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FREGE ON INFORMATIVE IDENTITIES BETWEEN STATEMENTS

NORA GRIGORE[1]

Abstract: The Frege-Husserl correspondence can be fruitfully explored so as to provide new insight into the paradox of analysis. Why are some identifies informative and others not? And how could we ascertain the issue if under scrutiny are mathematical identities, necessarily true if true at all? This text articulates the distinction between logical and semantic criteria in order to clarify a possible Fregean solution to the paradox of analysis, starting from regarding analysis as generating particular cases of Frege puzzles.

Keywords: paradox of analysis; Frege's puzzle; informative identities; Frege-Husserl correspondence.

1. The Problem

According to Frege, "[a]ll sentences that express a true thought have the same meaning, and all sentences that express a false thought have the same meaning (the *True* and the *False).*"[2]

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[2] Gottlob Frege, "Notes to Ludwig Darmsaedter", in *Posthumous Writings*, p. 225. In the discussion to follow, I replace "sentence" with "statement" in order to emphasize what users do with such sentences and the senses they express. As for "meaning", and its notorious ambiguity, I appeal to Fregean semantical considerations below so as to address

This is the kernel of the problem. And this is a problem not necessarily because this tenet, that all true statements are identical, is very counterintuitive, as Frege himself admits. No matter how strange this may sound (though strange, this tenet has strong arguments in its favor and many advantages) it does not mean that we could not or should not make any distinction between statements that have the same truth-value. This is a problem because this manner of seeing the reference of statements obscures the difference between informative identity statements and uninformative identity statements. In order to be able to maintain that there are informative identities – like the definition of number – one should be able to distinguish between at least three kinds of identity statements: the ones that have only their reference in common (and a completely different sense and a different linguistic expression), the ones that have their sense and their reference in common (only the linguistic expression is different), and statements that have their reference in common and have logically related-but-not-identical senses (the *informative ones*).

The focus of this essay is to find theoretical resources within the Fregean framework that enable us to distinguish between these three kinds of identity statements. On this theoretical ability rests the entire Fregean claim of being able to construct "fruitful definitions" like the definition of number.

Frege is famous for providing an elegant explanation for the difference between "trivial identities like "a=a" and informative identities like "a=b" ". The famous explanation is that the reference (*Bedeutung*) is the same but the sense (*Sinn*) is different for informative identities – which is not the case for uninformative identities. The question is: can we have the same kind of explanation for identity statements, i.e. for the case where "a" and "b" stand for propositions rather than singular terms. The difficulty is this: Singular terms were not said to have all of them the same

it. Many thanks to an anonymous reviewer for suggesting that a final account of the issue should consider Heck and May's (2020) approach. Here, however, I only sketch a possible solution to the paradox of analysis, and retrace it in the Frege-Husserl correspondence, rather than embark on an original account of meaning.

reference. Therefore, it was easy to distinguish between all kinds of different of identities. For example, it is clear how we distinguish between "Morning Star = Evening Star" and "Evening Star = planet Venus" on the one hand, and "Walter Scott = author of Waverley", on the other hand.[3] It is easy to explain why the first two identities are more closely related and have nothing to do with the third (the first two have the same object as their reference, while obviously this is not the case with the third). But it is not easy to explain in Fregean terms why identities like

a) 2(12–8) = 2 (2(6-4)) and 2(12–8) = 8

are more closely related between them than

b) 2(12–8) = 8 and another random true identity statement like 620 – 20 = 600.

In Fregean terms, all these identities have the same reference – the truth – and all have a different sense from one another, making it difficult to explain the distinction between a) and b).

2. The Significance of the Problem

To have an explanation about how and why informative identity statements differ from uninformative ones is important from at least two perspectives. First, it is important as a response to the paradox of analysis.

The paradox of analysis appears under this specific name especially in connection with G.E. Moore, namely when C. H. Langford questions Moore's notion and method of analysis.[4] Frege's own formulation of the

[3] For related discussion in Romania, see Dumitru (2004, pp. 54–55).

[4] "It is indeed possible to deny that analysis can be a significant philosophical or logical procedure. This is possible, in particular, on the ground of the so called paradox of analysis, which may be formulated as follows. Let us call what is to be analyzed the *analysandum*, and let us call that which does the analyzing, the *analysans*. The analysis then states an appropriate relation of equivalence between *analysandum* and the *analysans*. And the paradox of analysis is to the effect that, if the verbal expression representing the *analysandum* has the same meaning as the verbal expression representing the *analysans*, the

paradox of analysis can be found in his review to Edmund Husserl's *Philosophie der Arithmetik*,[5] where the dilemma is presented as a Husserlian objection:

> "If words and combinations of words mean ideas, then for any two of them there are only two possibilities: either they designate the same idea or they designate different ideas. In the former case, it is pointless to equate them by means of a definition: this is an 'obvious circle'; in the latter case is wrong. These are also the objections the author raises [i.e. Husserl], one of them regularly. A definition is also incapable of analyzing the sense, for the analyzed sense is just not the original one. In using the word to be explained, I either think clearly everything I think when I use the defining expression: we then have the 'obvious circle'; or the defining expression has a more richly articulated sense, in which case, I do not think the same thing in using it as I do in using the word to be explained: the definition is then wrong."[6]

The dilemma stems from (at least apparently) conflicting requirements: in order to be correct, the right and the left side of an identity statement should have something in common; on the other hand, in order to be non-trivial, the two sides of the identity must also incorporate significant differences. This trait of the dilemma becomes visible under a formulation preserving the general form of the problem; Michael Beaney provides one in his article "*Sinn, Bedeutung* and the paradox of analysis":

> "Consider an analysis of the form 'A is B' where A is the *analysandum* (what is analysed) and B the *analysans* (what is offered as the analysis). Then

analysis states a bare identity and is trivial; but if the two verbal expressions do not have the same meaning, the analysis is incorrect." (in C.H. Langford, "Moore's Notion of Analysis", p. 322).

[5] In 1891 Husserl's *Philosophie der Arithmetik* was published; several points from Frege's *Grundlagen* (1884) are criticized here, including the crucial definition of number by means of one-to-one correlation. Frege's reply comes in 1894, when his review of Husserl's *Philosophie der Arithmetik* was published in *Zeitschrift fur Philosophie und phil. Kritik,* vol. 103.

[6] Gottlob Frege, "Review: Husserl, Philosophy of Arithmetic" in *Collected Papers on Mathematics, Logic and Philosophy*, p. 199.

> either 'A' and 'B' have the same meaning, in which case the analysis expresses a trivial identity; or else they do not, in which case that analysis is incorrect. So no analysis can be both correct and informative."[7]

Possible ways out of the paradox will usually distinguish between two elements of the identity: one that stays the same or both sides and one element which differs from one side to another of the identity. The element which stays the same will account for the correctness of the identity relation. And the relevant difference between terms will account for the informativeness of the identity, that new piece of information obtained by acknowledging the identity. Frege's answer to Husserl's objection above follows the same patters: his distinction between *Sinn*[8] and *Bedeutung* can be seen as a possible answer to the paradox of analysis. Obviously, the identity statement would owe its correctness to the sameness of *Bedeutung* and its informativeness to the difference in *Sinn.* The aim of this essay is to see if there is a way to have a similar kind of solution for the case of identity between statements, not only between singular terms.

Secondly, the problem is important in the context of Frege's own work. It is important to see if there is an explanation for Frege's claim that certain special identity statements are more informative or "fruitful" than others.

3. A Fregean Solution: the Middle Ground

Recall that the problem is to distinguish between three kinds of identity statements with instruments provided by the Fregean framework. The aim is to delineate a certain category of identity statements that belong to the 'different sense situation' but constituted as a special class inside this category: the statements that have different-but-logically-related senses.

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[7] Michael Beaney, "*Sinn, Bedeutung* and the paradox of analysis", p. 289.

[8] I will use the German word "*Bedeutung*" each time the Fregean understanding of reference comes into discussion; the term "*Sinn*", however, will be occasionally translated as "sense".

