationalists would find this formulation agreeable. Secondly, it seems to me that this formulation highlights the properties of the perceived object, rather than the Subject-Mode-Content structure of intentionality. To respect the representationalist notion that an experience is a subject's relation to a content, "*S* sees" cannot be characterised as a property of the object "being seen by *S*"; to respect the structure of intentionality, representationalists should characterise (1) as such:

S sees that $\exists x (\text{Red}x \& \text{Round}x)$.

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It is not clear to me how we can easily get " S_s sees that $\exists x(\text{Red}x)$ " from entailment, since it involves "*S* sees", which is not properly formalised.⁹ This should not cause representationalists any anxiety, we are told, since it is not the whole thing that entails, but the content alone. If this is the case, then:

 $\exists x(\operatorname{Red} x \& \operatorname{Round} x) \models \exists x(\operatorname{Red} x).$

The idea is that if the entailment between contents holds, then the representationalist model preserves the entailment from *S*'s seeing something red and round to *S*'s seeing something red.

But as Crane and Grzankowski (forthcoming) observes, if you say that it is logical entailment that gives us the relationship between contents, why do we only find some things being entailed but not others? Surely, we can get some pretty outrageous stuff through disjunction, such as this:

 $\exists x (\operatorname{Red} x \& \operatorname{Round} x) \models \exists x (\operatorname{Red} x) \lor \forall y (\operatorname{P} y \to \operatorname{F} y).$

But how on earth do I get "I see something that is red or all pigs fly" (on the right-hand side of the turnstile above) from "I see something red and round"? Clearly, "something red or all pigs fly" is not something someone ordinarily, or perhaps ever, sees. The upshot of this, as Crane and Grzankowski (forthcoming) concludes, is that for representationalists to explain the relationship between experiences in the light of entailments between contents, they must admit that some entailments hold and not some others – the content of one's experience could only entail another if the content qualifies as experiential. But what contents qualify as such? This is where our

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⁹ For an attempt to formalise "see" as a "hyperintensional mental-state operator", see Brogaard (2018). 20

Laws of Appearance come in: "something red or all pigs fly" is not an experiential content. It seems that if representationalists assume the "No Logical Structure" law, then the problem with getting disjunctive content from entailment is blocked. But now it seems that the representationalists are in the same awkward position as the Adverbialists, for for both of them to explain why is it that when someone sees something red and round, he also sees something red, they have to clinch onto some brute facts about appearances: the Adverbialists would have to insist that it is a brute fact that "fused" adverbs like "red-round-ly" could entail "red-ly"; the representationalists would have to assume the brute fact that is the "No Logical Structure" law.

But why is it that representationalists want to use entailment between contents to explain the relationship between experiences? Consider this parallel example for beliefs:

- (4) *S* believes that all palaces are beautiful.
- (5) S believes that Schloss Schönbrunn is a palace.
- It does not follow that
- (6) S believes that Schloss Schönbrunn is beautiful.

Of course, "all palaces are beautiful" together with "Schönbrunn is a palace" entails "Schönbrunn is beautiful", but *S* may not have this specific belief, despite having the beliefs in (4) and (5). In other words, beliefs do not seem to be deductively closed. But intentionalists need not be anxious with this result. After all, the standard intentionalist view is that beliefs are individuated by their respective embedded propositions.¹⁰ Whether the entailment between the

¹⁰ For critical discussions of this view, see Bach (1997) and Crane (2017).

²¹

contents of (4), (5) and (6) holds is irrelevant, since it is simply a *fact* about beliefs – claim the representationalists – that deductive closure does not apply in our analysis of them.

But when it comes to our analysis of experiences, deductive closure should apply, since it also seems to be a fact, that an experience in which *S* sees something red and round is also an experience where one sees something red. But if the representationalists insist that the contents of experiences are closed, how do they block out the irrelevant entailments?

II, Section 2 – The Different Senses of "Seeing *that p*"

Here I suggest a clarification, less of a solution, of this problem. I believe that the method of entailment that representationalists employ is misguided, and that experiences, just like beliefs, are not deductively closed. Specifically, I shall argue that the employment of entailment is a product of modelling experiences on *propositional* attitude. Even if we assume that this move is innocuous, a proper assessment of the role the embedded proposition plays in that attitude suggests that the next move – the analysis of entailment, should not follow.

First, an analysis of the role propositions play in "seeing that" statements. In his (2013), Craig French suggests that there are three possible senses of "p" in "seeing that p" (the following examples are as well paraphrased from French (*ibid.*, p. 1755)):

The basic perceptual sense, as in

(7) Jack saw Jane, she looked tired.

The purely epistemic sense, as in

(8) In the end John saw that the proof was correct.

And the epistemic-perceptual sense, as in

(9) Jane saw Jack wearing that pink jumper again.