This is what I have called "the middle ground". Finding them is the central issue here because they are the most plausible candidates for having both certitude (due to the deductive relation between their senses) and informativeness (due to the difference between their senses).

I will try to show, in what follows, that even if Frege's account of criteria for distinguishing them from the rest is not a clear and complete one, it is less hopeless than it is usually believed. At this point I will try to make clear that there were plausible reasons to maintain the opposite view, but that they are not decisive.

The 'different sense situation' can be divided into two other categories: identities that have identical reference and related senses and identities that have identical reference and completely unrelated senses. The difficulty consists in finding the appropriate criteria for distinguishing situations that involve related senses from both situations involving unrelated senses and situations involving identical senses. In other words, a middle ground must be found between sense that are "too closely related" (i.e. identical) and senses that are too far from each other (i.e. completely unrelated). The middle ground must be situated between these two extremes and, consequently, we must find criteria to distinguish it from both.

Frege offers a criterion to distinguish between two statements with related senses and two statements with unrelated senses. The criterion appears in a letter to Husserl dated 9 December 1906:

> "It seems to me that an objective criterion is necessary for recognizing a thought as the same, for without it logical analysis is impossible. Now it seems to me that the only possible means of deciding whether proposition A expresses the same thought as proposition B is the following, and here I assume that neither the two propositions contains a logically self-evident component part in its sense. If both the assumption that the content of A is false and that of B true and the assumption that the content of A is true and that of B false lead to a logical contradiction, and if this can be established without knowing whether the content of A or B is true or false, and without requiring other than purely logical laws for this purpose, then nothing can belong to the content of A as far as it is capable of being judged true or false, which does not also belong to the content of B; for there would

> be no reason at all for any such surplus in the content of B, and according to the presupposition above, such a surplus would not be logically self-evident either. In the same way, given our supposition, nothing can belong to the content of B, as far as it is capable of being judged as true or false, except what also belongs to the content of A. Thus what is capable of being judged true or false in the contents of A and B is identical, and this alone is of concern to logic, and this is what I call the thought expressed by both A and B... Is there another means of judging what part of the content of a proposition is subject to logic, or when two propositions express the same thought? I do not think so. If we have no such means, we can argue endlessly about logical questions without result."[9]

The above criterion is restated by Michael Beaney in the following abridged form:

> "(SLE) Two propositions A and B possess the same *sense* (express the same thought) iff 'both the assumption that the content of A is false and that of B true *and* the assumption that the content of A is true and that of B false lead to a logical contradiction, and ... this can be established without knowing whether the content of A or B is true or false, and without requiring other than purely logical laws for this purpose.' "[10]

The criterion makes use of the relation of equivalence between statements, but this is not the only condition it imposes. The specification that we should be able to establish that both statements have to have the same truth-value without knowing their truth-value individually is quite important. This is the condition that establishes a difference between the situation when the two statements *must* have the same truth-value and the situation when they *may* have the same truth-value by mere coincidence. This condition eliminates the possibility that the two statements have the same truth-value simply by chance, as opposed to having the same truth-value as a result of a connection between their senses. In other words, the above condition excludes the situation when

[9] Gottlob Frege, Letter to Husserl, 9 December 1906, in *Gottlob Frege. Philosophical and Mathmatical Correspondence*, pp. 70–71.
[10] Michael Beaney, *Frege: Making Sense*, p. 228.

we would first know the truth-value of one statement, then find out the truth-value of the other statement, and then we would notice that the truth-values coincide and we would declare the statements equivalent. By contrast, the situation described by the condition above is that we acknowledge the coincidence between truth-values *without* knowing which are the truth- values for each statement (i.e. we know that they must have the same truth-value, regardless of the fact that the truth-value is the false or the truth). This is the condition that reveals the dependence in sense between the two statements by 'translating' it into conditions for truth-values. The dependence in sense is tested by a simple method: in order to find out if two things are connected, we must make a change to one of them and see what happens to the other. In this case, if the two statements have related senses (i.e., if they are connected in this way, too), then the change brought to one should reverberate on the other side of the identity sign. For example,[11] in the case of

$$(462 + 864 = 1326) = (1820 + 672 = 2492)$$

there is no reason to assume that if one of them is false, so is the other. As a matter of fact, both are true. But being unrelated, one mistake on the one side would not affect in any way the other side. On the other hand, in the case of

$$(462 + 864 = 1326) = (2(231 + 432) = 1326)$$

we know that the right side and the left side must stand or fall together even *before* making the calculations in order to know if they are true or false.

This is why the criterion presented can be used to make the distinction between cases of completely unrelated senses and cases of related senses. The problem it raises, however, is the nature of this "relatedness" of senses: is this supposed to be identity or something weaker than identity? The answer emerges if we take into consideration that this criterion is presented as a criterion for *sameness of sense*.

[11] The "=" sign is, of course, used here in the same way Frege uses it, i.e. in order to express sameness of reference; in this case, sameness in truth-value.

Consequently, it makes no distinction between situations of identity of sense and senses not identical but somehow related. It cannot be used as a criterion for this distinction. Metaphorically speaking, this criterion separates the relevant identities from one extreme, but it merges them with the other extreme, namely with the 'same sense situation'. Tested, both cases react in the same way: change on the one side reverberates on the other side (in one case because of the identity, in the other because of the relatedness, in both cases, therefore, because of the common ground). It might be thought that the solution is to bring a second criterion, which would separate between the other extreme and the "middle ground"; this new criterion should be based on difference in sense instead of revealing the common ground. But Frege's criterion itself makes this approach implausible because it makes the distinction appear as illegitimate. According to the above quote, all statements that have the same sense stand in a relation of equivalence (plus the above condition) and all statements standing in a relation of equivalence (plus the above condition) have the same sense (i.e. there is a double implication between 'same sense statements' and 'equivalent statements'). Or, what I have called "middle ground", the informative identities do stand in a relation of equivalence; the resulting conclusion is that the informative identities also share the same sense.

The more serious reason why scholars assume that informative identities are 'same sense situations' rather than 'different sense situations' now becomes clear. The criterion given by Frege seems to point toward this conclusion. The reasoning is quite plausibly sound: a) the criterion for *sameness of sense* is logical *equivalence* so that equivalence implies sameness of sense and sameness of sense implies equivalence; b) between statements involved in informative identities there is a relation of equivalence. The conclusion seems unavoidable: informative identities are same sense situations.

But the Fregean account is not so straightforward in favor of this conclusion. Indeed, the Fregean account might seem contradictory. On the one hand, it is clear from the above quote that there is a double implication between 'statements having the same sense' and 'statements

in relation of equivalence'. On the other hand, Frege himself explicitly contradicts many times one direction of the double implication, namely the implication going from equivalence to sameness of sense. In other words, there is no doubt that statements that have the same sense are equivalent; the problem is if all statements that are equivalent have the same sense. Being equivalent means having the same truth-value; therefore it is clear that the latter implication contradicts Frege's assertion that many times we do have expressions with the same reference but different senses. In the case of statements, having the same reference but a different sense amounts to having the same truth-value and expressing different thoughts. This is a famous Fregean asymmetry between sense and reference: if two expressions have the same sense they cannot have different references but if two expressions have the same reference they may have different senses. Frege expresses this point of view many times:

> "We must distinguish between sense and meaning. '$2^{4'}$ and '$4^{2'}$ certainly have the same meaning, i.e. are proper names of the same number; but they have not the same sense; consequently, '$2^{4'}$ ='$4^{2'}$ and '$4\cdot4=4^{2'}$ mean the same thing, but have not the same sense (i.e., in this case: they do not contain the same thought)."[12]

Again, when connecting the asymmetry between sense and reference with the informative identities:

> "The same object can be the meaning of different expressions, and anyone of them can have a sense different from any other. Identity of meaning can go hand in hand with difference of sense. This is what makes it possible for a sentence of the form *'A = B'* to express a thought with more content than one which merely exemplifies the law of identity. A statement in which something is recognized as the same again can be of far greater cognitive value than a particular case of the law of identity. ... If in a sentence or part of a sentence one constituent is replaced by another with

[12] Gottlob Frege, "Function and Concept", in *Translations From Philosophical Writings of Gottlob Frege*, edited by Peter Geach and Max Black, Blackwell, p. 29.