The distinctions are such, because of the different degrees of commitments they have to phenomenological, as well as the epistemic status of the subjects. Very minimum amount of phenomenology is required in (8) – after all, in order to assess the correctness of the proof, John may not even need to exercise his visual capacities. Indeed, if we exchange "saw" with "realised" in (8), the meaning of the sentence would not change. Here the embedded sentence "the proof was correct" merely signifies what has been newly added to John's stock of knowledge. In saying (8), we are attributing the belief that "the proof is correct" to John. (7) however, is a matter of *object* seeing.¹¹ It is hard to imagine a single candidate that does not evoke phenomenology that qualifies as being able to substitute "saw" in (7).¹² Neither are we attributing any belief, independent of what Jack sees, to him, since even if we modify (7) into this form

(7') Jack saw that Jane looked tired,

Jane would have to have a specific look that is suggestive that she was tired. Moreover, the look, described in this way, would have to be visually perceived by Jack. French (2013, p. 1747) is careful to point out that (7') is different from

(7") Jack saw that Jane was tired.

¹¹ For an exposition of "object seeing", as well as an argument against modelling mental states on propositional attitudes from object seeing's point of view, see Montague (2007).

¹² Consider "met", for example. Although "S meets X" does not necessarily require S to see – hence no phenomenology, "S met X" is totally different from "S saw X". The former requires a mutual recognition of both people from the meeting, while in the latter S might just have caught a glimpse of someone. 23

In (7''), "Jane is tired" can either be used in a purely epistemic sense or epistemicperceptual sense. In a purely epistemic sense, Jack need not actually see any straightforward evidence to obtain the belief that Jane is tired – he may realise that Jane is so from reading Jane's unusually cursory handwriting.

What of (9), the epistemic-perceptual sense? French (*ibid.*, p. 1745) suggests that the embedded proposition in (9) – "Jack wearing that pink jumper" – not only attributes Jane a state of knowledge or belief, but also a *phenomenological basis* for Jane's having the belief. In other words, (9) indicates that Jane's acquisition of the belief that Jack wore a pink jumper is based on corresponding phenomenological evidence, acquired by visual means.

Now, how is this relevant? First, I believe that French's analysis explains the intuitiveness of finding "*S* sees something red" in "*S* sees something red and round". If we take "something red and round" as a characterisation of *S*'s experience, then "there is something red and round" is used in the epistemic-perceptual sense. At this point, we do not need to appeal to logical entailment between contents to get "there is something red". Instead, we may say that just like "something red and round" is a complete attribution of the belief or knowledge acquired based on the phenomenology of *S*'s experience, "something red" is a partial attribution, based on the same phenomenology. Secondly, I believe that French's analysis also provides a good reason to reject the employment of entailment. As we have seen, the method of entailment generates undesirable, disjunctive results. This is so, because it is what is on the left-hand side of the turnstile – the *proposition "p"* in "*S* sees that *p*", that entails. This suggests that if we were to use "*p*" to characterise *S*'s experience, then due to the fact that "*p*" is a proposition, its nature is more

akin to the belief or the piece of knowledge which we attribute to *S*. The mistake of representationalists' analysis of using entailment stems from ignoring this idea, and taking "p" as a proposition that refers back to phenomenology. If we take French's idea seriously, since belief is not deductively closed, and that there are powerful arguments against the deductive closure of knowledge¹³, we cannot take the entailment relations between the embedded propositions of attitudes to be the relationship between experiences. If the above analysis is correct, and the entailment analysis is indeed misguided, then the charge that it requires the assumption of the "*No Logical Structure*" to explain the relationship between experiences does not arise.

¹³ See, e.g. Vogel's (1990) "Are There Counterexamples to Closure Principle?"

Part III - The Colour Exclusion Problem and Wittgenstein's Answers

The colour exclusion problem – why can a surface not be red and green at the same time – is now of largely historical importance, particularly to the research into the development of Wittgenstein's philosophies, from his presentation of the problem in the *Tractatus* (1961, abbreviated as *TLP* in what follows); through his "middle period" in 1929-30, most notably in his "Some Remarks on Logical Form" (1929, abbreviated as RLF in what follows) and *Philosophical Remarks* (1975); to the prelude to his later thoughts in *The Blue and Brown Books* (1958).

Against the persistence of the problem, at least three serious solutions are attempted. First in §6.3751 of the *Tractatus*, next in RLF, and lastly in *Philosophical Remarks*. All three are shrouded in controversies: To the first solution, the popular view is that the inadequacy of is harrolded the downfall of the *Tractarian* project and Wittgenstein's subsequent changes of mind (see e.g. Hacker, 1986, Chap. V; Proops, 2017; Jacquette, 1990). This view has come into debate recently, first on whether the colour exclusion problem *itself* really threatens the Tractarian project (see Moss, 2012), or whether Wittgenstein's answer is so hopeless that the rethink on the failure of which "caused" Wittgenstein's disentanglement of his former philosophy (see Lugg, 2017). Meanwhile, the solution in RLF is considered to be a "patching up" of the Tractarian

framework while preserving the general spirit (see Hacker, 1986, Chap. V). However, Wittgenstein himself is said to have denounced the paper (Rhees, 1975, p. 349). In terms of the solution in Philosophical Remarks, commentators seem to be more interested in which period of Wittgenstein's philosophy it is more akin to (see Austin, 1980 and Sievert, 1989), rather than whether it is definitive, or correct. Curiously, the problem is never mentioned in either Philosophical Investigations (1953), or Remarks on Colour (1977), albeit the subject of colours is discussed extensively in both. Presently, it is not the purpose of this work to resolve these controversies, nor is it its task to offer a definitive account of the solution on Wittgenstein's behalf. Instead, I hope to first present these answers as a continuous development, and secondly to suggest connections between the discussions in RLF and Philosophical Remarks with his later philosophy. By doing these, I hope to establish that these changes in Wittgenstein's treatments of the colour exclusion problem at least accompanies Wittgenstein's changes of mind in his middle period, and that the solution in Philosophical Remarks shows consistencies with his later thoughts in the Investigation and Remarks on Colour. If this can be shown, then the solution in Philosophical Remarks can be considered "an" answer to the colour exclusion problem, an answer that can be further developed and defended by doctrines in his later works. Since Wittgenstien never gave up the idea that "A is both red and green" is a logical impossibility (Lugg, 2017) rather than a physical or phenomenological one, I propose that this answer can serve as an alternative explanation to colour exclusion. In this way, "why can a surface not be

red and green at the same time" is not a question about our experience, but about our use of propositions attributing colours or other determinates.¹⁴

The discussion that follows is divided into three Sections. In the first, I present the problem's first serious appearance in *TLP*, followed by explaining why it caused trouble for the Tractarian project. I also explain the inadequacy of Wittgenstein's response, and suggest that the answer in "Some Remarks on Logical Forms" (1929) is indeed a development from this initial response. In the second Section, I present Wittgenstein's two step solution in RLF, and remark that while the first step – an emendation on the formation of elementary propositions – is untenable, the second step – that *hints* at colour attributions follow a certain kind of rule – is more plausible and is indeed the direction Wittgenstein pursued in later. In the last Section, I present Wittgenstein's last serious treatment of the problem in *Philosophical Remarks* (1975). I suggest that the "yardstick" analogy he employs to illustrate the rule-following nature of propositions attributing determinates, is not only an advancement on the second step of RLF, but also connects to his later discussion on rule-following in *Philosophical Investigations* (1953) and the logical structure of colours in *Remarks on Colour* (1977). Due to the lack of definitiveness of the material, Part III is largely illustrative and interpretive in nature. Had I not chosen to present the development of Wittgenstein's treatments, but to state the one in the last Section directly, it

¹⁴ I consider the colour exclusion problem a separate one from the problem of determinants vs. determinables (for a surveying discussion, see Wilson 2021), since the latter concerns the relation between the conceptual relationship between colours and a specific colour, and the former concerns the incompatibility between specific colours. Indeed, the discussion ensues does not touch on the problem at all. In any case, the possible relation between the two problems is a link yet to be established.

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would make very little sense on its own. Therefore I must beg the readers to pardon my

pleonasm, as well as my generous use of quotations.

III. Section 1 - A Tractarian Trouble

The problem Wittgenstein is claimed to have run into, is displayed under 6.375 of the Tractatus

(1961):

"6.375 As there is only a logical necessity, so there is only a logical impossibility. 6.3751 For two colours, e.g. to be at one place in the visual field, is impossible, logically impossible, for it is excluded by the logical structure of colour. Let us consider how this contradiction presents itself in physics. Somewhat as follows: That a particle cannot at the same time have two velocities, i.e. that at the same time it cannot be in two places, i.e. that particles in different places at the same time cannot be identical. (It is clear that the logical product of two elementary propositions can neither be a tautology nor a contradiction. The assertion that a point in the visual field has two different colours at the same time, is a contradiction.)"

Since elementary propositions are independent of each other, the contradiction of "x is

green (at t)" and "x is red (at t)" either shows that neither is an elementary proposition, or that the

notion of elementary proposition is problematic. The latter option should be less desirable, due to

the important role elementary propositions play:

"4.21 The simplest kind of proposition, an elementary proposition, asserts the existence of a state of affairs.

existence of a state of affairs.

4.25 If an elementary proposition is true, the state of affairs exists \ldots

2.04 The totality of existing states of affairs is the world.

2.06 The existence and non-existence of states of affairs is reality.

2.063 The total sum of reality is the world."

These suggest that the assertive force of elementary propositions, as well as their mutual

independence, contributes to the foundation of the Tractarian system. Indeed, only until the time

of RLF did signs appear that Wittgenstein thought the notion required emendation (more on this later), therefore in this Section I restrict myself to discussion surrounding the answer Wittgenstein provided in 6.3751.

It appears then, that the general claim Wittgenstein makes here is this: that two colours occupy the same surface simultaneously is logically impossible, and this logical impossibility could be shown apparent when a complete analysis of "the logical structure of colour" is fleshed out. What then, is the purpose of the "particle" example? Frank Ramsey offers an interpretation, as well as a rejection, in his review of *TLP* (1923, p. 473):

"...[H]e [Wittgenstein] says that "This is both red and blue" is a contradiction. This implies that the apparently simple concepts red, blue (supposing us to mean by those words absolutely specific shades) are really complex and formally incompatible. He tries to show how this may be, by analysing them in terms of vibrations. But even supposing that the physicist thus provides an analysis of what we mean by "red," Mr Wittgenstein is only reducing the difficulty 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. For example, considering between in point of time as regards my experiences; if B is between A and D, and C between B and D, then C must be between A and D; but it is hard to see how this can be a formal tautology."