> the same meaning but not with the same sense, the different sentence or part that results has the *same meaning as the original, but not the same sense.*"[13]

And in "Logic in Mathematics":

> "From this we can see that it is possible for two signs to designate the same thing and yet, because they have different senses, not to be interchangeable as far as the thought-content of sentences in which they occur is concerned."[14]

Therefore, according to these passages and according to this quite important thesis for the Fregean framework, it cannot be the case that identical references must necessarily imply identical senses. Therefore, the relation of equivalence between statements (meaning sameness of reference) cannot imply sameness of sense. Rather, the implication seems to work only in the other direction, from sense to reference (i.e. if there is sameness in sense, there is sameness in reference and, therefore, the result is the equivalence).

Accordingly, any sameness of sense implies a relation of equivalence, but equivalence between statements does not imply their sameness of sense. On the other hand, it is clear that in the passage quoted above, Frege meant a double implication when saying that "the only possible means of deciding whether proposition A expresses the same thought as proposition B" is the equivalence relation. This seems close to contradiction.[15]

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[13] Gottlob Frege, "Notes for Ludwig Darmstaedter" in *Posthumous Writings*, p. 255.

[14] Gottob Frege, "Logic in Mathematics" in *Posthumous Writings*, p. 226.

[15] This is not my original observation. It can be also found, for example, in Jean van Heijenoort's article "Frege on Sense Identity", at page 68 when commenting on the same controversial criterion for sameness of sense: "But then we are on slippery ground. In virtue of Frege's logicism, numbers can be defined in terms of logical notions, and the biconditional $(2^2 = 4) \equiv (2 + 2 = 4)$ is certainly provable by logical laws in Frege's system. Then the two sentences, '$(2^2 = 4)$" and '$(2 + 2 = 4)$', which already have the same *Bedeutung*, namely the True, would also have the same *Sinn*. In fact, we see immediately that the two sentences not containing non-logical notions would have the same *Sinn* as soon as they have the same *Bedeutung*. And, for object names (other than sentences), we would have a similar conclusion, replacing the biconditional by identity. This is an unwanted conclusion which directly contradicts what Frege says about *Sinn*. "

Choosing between the two options does not yield satisfying results either. If we accept the above criterion with all its implications and no further comment, then the consequence is that we would have to regard all statements involved in a sound proof as having the same sense; this is highly unlikely both inside and outside the Fregean framework. If, on the other hand, we reject the double implication and accept only one direction (i.e. from sameness of sense to equivalence), then we are blatantly contradicting an explicit passage from Frege.

4. Logical *versus* Semantic Criteria

However, I think that reconciliation is not impossible, even if we stay very close to the Fregean terms. A possible way out may be found in a letter to Husserl that was dated 30 October to 1 November 1906. The way I am interpreting this text may bring coherence into this whole divided picture. The main idea is that the distinction between 'same sense'/ 'different sense' situations is simply not accessible in certain contexts. Metaphorically speaking, it might be said that a division in the area of equivalent statements between same sense and different sense statements is not "visible" from a certain point of view. This point of view is, for Frege, the logical point of view (i.e. the objective and scientific point of view). According to this interpretation, the problem with the same sense/different sense distinction is that it is a *semantic* distinction, visible and present in the natural language, but untranslatable in terms of truth-values and combinations of truth-values (i.e. inexpressible by purely logical means).

In the above mentioned letter, Frege speaks about "equipollent propositions", what we would today call logically equivalent propositions, and about the impossibility of objectively distinguishing between "merely equipollent and congruent propositions" (i.e. between propositions that have the same truth-value and the ones that share more than their truth-value, namely also their sense):

> "One should make only those distinctions with which the laws of logic are concerned. In gravitational mechanics no one would want to distinguish

> bodies according to their optical properties. ... In logic one must decide to regard equipollent propositions as differing only according to form. After the assertoric force with which they may have been uttered is subtracted, equipollent propositions have something in common in their content, and this is what I call the thought they express. This alone is of concern of logic. The rest I call the colouring and the illumination of the thought. Once we decide to take this step, we do away at a single stroke with a confused mass of useless distinctions and with the occasion for countless disputes which cannot for the most part be decided objectively. And we are given free reign to pursue proper logical analyses. Judged psychologically, the analyzing proposition is, of course always different from the analyzed one, and all logical analysis can be brought to a halt by the objection that the two propositions are merely equipollent, if this objection is indeed accepted. *For it will not be possible to draw a clearly recognizable limit between merely equipollent and congruent propositions.*[16] Even propositions which appear congruent when presented in print can be pronounced with a different intonation and are not, therefore equivalent in every respect. Only now that logical analysis proper has become possible can the logical elements be recognized, and we can see the clearing in the forest. ... It cannot be the task of logic to investigate language and determine what is contained in a linguistic expression." [17]

It appears from this passage that "equipollent propositions" have in common the thought they express. This is, again, the expression of the above incriminated thesis that equivalence implies sameness of sense (or of thought, respectively). But this affirmation is made after one important specification: it is *in logic* that we must so construe senses. It is also relevant that this is presented as a prescription and a practical decision: we must *decide* to see things this way, it is not the situation that simply presents itself so. One more important specification is made: any difference other than in truth-value must be completely entrusted to the form of the expression (i.e. to the formalized language of logic): "In logic one must decide to regard equipollent propositions as differing only

[16] My italics.

[17] Gottlob Frege, "Letter to Husserl, 30 October to 1 November 1906" in *Philosophical and Mathematical Correspondence*, p. 67.

according to form." We might derive from this the opinion that any difference in sense, if it cannot be translated in terms of truth-values, should appear in the logical form of the expression; anything else would be the mere "illumination" of the thought.

My interpretation of the passage is that equivalent statements are considered to be, all of them, "same sense" situations because the difference in sense cannot be reflected in logic: this difference has no influence upon the distribution of truth-values. Consequently, Frege considers that there are no *logical* means to make this difference, though in *semantic* terms, the difference can be made. Logic, in order to be "topic neutral" and because "it cannot be the task of logic to investigate language", cannot mirror the difference between senses if this difference shows neither in the combinations of truth-values nor in the formal expression. In the case of the distinction between same sense/different sense, this "mirroring" does not take place because senses are, basically, *ways of obtaining* a certain result, not the result itself. The combination in truth-values can correspond only to the result, not to the way the result is obtained; from the point of view of truth-values, only the result matters and therefore, from this point of view the result is the *same* irrespective of the way in which it is attained. My interpretation of Frege's affirmation – that "the only possible means of deciding whether proposition A expresses the same thought as proposition B" is the relation of equivalence – amounts to saying that the difference between same sense/different sense situations cannot be expressed because this difference cannot be translated in a *calculus* manipulating truth-values. Senses, as ways of obtaining certain results, cannot enter the calculus; only their results can.

This version appears to be confirmed by Frege's affirmation in the sequel of the same letter, when he answers the question if two statements are "merely equipollent" or "equipollent and congruent". The statements are "If A then B" and "It is not the case that A without B", i.e. what today we would represent as 'A→B' and '~ (A& ~B)'. Frege's verdict is that they are equipollent (i.e. equivalent) but that nothing else can be said from the point of view of logic (i.e. the scientific, certain point of view):

> "In each case we therefore have an equipollence. ... Now are these propositions also congruent? This could well be debated for a hundred years or more. At least I do not see what criterion would allow us to decide this question objectively. But I do find that if there is no objective criterion for answering a question, then the question has no place at all in science."[18]

Against this very emphatic dismissal of the problem for the domain of logic it can be said that the same problem, of sameness and difference, can reappear on strictly logical grounds. For the significant difference in sense cannot be completely entrusted to the difference in notation or to the difference in formalization; some logical formulas can be regarded as mere redundant re-writings of other formulas, while other as genuine inferential transformations. So that the problem of distinguishing between mere re-writings/ inferential transformation can appear also in logic (i.e. it is not a problem of "investigation of language") and, possibly, may have a strictly logical answer by means of calculus in terms of truth-values.