It seems that Ramsey conceived of Wittgenstein's solution as reducing statements of "A

is red" to statements of what physics says about colours, e.g. "A reflects light with the wavelength of *x* nanometres." If this really was what Wittgenstein meant, then I reckon Ramsey is right in saying that pushing colour incompatibility back one step towards spatial incompatibility does not help solving the problem: If "C is between A and D" tautologically follows from the spatial locations of these points, the Tractarian doctrine should say that it is *shown* by its logical

form (4.12), but in Ramsey's example this does not seem to be the case. Has Ramsey successfully refuted Wittgenstein's answer, then? I think not, since it appears to me that propositions about colour should be reductively analysed is hardly Wittgenstein's point in 6.3751, his point rather, is that propositions about a particle being at two places at the same time, or moving at two speeds at the same time (with respect to the same reference point), commit the same kind of contradiction as a surface's having two colours at the same time. If the "how this problem manifests itself in physic" is understood as a group of propositions stating propositions that appear to be about physical facts, e.g. "that surface is both deep blue and light blue", or "the temperature cannot be both 40 degrees and 30 degrees at the same", it seems that Wittgenstein is employing an analogy to show that all these propositions show some sort of contradiction, and the he believes that instead of contradictions about facts of physics, they show a logical impossibility. The uncovering of the logical structure of these propositions, then, should make the contradiction plain to see. To say this, however, Wittgenstein commits to two things: First, the truths of elementary propositions are independent nonetheless. Second, propositions about determinates are not elementary, in the sense that they need to be further analysed. How this analysis is to be achieved, is a task he understood in "Some Remarks on Logical Form" years later.

III. Section 2 – "Some Remarks on Logical Form"

"Some Remarks on Logical Form" (*RLF*) was originally a paper that Wittgenstein was to read during a meeting at the Aristotelian Society in 1929, but he abandoned the plan and talked about infinity instead, presumably due to his dissatisfaction with it (Rhees, 1975, p. 349). However, it 31

was also a work that devoted great attention towards the colour exclusion problem and, more importantly to Wittgenstein, how the problem leads to his rethinking on the doctrines in the Tractatus. For these reasons, I briefly discuss the proposal outlined here in this section. It involves two steps, both in the spirit of modifying the logical syntax in the Tractatus: The first was that real numbers must entre into elementary propositions - so that "the irreducible propositions attributing degrees of quality (whether colour, pitch, length, temperature or whatever) have the same logical multiplicity as the quality they attribute" (Hacker, 1986, p. 109, emphasis mine); and the second was the suggestions that for elementary propositions to exclude (not contradict) one another, the rules for logical connectives must be modified. Note that these are not two independent "solutions" to the problem, since, as the succeeding discussion shows, there are serious problems with the first step that already calls its own plausibility into question, not to mention having it as a stand-alone answer to the colour exclusion problem. In an effort to bring out what considerations Wittgenstein had in writing the paper, I will first present these two steps in turn in what follows. I will critically engage the first step of his proposal, as I think it is implausible; In explaining the second step, I focus on what in this solution is in line with his later thoughts on the colour exclusion problem.

The pith of Wittgenstein's "first definite remark" – the first step of his proposal in *RLF*, that numbers must entre into elementary propositions, is best demonstrated by his example (1929, p. 165):

"Imagine a system of rectangular axes, as it were, cross wires, drawn in our field of vision and an arbitrary scale fixed. It is clear that we then can describe the shape and position of every patch of colour in our visual field by means of statements of numer which have their significance relative to the system of co-ordinates and the unit chosen. Again, it is clear that this descriptio will have the right logical multiplicity, and that a description which has a smaller multiplicity will not do."

In this way, "A is red" is analysed by the symbol "[6-9, 3-8]R" (*ibid.*), where "R", "yet an unanalysed term", presumably stands for the colour red as it is being co-ordinated by the segments on the grid. Wittgenstein points out that this analysis is by no means complete, as he writes: "I have made no mention of it in time, and the use of two-dimensional space is not justified even in the case of monocular vision" (*RLF*, 1929, p. 166). And yet, he did intend the method to be generally applied to all future analyses of not only visual phenomena, but "any properties admit of gradation, *i.e.*, properties as the length of an interval, the pitch of a tone, the brightness or redness of a shade of colour, etc" (*ibid*, p. 167). It should follow from this that the term "R" should be further analysed according to its brightness, hue and other qualities.