This first criterion is the most problematical one. The second criterion, from "A Brief Survey of my Logical Doctrines", is less problematic, but it is not a *logical* one; it is rather, an epistemological one: "anyone who recognizes the content of A as true must straight away also recognize that of B as true, and conversely, anyone who recognizes the content of B must immediately also recognize that of A".

The usefulness of his criterion for the present purpose resides in the fact that it can be used to make the distinction discussed above: it can be used as a test for identities so that the informative identities can be distinguished from the other extreme, from the situation of identities with the same sense.

The challenge was to find a way to distinguish the "middle ground" from both extremes: one of the same sense situations and one of completely unrelated senses. The first criterion, amalgamating the "middle ground" with the 'same sense' extreme, was capable to establish

[18] Gottlob Frege, "Letter to Husserl, 30 October to 1 November 1906" in *Philosophical and Mathematical Correspondence*, pp. 68–69.

a difference from the situation of completely unrelated senses, but not from the other extreme. This second criterion, though it does not satisfy Frege's strict requirement in that it does not use strictly logical means, can separate between 'same sense identities' and 'different but related in sense' identities. This separation is made by the fact that, if this criterion is taken as a test, then the 'different but related in sense' identities *fail* it. When there is a difference in sense between A and B, two statements standing in the relation of identity, then we do not *immediately* recognize that if A is true, also B must be true (and the converse). It is only a *mediated* recognition, namely mediated by inferences or by further factual information. The *immediat*e recognition can be made only in the case of strict sameness of sense.

In conclusion, we may say that in the case of the "middle ground" identities, unlike the case of the 'unrelated sense' identities, a change in the one side of the identity will reverberate on the other side; and unlike the case of 'same sense' identities, we might *not recognize* that *immediately* (because of the necessary mediation).

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THE DIFFICULTIES OF DEVELOPING AN OBJECTIVE PHENOMENOLOGY

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Abstract: Thomas Nagel's end note of his famous essay "What is it like to be a bat?" introduced the speculative proposal of developing an objective phenomenology capable of enabling further empirical studies of consciousness. I will argue that such an endeavor inevitably faces two major difficulties in the first-order inaccessible qualia and second-order inaccessible qualia. The latter essentially comprise all of our qualitative contents associated with our experiences, as all qualia are private or inaccessible by other agents who do not share the same point of view, while the former should be seen as a subgroup of phenomenal contents that are temporarily or permanently unconscious or, more explicitly, unavailable to the agent to whom they belong to.

***Keywords*:** objective phenomenology; inaccessible qualia; privacy; first-personal privilege; access.

1. Introduction

Consciousness seems to be one of the deepest mysteries that sparked the interest of scientists from many different fields like neuroscience, biology, cognitive sciences, psychology and philosophy alike. What is intriguing about the study of consciousness, as opposed to other at first glance unsolvable areas of inquiry that are related, for example, to quantum physics, is the apparent proximity to the subject, on one hand, and, on the

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other hand, the persistent failure of our investigations to result in any theory that could be considered consistent and coherent in the long run.

While some have argued that consciousness does not exist altogether in the way we intuitively think about it, and have thus rejected the mind-body problem, others have sought to explain it in in the context of a dualist framework for understanding the mind, itself quite controversial. However, most have traced it back to how it appears to us phenomenologically. The most basic units that fuel our awareness about our experiences are qualia, which have been best characterized as "the subjective quality[ies] of experience" (Chalmers, 1996, p.4). These constitute the qualitative character of sensations, feelings, perceptions and, some have argued, even of thoughts and desires.

Qualia have been posited in order to untangle the intricate concept of consciousness,[2] but at the same time they have been used to prove that this domain of inquiry is almost impossible to study empirically. Thomas Nagel's well-known article "What is it like to be a bat?" is the best example for the latter case. While not using the word "qualia" *per se*, he explained it by using the phrase "what is it like" and argued that the existence of such phenomena makes the study of consciousness subjective, and, as a result, impossible to study scientifically for the time being.

Is this metaphysical tension unavoidable? Nagel speculated about what could be done until scientific methods develop and become capable of giving insights into consciousness, and concluded that a solution could be the development of an "objective phenomenology". I am of the opinion that the speculation is merely a theoretical one that cannot be applied properly, at least for the time being, because of two difficulties that arise when one might try to put it into practice. Both refer to utilizing certain qualia that are, as I have called them, either first-order inaccessible or second-order inaccessible.

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[2] Interestingly, the tangle might be evidence for holism about what our mental words mean, e.g. in Quine and Ullian's (1978) view. However, that would question the transition from consciousness sui generis to individual qualia. And so I leave aside this hypothesis in order to better appreciate the criticism neo-Wittgensteinians raise to Nagel's view, which are both quite distinct from holism.

In the first part of this text, I will describe Nagel's framework in order to account for his definition of "what it's likeness". I will explain what second-order inaccessible qualia are. In the wake of a common critique that has inferred their incoherence from the fact that qualia are ineffable, I will argue that qualia do not seem to be entirely ineffable, only lacking in second-order access – and I will clarify why second-order inaccessible qualia are problematic in the context of an objective phenomenology. In the second part of this text, I will explain what I mean by first-order inaccessible qualia, namely the phenomenal contents that can be temporarily or permanently unconscious or unavailable to their owner, and I will explain why lacking access is an additional challenge to the project of devising an objective phenomenology.

2. Nagel's framework

2.1. A critique of physicalism

Thomas Nagel's article "What is it like to be a bat?" is, in a certain sense, a critique of reductionist solutions to the mind-body problem. He states: "Without consciousness the mind-body problem would be much less interesting. With consciousness it seems hopeless" (Nagel 1974), at least according to the physicalist tenet that every mental process can be traced back to either data processing or to brain activity. This is because with consciousness comes subjectivity, and there is mostly no objective or scientific way, as far as we now know, that could explain how subjective experience emerges.

No matter their function and their role in the way our minds work, Nagel says that subjective experiences cannot be explained in a physicalist manner, as experiences are observed phenomenologically and differently from a person to the other. Essentially, each of them is inevitably connected with a single point of view, and there is no account that could be given in order to prove that a certain general theory, however attractive to reductionists, could be tested and confirmed. This is how things stand,

at least, with current science. Thus we cannot, Nagel states, say that physicalism is false, we should just see it as an incomplete theory. If this is right, then there is no successful empirical endeavor to explain qualia or conscious mental processes more broadly. The next step would be to approach it using phenomenology.

1.2. Qualia observed phenomenologically

Nagel says that an "organism has conscious mental states if and only if there is something that it is like to *be* that organism-something it is like *for* the organism" (Nagel, 1974). He stresses two particular words to make sure no confusion arises by using them. "Something is it like to be a bat" is not in any sense a comparison, or a sort of intensional definition of necessary conditions that should be met in order for an entity to be a bat. This is why the question "What is it like to be a bat?" is not answered by "A bat is such and such, it has wings, but is not a bird, it flies, but it does not have feathers, etc." Nagel did not ask what "bat" means, but rather what bat experiences are like for their experiences. I would, as he did too, try to not use the word "feel" because this is commonly associated with emotions or sensations, and we are not asking how the bat feels. What we want to refer to is the complex way in which a bat interacts, more or less uniquely, with its environment – not necessarily the behavior or the mental processes that trigger interaction, but what it is like *for* the bat to be alive and perceive certain things differently from other species and maybe from other bats might do.

Let each experience have a content associated to it, that may or may not cause behavior. There is no correct way to experience seeing a certain color, for example. The redness Mary sees when given a red rose may not be the same with the redness I see when given the same rose. It could have a different nuance, or it could be seen as a different color altogether in the case of another species or of a person with color blindness. And there is no way in which we can say the redness one sees is the right one, as we

do not know and we cannot take a guess or predict based on certain biological characteristics the redness another individual might experience.

2.3. Qualia as private intrinsic entities

We cannot experience echolocation as bats do even though we understand all the principles behind it, just as Mary the neurophysiologist cannot identify the red color in Frank Jackson's (1986) thought experiment, even though she knows all the factual physical information about that particular color. Our imagination is limited, as is the way we observe things. We cannot imagine something that does not abide by the physical laws about space and time, which could very well be arbitrarily chosen as a result of us interacting with the environment in a certain way. We might try to imagine how the world is experienced by a bat by imagining having certain physical characteristics that a bat has, but this would not solve the problem. By picturing ourselves with wings, poor vision, and an extra sense, that of echolocation, we would not experience things as a bat. We would still be protagonists in this conceptual architecture that tries to put us in the point of view of a bat.

No matter how hard we might try to escape our mind, we cannot really change our point of view. This is partly because of the brain structure that is clearly different across species. We cannot adapt our minds to such an extent as to extrapolate our experience and to perceive the content associated with a bat's experience. We cannot even comprehend how someone from the same species, and implicitly with the same brain structure as us, experiences a certain thing, as it does not necessarily follow that similar beings have similar ways to interact with the world. For example, we cannot tell what it is like for another human being to dream, or for that matter what it is like to dream for a person who is blind from birth. This limit is not an epistemological one, but rather a metaphysical one. We cannot know what it is like to be a bat, or what it is like to experience a blind person's dream, as long as we are ourselves and we cannot change our point of view.

In order to close or diminish the explanatory gap which is created once we acknowledge the existence of qualia, Nagel says that it might be possible to design new concepts and methods, that do not draw upon either imagination or empathy, but nevertheless can explain or define partially the subjective character of experiences to agents that do not have them. In a certain sense, these could reduce the extensional area associated with a particular instance of a quale. Nagel does not necessarily refer to intermodal analogies between different experiences, but to the structural features of perception, which could be understood more objectively once a specific language is developed.

3. Second-order inaccessible qualia

3.1. A possible misunderstanding

I will use Peter Hacker's article "Is it anything there is like to be a bat?" in order to explain where common understanding falls short and misinterprets qualia as being not only entirely ineffable, but also incoherent. Hacker views qualia through the lens of the phrase already discussed "there is something which it is like". He concludes that Nagel gives us two ways to identify consciousness, one for a conscious creature, and one for a conscious experience:

> "(1) A creature is conscious or has conscious experience if and only if there is something which it is like for the creature to be the creature it is.
>
> (2) An experience is a conscious experience if and only if there is something which it is like for the subject of the experience to have it." (Hacker, 2002, p. 160)

The problem with the first inference is that at no point did Nagel want to say that there is something it is like for a bat to be a bat in that sense. A question such as "What is it like for X to be X?" would ask, as Hacker points out, for "a description of the role, the rights and duties, hardships and satisfactions, the typical episodes and experiences of a

person who is an X". If we change it a bit, "What is it like for you to be X?" or "What is it like for you to V?", where "V" could be replaced by any verb associated with an experience, then we might have answers containing personal impressions and attitudes regarding all the things mentioned. What is it like for me to smell freshly baked bread? It is surely enjoyable, and it brings back some childhood memories. This would be the answer such a question calls for. But this does not refer to qualia or any necessarily qualitative components to perceiving reality.

Nagel did not mean the verb "to be" in a sense that asks for a definition or for a description or attempt to explain what the Idea of a Human or the Idea of a Bat is, in the Platonic sense. Such an identification could surely make the concept be seen as ineffable. Hacker seems to be aware that he might be misreading Nagel: "But one may reply, this is not what was meant at all." Here he was in the right.

3.2. Wittgenstein's take on the matter

The difference between having experience E and experience E itself seems, in Hacker's view, who is the leading authority on the philosophy of Wittgenstein, to be rejected on the basis that there is no distinctiveness that we can talk about in seeing, hearing, or smelling something rather than something else. We might just describe feeling pain by associating with the experience attributes that show the unpleasantness of the experience. But we seem to omit the case in which one could associate the qualitative feel of an experience with the qualitative feel of another experience, and thus using language we could, for example, refer to the "what it's likeness" of having a headache that is closer than the "what it's likeness" of having a back pain, as opposed to the "what it's likeness" of experiencing pain from a sore throat. Similarly, the qualitative experience of smelling a rose is arguably something that can be expressed in words, at least in terms of the similarities between it and the qualitative experience of smelling a violet and the dissimilarities which could arise when comparing it with smelling a lemon. By using this kind of

comparisons between different qualitative inputs, along with metaphors or allegories, one might be able to point out to the particular distinction between having an experience as opposed to another, which could show the concept is less ineffable that previously thought.

Hacker, however, is right in airing Wittgenstein's qualms about private languages. As long as what we aim to refer to is entirely subjective, it would not make sense to use a word in public discourse whose ontic counterpart is only accessible to ourselves. In other words, if we want to explain how we perceive redness in an apple, then it seems that we should know how to explain to others what particular shade of red we associate with that particular apple. But our language is indeed limited as we cannot point inwardly to how certain things appear to us. All of our qualia are private and intrinsic, so they are first-order accessible only to us, and second-order inaccessible to any agent that is not us or that does not share our point of view. I have called these first- and second-order in relation to the number of points of view through which access is "transmitted". First-order access is acquired in only one solitary medium, supposedly through a single barrier, while second-order access is "conducted" through two mediums and, thus, two barriers.

3.3. An apparent solution and a remaining problem

What if we do not need to point inwardly at all, one might ask. It is plausible that the person to whom we want to communicate the specific nuance of red has seen the same particular nuance at some point in their life, but associated probably with another experience, or in our case with another object. That is to say they have some sort of ontic counterpart to our perceived redness, but their qualitative feel is not necessarily associated with the same experience as ours. Maybe the redness I see in the apple is the redness that the other person sees or has seen in a rose. Thus, the challenge might consist in developing language so as to allow one to be more explicit about their qualitative feels and coordinate with others when talking about a specific quale. If one describes the redness in

the apple properly, it might make the other person think of the redness they remember the rose as having. Absent fit, approximation might be enough for communication.

A problem persists: we cannot account for how an objective phenomenology would be developed, considering the fact that the points of reference between subjects would not coincide, because the association would be needed to be verified in order to see if the newly developed language reaches its goal or needs refining. We have already acknowledged that second-order inaccessible qualia cannot be verified. Maybe the redness of the apple one sees is similar enough to that of a rose someone else remembers having seen. That could be at no point verified accordingly. The two individuals would never know if they meant or thought of the same shade, or if the approximations are right. Devising concepts that can supposedly help minimize the explanatory gap would, then, not benefit from an objective necessary feedback measuring overlap between individual qualia, for such qualia are second-order accessible. (Might advanced neuroscientific imaging methods or artificial prosthetics which would connect minds help? Currently there is no consensus on how to match these to qualia.)

4. First-order inaccessible qualia

4.1. "Unconscious" qualia

Qualia are first-order accessible when they are poised for access by thinking, introspection, or other cognitive processes that are not automatic. Consider an example proposed by David Armstrong, that of an absent-minded long distance truck driver, who is thinking of other things and who, as a result, arrives at his destination without realizing he has drove past curves and other cars, past hills, and valleys:

> "After driving for long periods of time, particularly at night, it is possible to 'come to' and realize that for some time past one has been driving

> without being aware of what one has been doing. It is natural to describe what went on before one came to by saying that during that time one lacked consciousness." (Armstrong, 1981, p. 59)

We do not question in this case that the driver had sensorial qualitative perceptions about the road (qualia), because without them one could not arrive at the destination successfully, without getting the truck involved in some accident or another. The proof for the existence of qualia in such a case lies in the unconscious decisions based on the qualitative basis of what the road looks like, which signs can be seen on the sides, what positions the other cars have in traffic, etc. and what should be done, for example, when the driver is informed through visual stimuli that the road gets narrower, that the truck is too close to another car, or that there is a sign announcing a crossroad or a speed restriction. The driver seems to be aware of something and to act upon these "impressions", but at the same time, he is not focused on them consciously.