Commentators have very little to say about this first step of Wittgenstein's (see, e.g. Sievert (1989), Austin (1980), Jacquette (1990)), I presume that the reason for this lack of attention is that, as evidenced by his subsequent works, he abandoned the notion of "elementary propositions" very soon (Hacker, 1986, p. 112). Indeed, the beginning of his rethink on this notion is shown immediately after the announcement of his first step (introduced above), and his re-introduction of the colour exclusion problem:

"The mutual exclusion of unanalyzable statements of degree contradicts an opinion which was published by me several years ago and which necessitated that atomic propositions could not exclude one another. I here deliberately say 'exclude' and not 'contradict', for there is a difference between these two notions, and atomic propositions, although they cannot contradict, may exclude one another." (*RLF*, 1929, p. 168)

Wittgenstein remarks, analogically, that the point of "exclude, but not contradict", is that there are functions which can only give a true proposition one value of their argument because there is only *room* for one, in the same sense that there is only enough room for one person in a chair (*ibid*, pp. 169-70). He thereby begins the second step of his paper: After writing "the colour R at time T in a certain place P" as "RPT", and another colour B in P at T "BPT", Wittgenstein claims that the mutual exclusion of these two propositions are as represented by the truth table T1, as opposed to the truth table we usually have for the logical products of any two propositions (*p* and *q*) – T2:

T1		T2			
RPT	BPT		р	q	
Т	F		Т	Т	Т
F	Т		Т	F	F
F	F		F	Т	F
			F	F	F
	T1 RPT T F F	T1RPTBPTTFFTFF	T1RPTBPTTFFTFF	T1 RPT BPT T F T F F T F F F F	T1 T2 RPT BPT p q T F T T F T F F F F F F F F F F

As shown, the truth-value assignment "TTT" on the first row of T2 is missing in T1. The reason for this arrangement, according to Wittgenstein, is that T2 represents the truth-value assignment of logical conjunction, while T1 represents the "true possibilities" of the combination of RPT and BPT. In other words, T1 represents the mutual exclusion of RPT and BPT by *omitting* the possibility of both of them being true at the same time. This is to say that it is

impossible for "RPT and BPT" to even be false (i.e. contradictory), since there is no chance for any truth value to be assigned. This reflection is a step forward from the treatment of the problem from the *Tractatus*, since according to it, the *contradiction*, logical contradiction, between RPT and BPT can be ultimately revealed once each proposition is completely analysed — eventually, we should assign "TTF" to "RPT and BPT". But this is absurd, as the following truth-table (T3) is by no means a correct *logical* notation of conjunction – according to the doctrines of the *Tractatus*, the formulation should be nonsensical anyway (see Jacquette 1990, p. 355 for discussion):

T3					
RPT	BPT				
Т	Т	F			
Т	F	F			
F	Т	F			
F	F	F			

However, one could hardly feel that this is a step towards any solution, surely this is merely another way of conveying the same message: using truth value assignments to demonstrate colour exclusion is one thing, *explaining* why they exclude each other – the reason for such an assignment – is another. Did Wittgenstein think that this talk of exclusion made any advancement at all? What he is suggesting, it seems to me, is that *given* that colour exclusion is a *fact*, T1 surely is the only correct truth possibilities RPT and BPT can have. It is then a defect of our formal notation that T1 is yet to be represented, because trying to capture colour exclusion 35 with the logical notation of conjunction results in, instead, nonsensical constructions such as T3 (*RLF*, 1929, pp. 170-1). If our initial formal notation is defective, ordinary language – English, more specifically – is misleading, in a sense that the use of "and" allows for both "this surface is both red and brown" and "he is both clever and modest". The *fact* of exclusion, should be ultimately represented by "a perfect notation", with "definite rules of syntax", and such a result is to be achieved by "the ultimate analysis of the phenomena in question" (*ibid*.).

I understand Wittgenstein's insistence that colour exclusion – T1 – needs to be properly captured by a perfect notation as an addendum of the picture theory of language he had in the *Tractatus*. The reason why a proposition, which has a logical structure can be assessable for being true or false, is because of the *internal pictorial relation* it holds between it and the world (*TLP* 4.014). To the Tractarian system, T1 is an anomaly, for reasons outlined in the last section. Here, Wittgenstien suggests that for the *fact* of colour exclusion to be captured by our language, the "perfect notation" ought to be able to reflect that logical structure – exclusion. It ought to be able to complete the picture, or more precisely, the pictorial relation between by being the other relatum, so to speak. If understood this way, we might be able to make out why Wittgenstein remarked, at the end of RLF, that the rules that allow the "perfect notation" to *picture* exclusion is to be laid down "until we have actually reached the ultimate analysis of the phenomena in question." The analysis of the "phenomena" should not be understood as the analysis of purely "scientific phenomena" or "physical phenomena", but the analysis of the phenomena of exclusion in general as a logical-linguistic analysis. We are uncovering the logical structure that the phenomena and the propositions about the phenomena shares. The truth-tables above show

that the Tractarian framework has mistaken exclusion for logical contradiction, thus rendering the Tractarian machinery inadequate for the colour exclusion problem. If this is the way to understand the second step, then it is not independent of the first step (pace Hacker, 1986, p. 109), since the first step is clearly a suggestion as to how "the ultimate analysis" is to be achieved. It is then also missing the mark to say that in RLF Wittgenstein was trapped with having to rely on "a posteriori analysis" (Jacquette, 1990, p. 361), since we are not concerned, primarily, with what science or physics say about the phenomena. Instead, we are reflecting on the logical-linguistic structures the propositions and the phenomena share, as Wittgenstein would believe. In fact, it is quite baffling to me how this concluding passage should be read as completely a posteriori at all. If propositions about colour exclusion, about statements of degree, or about other determinants (such as the weight of something) all face the same problem, do we expect to investigate the empirical phenomena of light reflection of surfaces, the phenomena of shades of colours, the phenomena of mass respectively, and expect them to yield a common solution? Surely, the "analyses" about the "phenomena" here should be the linguistic analyses on the logical structure, shared by all phenomena in question – we analyse the *rules* of forming these propositions hidden by natural languages.