4.2. A new dimension to phenomenal consciousness

In order to be conscious, it seems, one would have to have the ability to access qualia and to be able to represent them cognitively in order to monitor their relationship with thought and action. This ability, which in a sense could be correlated with attention, has been called direct awareness. Kriegel explains why it would be necessary to have direct awareness as follows:

> "It is unlikely there could be anything it is like for a subject to be in a mental state she is unaware of being in … [consequently] intransitive self-consciousness is a necessary condition for phenomenal consciousness: unless M is intransitively self-conscious, there is nothing it is like to be in M, and therefore M is not a phenomenally conscious state." (Kriegel, 2003, p. 106)

Ned Block tries to unravel this additional dimension of qualia by setting forth the distinction between A-consciousness or access

consciousness and P-consciousness or phenomenal consciousness. He also gives examples that support the hypothesis that phenomenal consciousness on its own, without A-consciousness, can be part of unconscious mental states, just as in the case with the truck driver. The picture can get even more complicated if we consider that qualia can be unavailable to their owner not just temporarily – based on the voluntary or involuntary choice of attending a certain quale as opposed to another in a moment and being able nevertheless to shift the focus to it in the following moment – but also permanently, in the case of phenomenal contents that are continually inaccessible to thinking routines or introspection. These might lack first-order accessibility because of the arbitrary, supposedly present-from-birth mental architecture that does not allow the introspection of certain subjective qualities an individual might experience.

4.3. Different degrees of first-order access

First-order access can be measured in degrees of how much of the perceived phenomenal contents can be "used" or "opened" in thinking and other cognitive processes. The degree associated with a certain quale might determine one's capacity to reflect upon the explanations that might be given by an objective phenomenology in order to explain – to oneself and others — that particular quale. Similarly, the degree of introspectability associated with a certain quale (how easy it is to introspect) might determine whether it can be effectively identified by an agent and compared to other instances both for understanding its characteristic features and for attempting to report these perceived specificities of a singular "what it's likeness". Thus, a prerequisite for an agent involved in objective phenomenology is a certain degree of access to both thinking and introspectability for most of the qualia that the agent has. If a sufficient degree of accessibility is not found throughout one's perceived phenomenal contents, then the objective phenomenology could not be completed because one might consider that the degrees of first-

order access differ from one agent to another, and cannot be, at least intuitively, covered in an objective and generally comprehensible manner. Arguably, the existence of qualia that cannot be stored in the memory and accessed subsequently affects the act of inventing concepts, which needs to be rooted in what one has qualitatively experienced previously.

If qualia come in different degrees of first-order access for thinking and introspection, then there might be a degree insufficient to let an agent think about or introspect certain qualia. If there is such a degree of access insufficient to let an agent think about or introspect certain qualia, then there is a degree of access that does not let an agent understand certain qualia. If an agent cannot understand certain qualia, then she or he cannot devise a set of concepts in order to enable others to approximate that particular quale, or, for that matter, receive any valuable insights from a set of concepts that were made by others in order to help him understand his qualitative experience. This is another way in which first-order totally or partially inaccessible qualia can be seen as a complication for developing an objective phenomenology.

The premise in both of the two cases rests on the existence of degrees of first-order access, and also of hidden qualia. These surely can be considered controversial, but others such as Block or Searle, have argued that phenomenal conscious instances come in degrees of access poised for thinking routines. Moreover, from these degrees it seems only natural to consider that if there are such different levels, then there should also be a minimal level, which would make a quale hidden and an agent incapable of reflecting about it or introspecting about it (Shiller, 2017).

5. Conclusion

Starting from Nagel's famous paper that has accounted for the explanatory gap that is unavoidable once one accepts the existence of qualia, I have tried to assess the proposal of developing an objective phenomenology. I have pointed out at two difficulties which might be

faced when one would try to embark on such a journey, and have argued against an apparent unsurpassable obstacle, that of the ineffability of qualia, which seems to be a representative misunderstanding for those that would want to reason that the concept of quale is incoherent, and therefore does not exist in reality. The first difficulty lies in the lack of second-order accessible qualia, or qualia that are not private. This makes it impossible for two agents to check or have an essential feedback that would allow them to find out if they have reached the same quale with the use of the concepts and language that they have developed. The second one lies in first-order inaccessible qualia, which are fundamentally qualia that do not have a certain degree of access poised to thinking or introspectability, and which therefore cannot be either understood, explained, or overlooked in the context of an objective phenomenology.

The reason I have raised these concerns is not because I believe Nagel's proposal is futile. Rather, I think that, at least for now, there seems to be no way to bridge the explanatory gap for a future science of consciousness. Phenomenology can offer valuable insights, but not necessarily in the objective, or, better said, objectual way that Nagel envisioned. For example, the existence of hidden qualia—or qualia that become accessible to us in varying degrees—may require us to reconsider atomistic assumptions in favor of more relational, holistic approaches.

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(RE)THEORIZING THE MEASUREMENT OF CONSPIRACY THEORIES

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Abstract: This text critically examines whether psychometric scales represent a robust measurement choice when studying conspiracy theories: a key philosophical and methodological gap in the literature on conspiracy theories. I call into question whether such scales have content validity, predictive validity and whether studies employing these instruments manifest external validity, respectively. These issues manifest differently across the two types of scales examined. The adequate development of applied scales is unfeasible because it is impossible to objectively define an ideal combination of items that fully captures the conspiratorial themes they aim to measure. Applied scales will, then, always have limited content validity, which will not only impair our ability to understand whether they really measure the construct in question but will also prevent us from using them in a standardized way. While generic scales may seem superior to applied scales in that they allow for standardized measures, they seem to suffer from the same problem due to the theoretically limitless number of dimensions needed to fully capture conspiratorial ideation. Consequently, the degree to which the predictions made on the basis of these scales are valid (i.e. predictive validity) and their generalizability (i.e. external validity) becomes unclear. In this text, I argue that the employment of psychometric scales does not represent a robust method of measuring conspiracy theories. This situation raises concerns regarding the current state of the literature, since these instruments are widely used in this research area. Given the discussed shortcomings, I propose a novel approach to measurement, one that involves indirect assessment of conspiracy theories. Moreover, a better alternative to existing measures is considered, namely discourse analysis.

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***Keywords*:** conspiracy theories, psychometric scales, measurement validity, content validity, methodological critique.

1. (Re)Theorizing the Measurement of Conspiracy Theories

Conspiracy theories have a long history, and yet they started to pique researchers' interest mostly in the last two decades (Douglas et al., 2017). Some evidence suggests that belief in, and dissemination of, conspiracy theories were frequent as far back as Antiquity, particularly in ancient Rome. When the Great Fire of Rome broke out, a lot of Christians entertained the theory according to which Nero asked his subordinates to burn the city, in order to rebuild it according to his own ideals. In retaliation, Nero initiated his own conspiratorial account of the event, which ultimately led to the severe punishment of many Christians (van Prooijen & Douglas, 2017, p. 326). Despite this vast history, the first attempts at a thorough review of the literature on conspiracy theories did not appear until after 2015 (e.g. Douglas et al., 2017; Douglas & Sutton, 2018; Douglas et al., 2019).

The current text aims to advance the state of this research field by addressing a methodological and philosophical gap, namely whether the usage of psychometric scales constitutes a suitable way of measuring conspiratorial beliefs[2]. I will argue they do not since these scales could never fully acount for the theoretically infinite number of possible conspirational narratives that can be advanced for a certain event (Enders et al., 2021). In turn, this impacts the accuracy of predictions made on the basis of the results, rendering their generalizability uncertain. Consequently, I end by proposing a novel approach to measuring conspiracy theories.

[2] I will adopt Douglas et al.'s (2019) definition of "conspiracy belief" as being "a belief in a specific conspiracy theory, or a set of conspiracy theories" (p. 4).