Having presented Wittgenstein's views, I now assess them in turn. My objection for Wittgenstein's first step – that real numbers must entre into elementary propositions, apart from the minor complaint that by using numbers to regiment the environs of one's visual field make elementary propositions extremely complicated, is that by the specific employment of the notion of visual fields, propositions that are initially about *objects* are pushed "inwards" into the perceivers somehow, as visual fields could only belong to organisms with visual capacities. Granted, the propositions "to a, [6-9, 3-8]R" and "to b, [4-7, 1-6]R" (both analysed from the original proposition "A is red") are not contradictory (regardless of whether "R" is completely analysed), but what are they propositions about? Are they about the object, or are they about the object as it *appears* in different people's visual fields?

Note that by "as it appears", I do not assume a theory of perception: A naïve realist may well say that A is red just is how it is, a representationalist may say that A is represented as being red due to the properties of its surface etc. My point is that by adopting the talk of visual fields, which letting real numbers into elementary propositions would have to do, it seems a bit of a stretch to say that they still "assert the existence of a state of affairs" (TLP, 4.21). Surely, our object A can be regimented by different spatial coordinates in different people's (or by one person on different occasions) visual fields, but do all these propositions, as results of these regimentations, state the same state of affair, or different ones? Neither option seems desirable. If the latter, then we lose the spirit of the analysis of colour statements: It is very hard to imagine that one statement "A is red" is to be analysed into potentially infinite amount of propositions, each of them elementary – that is, their truth-values are determined independently of each other, and yet all of them combined (through what possible means? Conjunction?) somehow determines the truth value of "A is red"? Suppose that all statements about each individual's visual fields are partially wrong to the same degree. Suppose, for example, if a were to report a patch in his visual field as "[6-9, 3-8]R" when it is in fact "[4-7, 1-6]R", and everyone else's reports deviate in the same way. Now, apparently all these reports are false, but it is not the case

that the falsehood of these reports had anything to do with A being red – failing to correctly identify the correct location of a red patch in one's visual field simply does not mean one misidentifies the colour as well.

So much for beating up this dead horse. If Wittgenstein's abandonment of logical atomism, as well as the notion of "elementary proposition" with it, is good enough a reason to reject the first step suggested in RLF, what then, about the second? Should the second step not be rejected on the same ground, since it too demands a "perfect notation", that is able to tell us how the exclusion happens amongst atomic propositions? I think it is not that the second step contains absolutely no truth at all. On the contrary, if we gave up on the effort to find such a notation, it does not affect our investigation into the logical structure of propositions that ascribe colours, or degrees of colours to surfaces, or weights to objects, etc. As Sievert (1989, p. 306) observes, towards the end of RLF there is, for the first time, the talk of a *rule* forbidding one to say that "this space is both red and green at the same time". Sentences can, of course, have a structure similar to this, as in "that comment is both stylish and modest". But the apparent similarity in structure is only a similarity in how two groups of signs are strung together – it does not contribute to the meaningfulness of both sentences, for the latter makes perfect sense and the former is nonsensical. They are so, precisely because the rule determines the meaningfulness of colour attributions, and from which attributing more than one colour to the same surface is forbidden, is different from that which determines the meaningfulness of the attribution of "stylish", "modest" etc. The task that RLF left off, then, is to make explicit the occasions for the

use of such rules. As we shall see in the next Section, this is indeed the direction Wittgenstein took in his latter discussion of the matter.

III. Section 3 – The Answer in *Philosophical Remarks*, and its Connections to Wittgenstein's Later Discussions

The continuation of the thoughts in "Some Remarks on Logical Form" (1929) is immediately

evident in Chapter VIII of Philosophical Remarks (1975).¹⁵ I present this continuation in the

following aspects:

(1) It is evident from the quotes below that Wittgenstein continues to uphold that

colour exclusion means the logical impossibility of the truth of "A is red at t" and

"A is green at t". This, in turn, means that for particular propositions, the

conjunction connective yields a different truth function:

¹⁵ *Philosophical Remarks* (1975) was originally a typescript given to Rush Rhees – who edited the book – by G. E. Moore after Wittgenstein's death. We are told in "Editor's Note" (written by Rhees) that the typescript itself contains manuscripts written between February 2nd and the last week of April, 1930. So earlier part of the book should be written around the same time "RLF" was, which was written for the Aristotelian Society and Mind Association Joint Session in July, 1929.

"The proposition $f(g) \cdot f(r)$ isn't nonsense, since not all truth possibilities disappear, even if they are all rejected. We can, however, say that the '· ' has a different meaning here, since ' $x \cdot y$ ' usually means (TFFF); here, on the other hand, it means (FFF)." (§79, p. 107)

"...[W]hat I said in the *Tractatus* doesn't exhaust the grammatical rules for 'and', 'not', 'or' etc.; there are rules for the truth functions which also deal with the elementary part of the proposition." (§82, p. 109)

(2) This change of truth function is the result of the "completeness" of propositions

attributing colour, pitch, or the degree of colour or pitch:

"That two colours won't fit at the same time in the same place must be contained in their form and the form of space." (§78, p. 107)

"A mixed colour, or better, a colour intermediate between blue and red is such in virtue of an internal relation to the structures of blue and red... That is, it doesn't consist in the proposition 'a is blue-red' representing a logical product of 'a is blue' and 'a is red'.