2. What is a conspiracy theory?

Most conspiracy theories are narratives[3] in which a malicious actor works in secret towards fulfilling some nefarious goal at the expense of society at large (Douglas et al., 2019). Conspiracy theories concern patterns that (non-factively) explain how people, events and objects are correlated, resulting in the belief of an imminent threat (van Prooijen and van Vugt, 2018).

One famous example of a conspiracy theory, that has no less than 175 versions, calls into question the apparently mysterious death of Princess Diana (Griffin, 2022). According to these theories, what happened on the tragic night of the car crash in 1997 was not an accident but rather was orchestrated by somebody who wanted to murder Diana. Who? The agents of the British state that could not bear the fact that she may had been pregnant; the driver of the car that was not in fact drunk, as per the official records; the paparazzi that may have created an environment in which the murder could look like an accident; the negligent doctors that cared for Diana before her death; the driver of another car that also presumably killed Diana's lover beforehand; and the list goes on and on. The theories were so popular at the time of the accident that the police launched a huge investigation to assess whether the claims had any merit. Even though the vast majority of the conspiratorial accounts have been debunked, suspicions still resurface in the wider public, even after so many years.

2.1. What do conspiracy theories have in common with fake news?

Some researchers place conspiracy theories under the larger umbrella of fake news (e.g. *Research Guides: Fake News and Information Literacy: What Is Fake News?*, n.d.; IONOS editorial team, 2020). However, it must be noted

[3] I will use terms such as "narratives", "explanations", "accounts", "perspectives", "statements", "claims", "stories" in an interchangeable manner, as referring to the broader concept of conspiracy theories. However, I acknowledge that each one of these words may refer to different aspects of conspiracy theories (Thanks to an anonymous reviewer for pointing this out). For instance, referring to them as "stories" may imply they are fictitious, which may then allude to the irrationality of their believers.

that the two concepts only partially overlap. In this section, I will focus on one important point of convergence: both of them involve *misinformation* or *disinformation*. This distinction has implications for understanding conspiracy theories, since the reasons why people believe in them and the reasons why people distribute them tend to be conflated in the literature (Douglas et al., 2019).

In some instances, the belief in, and the dissemination of, fake news or conspiracy theories are driven by a genuine, poorly informed concern over a potentially true report of an event (i.e. *misinformation*) (Buchanan & Kempley, 2021). The study of conspiracy theories reveals a close association between conspiracies and misinformation (e.g. Buchanan, 2020; Lobato et al., 2020; Pennycook et al., 2020; Wong et al., 2021, etc.). Previous research has shown that individuals who believe in a given conspiracy theory also tend to disseminate that idea further in order to ensure that it is represented in the general informational landscape (Bessi et al., 2015). Understanding conspiracy theories as misinformation implies that they have something to do with risk aversion and trust.

To be risk averse while conspiracy theorizing involves not letting your guard down in case the danger you are afraid of actually occurs, even if you are not always sure that danger exists. Treating potential perils as such constituted an adaptive advantage throughout evolutionary history, and this partly explains how conspiracy theories may have helped our ancestors survive (van Prooijen & van Vugt, 2018). According to the authors, conspiracy theories made it possible for us to detect and avoid potentially malevolent coalitions that could harm us by triggering awareness and action (becoming more cautious, fleeing, or by preemptive counterattacks) when certain cues were perceived in the environment. If, for instance, tribe A suffered for a long time due to a shortage of food, whereas tribe B is known to be abundant in resources, and B knows of A's situation, B has reasons to believe A could plan an attack. Were B not to become suspicious and vigilant towards A's behavior through conspiracy theorizing, B could be exterminated. B's reasoning is arguably conspiratorial in this scenario, because its people speculate about A's alleged bad intentions, they create a broader narrative as to why A is dangerous, search for clues indicating a secret attack, etc.

One possible cue that could trigger group B's skepticism concerning group A is the absence of prior interactions between the two groups, which makes A's behavior unpredictable in the eyes of group B.

Van Prooijen and van Vugt (2018) claim that B's behavior could occur only if human cognition developed a separate conspiracy thinking system, whose activation was prompted by our interaction with the environment. This system would allow us to assess, manage and act upon risks even if they were not real, by generating belief in, and communication of, conspiracy theories whose role was to enhance our vigilance. Unsurprisingly, under certain conditions, the system predisposes us even to this day to fall prey to conspiracy theories that alert us to the malicious intent of actors that presumably want to threaten not just us as individuals, but the group as a whole. Conspiracy theories allow us to protect our own group from dangerous out-groups (Douglas et al., 2017) and to scapegoat potential intruders (Jolley et al., 2018), just as it may have allowed B's people to unite against A's people. From the perspective of risk aversion, conspiracy theorizing that takes the form of misinformation runs as follows: I endorse a conspiratorial perspective, I believe in its truthfulness and disseminate it to my peers so that all of us become vigilant against the unseen enemy.

What about the relationship between trust and conspiracy theories? According to Pierre (2020), people are not attracted to conspiracy theories themselves, but rather to narratives that reject what gets to count as official records, which are deemed untrustworthy. The tendency is fueled by a chronic lack of trust in official epistemic authorities from inside a state (e.g. doctors, politicians, rich people, policemen) or outside of it (e.g. the European Union), that supposedly control the flow of information. As a consequence, the more trust-shattering experiences and interactions an individual has with an epistemic authority, the stronger the inclination to go down the rabbit hole in search of biased alternative "truths". For instance, consider the case of the recent pandemic crisis, in which people's deficit of trust proved key: individuals found themselves alone, with no support, surrounded by blame-games, suspicions, lack of compliance, all of which arguably increased individuals' openness to conspiracy theories (Jakovljevic et al., 2020).

On occasion, fake news and conspiracy theories are disseminated by people wanting to gain certain benefits, like political status or money (i.e. *disinformation*) (Ahmed et al., 2020; Buchanan & Kempley, 2021). Such "conspiracy entrepreneurs" (Campion-Vincent, 2015) need not endorse the fictions they disseminate; therefore, some people disinform, whereas others get misinformed. It is difficult to assess the magnitude of this phenomenon, but we have reasons to believe it is significant. Consider, for instance, the huge communities created by the likes of Donald Trump, a character known for his tendency to exploit conspiratorial accounts, even fabricated ones, for his own gain (Douglas et al., 2019, p. 23). By "constant but careful deployment of conspiracy theories" (Bergmann & Butter, 2020, p. 338), Trump addresses both the ones that deem true his conspiratorial accounts, but also the ones that do not. Moreover, "by using the <<safety net>> of hearsay, Trump ensures that he can always deny allegations that he is spreading conspiracy theories" (Bergmann & Butter, 2020, p. 339). Looking by his following on certain social media channels (e.g. at the time of this writing, Trump gathers an astounding number of 87.2M followers on X), it can be stated that he managed to create a community in which a lot of people get misinformed through deliberate disinformation.

2.2. How do conspiracy theories differ from fake news?

A semantic difference can be observed: we refer to fake news as being *news*, as opposed to conspiracy theories that are referred to as *theories*. Unlike fake news, conspiracy theories are full-blown perspectives that can minutely describe what is happening, who is responsible and, most importantly, why is this happening; they are subversive and oppositionist in their nature, which iswhy their believers sometimes self-isolate from their peers, or they get excluded from their previous groups (Douglas et al., 2017; Douglas et al., 2019; Pierre, 2020).

The fact that conspiracy theories are theories matters if we are to understand the polarization between individuals who embrace conspiratorial perspectives and their critics, as the term "theory" may

refer to at least three different things: an established account, a hypothesis, or a hunch (Duetz, 2023, p. 441). Different perspectives as to what represents a theory may generate different perspectives as to what constitutes relevant evidence for that theory; these differences may be "so far apart that bridging the divide between their respective positions seems impossible" (Duetz, 2023, p. 447). Thus, it can be argued that it is not only the content of conspiracy theories that generates conflicts, but also their very nature as theories, that can be supported or dismissed by appeal to evidence, which individuals construe differently.