To say that a particular colour is now in a place is to describe that place completely." (§80, p. 108)

(3) It is also evident that Wittgenstein continued his rethink on the status of

elementary propositions, as well as how grammar, a notion that Wittgenstein later

eccentrically employed, comes into the picture:

"The concept of an 'elementary proposition' now loses all of its earlier significance.

The rules for 'and', 'or', 'not' etc., which I represented by means of the T-F notation, are *a part* of the grammar of these words, but nor *the whole*." (§83, p. 111)

The advancement from notions in "Some Remarks on Logical Form" however, is

seemingly made in the following passage:

"... [P]ropositions turn out to be even more like yardsticks than I previously believed. – The fact that *one* measurement is right automatically excludes all others. I say automatically: just as all the graduation marks are on *one* rod, the propositions corresponding to the graduation marks similarly belong together, and we can't measure with one of them without simultaneously measuring with all the others. - It isn't a proposition which I put against reality as a yardstick, it's a *system* of propositions.

We could now lay down the rule that the same yardstick may only be applied once in one proposition. Or that the parts corresponding to different applications of one yardstick should be collated." (§82, pp. 110)

How do we understand that "propositions are like yardsticks"? We find further

explanation of this claim in notes by Friedrich Waismann, printed as part of the addenda to the

Remarks:

"...[W]hen I lay a yardstick against a spatial object, I apply *all the graduation marks simultaneously*. It's not the individual graduation marks that are applied, it's the whole scale. If I know that the object reaches up to the tenth graduation mark, I also know immediately that it doesn't reach the eleventh, twelfth, etc. The assertions telling me the length of an object form a system, a system of propositions. It's such a whole system which is compared with reality, not a single proposition. If, for instance, I say such and such a point in the visual field is *blue*, I not only know that, I also know that the point isn't green... I have simultaneously applied the whole colour scale. This is also the reason why a point can't have different colours simultaneously; why there is a syntactic rule against *fx* being true for more than one value of *x*. For if I apply a *system* of propositions to reality, that of itself already implies - as in the spatial case - that in every case only *one* state of affairs can obtain, never several."

The analogy, between the completeness of the use of "A is red" or "A is 3 metres long"

with some kind of measurement, is not hard to follow. But still, I raise two questions from the

passage above. The first is the meaning of "know" in "if I *know* that it reaches up to the tenth graduation, I also *know* immediately that it doesn't reach the eleventh..." How do I know? If "know" means "it follows that" or "it can be deduced that", then it is natural to ask for the reason why it follows, or the reason for such a deduction to be made. In Waismann's discussion of the same issue in *Principles of Linguistic Philosophy* – a book owing much to Wittgenstein and discusses many ideas in *Philosophical Investigations* in a systematic manner, the same terminology is employed:

"If a proposition q follows from $p, p \sim q$ must be a contradiction. Applying this law to our case, we see that 'Something is both red and green' is a contradiction and therefore meaningless..." (Waismann, 1965, p. 59)

Again, what makes "A is not green" *follow* from "A is red"? Surely, to someone that accepts that a surface can be two colours at the same time, "A is not green" *may not* follow from "A is red", and the contradiction would not arise? Waismann's answer, as well as Wittgenstein's, is that it follows according to the grammatical rule about these statements. Wittgenstein stated this in the passage in §82 quoted above, and Waismann's notes about the yardstick example shows the same idea. Waismann, on the other hand, stresses this point time and time again in the *Principles* (1965), e.g. on p. 58:

"... [T]he sentence 'red and green cannot exist in the same place' is a veiled grammatical rule, which forbids the formation of the word-sequence 'something is red and green simultaneously'."

And on p. 59:

"The incompatibility is due, not to our having up to now failed to experience anything which would be described by any of these sentences, but to their not describing anything; they offend against the rules of logical grammar." If this link between colour exclusion and Wittgenstein's notion of grammatical rules is thus made, a comprehensive account of colour exclusion as a logical ("grammatical", in Wittgenstein's sense) impossibility can be offered based on Wittgenstein's notion of rulefollowing, particularly according to the doctrines in Part I, §138 - 242 of *Philosophical Investigations*. As I have claimed at the beginning of Part III however, offering such an account requires a deep understanding of Wittgenstein's later philosophy and is, then, a subject for later studies. I here merely suggest that a link between Wittgenstein's solution to colour exclusion problem in his "middle period" (includes the time he worked on "Some Remarks on Logical Form" and *Philosophical Remarks*) and his later philosophy can be made. It is therefore not impossible to deduce what the later Wittgenstein would have said about colour exclusion from his thesis of rule-following.

Let us, instead, try to summarise how colour exclusion as a rule is followed, based on what we know so far. The makings of statements such as "This rod is two feet long", "Mr. *W* is twenty years old" and "The temperature at this spot is 18 degrees" is like measuring the length of an object with a yardstick. During this process, all of its gradation marks are applied, and only one of which obtains. Following this, when we encounter a string of words like "A is both red and green simultaneously", we would not know what it means, since the formation of which is a blatant violation of how such statements are made. The effect of this is that it becomes pointless to try to answer "but does it look like if A is both red and green?": Because we do not know the meaning of the question, we do not know *where to look* for an answer. This step of reasoning is shown in the *Blue Book*, where colour exclusion is very briefly mentioned with the problem of

the knowledge of other minds, or more specifically, the problem of knowing other people's pain (1958, pp. 55-6). I will not assess whether this parallel is drawn aptly – as Wittgenstein obviously thought that both problems arise out of the abuse of ordinary language. All I need is that whatever Wittgenstein said about both issues in this short passage applies to the colour exclusion problem.

Mostly notably, Wittgenstein abandons the bench analogy that he once employed in RLF – "three men can't sit side by side on a bench a yard long" – for a new one: "3 * 18 inches won't go into 3 feet". The reason for this change, according to him, is that the latter is "a grammatical rule and states a logical impossibility", while the former states a physical impossibility: the former is an impossibility in a "stronger" sense. If colour exclusion is analogical to the "inches" example but not the "bench" one, it then follows that Wittgenstein wished to remind us that we would indeed go astray if we state colour incompatibility *as if* we are stating something about physics or phenomenology. If we confuse a physical impossibility with a logical one, we confuse what *is* not with what *cannot be*. Unfortunately, in the remainder of the passage, or indeed the remainder of the book, colour exclusion is not mentioned again, so an exact formulation of colour statements as a grammatical rule has to be deferred to further analysis.

The second question I would like to raise, against the account we presume Wittgenstein has developed, is what exactly is this hidden "system of propositions" that is applied when we say things like "A is red"? It is easy to explain when it comes to attributing lengths, because in which case we are literally applying a ruler, but what about colours? To again suggest a connection from this to Wittgenstein's later thoughts, I propose that this "system of propositions" about colours becomes the logical relationship between colours in his Remarks on Colours

(1977). Already at the beginning of Philosophical Remarks (1975), Wittgenstein mentions "the

colour octahedron":

"An octahedron with the pure colours at the corner-points e.g. provides a *rough* representation of colour-space, and this is a grammatical representation, not a psychological one...

Using the octahedron as a representation gives us a *bird's-eye view* of the grammatical rules." (§1, pp. 51-2)

Much later in the book (§221, pp. 278), we get an illustrated version of the octahedron:



The concept makes another appearance later in Remarks on Colour:

"What constitutes the decisive difference between white and the other colours ? Does it lie in the asymmetry of the relationships ? And that is really to say, in the special position it has in the colour octohedron? " (Part III, §197, p. 44e)

This shows that Wittgenstein believes that the colour octahedron indeed captures the

conceptual relationships between colours. It follows from this that the "system of propositions"

indicated in Philosophical Remarks should reflect these relations: When one attributes a colour

to a surface, the rules to make this attribution is the system of colour octahedron that we are

applying. It is, of course, up to debate whether colour octahedron does genuinely reflect the 46

relations between our colour concept, indeed Wittgenstein himself questions whether other forms

of grammatical rules about colours are possible:

"Can't we imagine certain people having a different geometry of colour than we do?' That, of course, means: Can't we imagine people having colour concepts other than ours? And that in turn means: Can't we imagine people who do not have our colour concepts but who have concepts which are related to ours in such a way that we would also call them 'colour concepts'?" (*Remarks on Colour*, Part I, §66, p. 11e)

To answer this question we would have to delve much deeper into Wittgenstien's later

thoughts on colour, a project I cannot possibly pursue here. What I hope to do is to connect

Wittgenstein's ideas on the structure of colour concepts in Philosophical Remarks to his later

thought, so that his answer in the book seems more complete.

Conclusion

In this work, I have mainly tried to discredit the view that "Laws of Appearance", as listed by Pautz (2017; 2020), are one group of propositions that governs how our experience, particularly the phenomenology of our experience, is organised. In Part I, I analysed McGinn's and Pautz's starting points, or their theoretical underpinnings for developing the "Laws of Appearance" thesis respectively. I conclude the part with the view that "Laws of Appearance" arise out of the absence of answers to the question "what kind of representational content can have phenomenology, and what cannot". In Part II, I chose to analyse the "No Logical Structure" law, that you cannot have the representational content of an experience in the form of disjunction. I argue that although we can have representational content of belief, thought etc. in disjunctive form, we cannot have it as a representational content of experience, since the form is not available from phenomenology. In Part III, I illustrate Wittgenstein's development of answers for the colour exclusion problem. The constant theme of Wittgenstein's answers is that colour exclusion is not a thesis about the phenomenology of our experience, but the logical structure of colour propositions. I suggest that by understanding colour exclusion this way, we avoid needing

a theory of perception to provide an answer to colour exclusion at all. In short, colour exclusion is not a "Law of *Appearance*". I hope that the contents of Part II and Part III together show that at least some "Laws of Appearance" arise from independent origins, therefore it is not up to a theory of perception to explain all of them as a whole.

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