What is it about the content of conspiracy theories that sparks such controversy? The answer lies in identifying another crucial difference between fake news and conspiracy theories: unlike fake news, that are factually untrue (*Here's How You Can Spot Fake News Online*, 2022), conspiratorial accounts" are close enough to verifiability to be plausible and are at the same time unfalsifiable enough to be unverifiable" (Albarracín, 2021, p. 376). For example, you can theoretically verify whether airlines spray chemicals into the air, which makes the claim at least somewhat plausible. However, at the same time, the narrative is too vague to be verified or proven false. Therefore, although the arguments advanced by conspiracy theories seem to be testable in principle (i.e. they can be supported or not by evidence), most of the time they do not get definitively disproven, in contrast to fake news. This happens because a conspiracy theory always makes room for mistakes on behalf of its theorizer by calling upon uncertainty and speculative plots maneuvered by nefarious minds that are actively trying to cover up their tracks. So, if a conspiracy actually turns out to be true, it does not matter for the believer if most of the initial premises supporting the theory were wrong or inaccurate, what really matters is that there was indeed a conspiracy waiting to be found.

As such, some may argue that believing in conspiracy theories is epistemologically unwarranted or unreasonable, and their believers are gullible. For instance, Napolitano (2021, as cited in Duetz, 2022) suggests that the endorsement of conspiracy theories represents an irrational stance that persists in spite of counterarguments or evidence that undermine the theories. In other cases, such a behavior may be classified

as an epistemic malfunction, that determines the believer to act in accordance with the conspiracy theory, in spite of undefeated and easily available evidence that make the probability of a conspiracy happening very low (e.g. Simion, 2023).

In reality, the line between what is rational and irrational when believing in conspiracy theories is blurrier than it might seem. Not only is conspiracy theorizing a universal phenomenon (van Prooijen & van Vugt, 2018), but also "conspiracy beliefs are common [...], so everyone is to some extent likely to believe in conspiracy theories" (Douglas & Sutton, 2018, p. 259). Therefore, the rationality of conspiratorial narratives should not be considered only in relation to their content, but also to what makes them appealing to particular people. For instance, Machiavellians, who have a paranoic and cynical outlook on life (e.g. Paulhus, 2014), may be attracted to conspiracy beliefs in part due to their suspicious nature (Brotherton & Eser, 2015; Kay, 2021), while people with a precarious financial situation may use conspiracy theories to blame the ones responsible for their situations (Jolley et al., 2018). At other times, the existence of conspiracy beliefs may actually encourage governments to be more transparent or to uncover disparities between official accounts (Douglas et al., 2019). Finally, it is important to note that some conspiracies have actually turned out to be real (e.g. the Watergate scandal; Zapata, 2024a). Therefore, a fair understanding of conspiracy theorizing needs to take such facts into consideration.

2.3. Psychological mechanisms underlying belief formation and maintenance

Up to this point, we explored several ways in which fake news and conspiracy theories overlap but also differ from each other. On the one hand, the two concepts overlap insofar as both can manifest either as misinformation or disinformation. Understanding conspiracy theorizing as a form of misinformation reveals its close association with lack of trust and risk aversion. When conspiracy theories are used to disinform, their content may be fictional. On the other hand, fake news and conspiracy theories differ to the extent that the former consist of simple true or false

statements, whereas the latter represent fully-fledged unfalsifiable interpretations, that can explain in great detail how, why and who may want to harm us from the shadows. Due to their occasionally far-fetched explanations, some wonder if belief in conspiracy theories is rational at all (Napolitano, 2021, as cited in Duetz, 2022), but the answer is not as clear-cut as it might seem. In what follows, I will focus on the psychological mechanisms underlying conspiratorial belief formation, and also their maintenance.

One specific moment in which conspiracy theories seem to thrive and flourish is at the onset of a crisis (e.g. Buturoiu et al., 2021; Zeng, 2021). A crisis often triggers accelerated change in a society, whose management requires distinct power structures, rules, norms, and behaviors (Van Prooijen & Douglas, 2017). Crises thwart the fulfillment of our *epistemic*, *existentialist*, and *social needs*, consequently predisposing us to endorse conspiracy beliefs (the deficit model; Douglas et al., 2017). According to the deficit model, this is due to people's desire to understand their environment (i.e. epistemic needs), with conspiracy theories providing quick, apparently coherent, and satisfactory explanations as to who is guilty and why the course of the events is as such, making sense of the situation. Understanding what is happening is a prerequisite for having the capacity to act upon the environment, highlighting the fact that we have an existentialist need to feel in control of external entities because it gives us predictability. Conspiracy theories not only restore the predictability of the environment by showing us who to be wary of and what might happen next, but they also place us in a position to reject the official narrative. Finally, conspiratorial perspectives may also help us fulfill certain social needs, as they allow us to protect the image of our own group, to denigrate intruders and outsiders, and to feel special because we know something that others do not. Given that conspiracy theories' popularity is dynamic during crises (e.g. Bruns et al., 2020), it is likely that the needs generating these theories to change throughout crises as well.

The deficit model (Douglas et al., 2017) seems to be particularly useful in explaining the conspiracy theorizing that takes place during

crises. Yet, some conspiracy theories do not seem to be related in any way to a crisis. For instance, to this day, some people still believe that Sir Paul McCartney is in fact dead, and that he was murdered by the other Beatles following an argument in 1966; to cover up their tracks, the Beatles hired a look-alike (Pappas & Radford, 2023). Even if such conspiracy theories are not generated by a crisis *per se*, some authors argue that they might emerge from the subjective perceptions of a nation in crisis (van Prooijen & Douglas, 2017). If we consider that conspiracy theories are universal and they never seem to go away (Douglas et al., 2017), these premises would imply that humanity is in constant crisis, which seems unlikely because the very idea of stability - be it political, economic, or social – would not be conceivable in a never-ending crisis. The fact that some countries are more stable than others further disproves the never-ending crisis scenario (e.g. *Political Stability by Country 2024*, n.d.).

Therefore, we have to agree that, to some extent, conspiracy theories are not necessarily related to a crisis period. One possible explanation as to why they survive outside these moments is that conspiracy theories slowly turn into other forms of narratives following the onset of the crisis that generated them, morphing over time into coherent stories that eventually replace the historically official account of the events (van Prooijen & Douglas, 2017). That is, people begin to think that the conspiracy theory is the real historical explanation of the event, and then they pass it on from generation to generation as if it was a real fact. For instance, van Prooijen & Douglas (2017) note that there are still some Americans for whom the existence of a hidden plot that resulted in the death of J. F. Kennedy (JFK) constitutes historical truth, as opposed to the lone-gunner scenario (Zapata, 2024b).

Another possible answer might be that conspiracy theories peak during crises but are then actively supported by the ones for whom experience gets to constitute a good enough reason to view future life events in conspiratorial terms. While we seem to have an innate tendency towards conspiracy thinking (van Prooijen & van Vugt, 2018), not everyone feels the need to go down the rabbit hole of conspiracy

theorizing. And the ones who do so are more likely to adopt conspiratorial beliefs after experiencing a loss of trust through negative, repeated interactions with others (Pierre, 2020). Each of these interactions may reinforce a mindset of caution and suspicion, slowly favoring an increasingly conspiratorial perspective. When the lack of trust goes beyond a critical threshold, its target is automatically perceived as dangerous and antagonized through conspiracy theories, even absent relevant evidence.

When conspiracy theories become entrenched in people's minds, these may start favoring the conspiratorial narrative over the official one in future unrelated contexts. This further reinforces the content of people's beliefs, which is why some authors argue that conspiracy theories form a monological belief system, in which there is a functional interdependence between its elements (Converse, 1964, as cited in Enders et al., 2021). As Enders et al. (2021) put it, "the more conspiracy beliefs one holds, the more likely they are to express belief in other conspiracy theories" (p. 256). Acquiring more and more conspiracy beliefs increases the probability of an individual becoming radicalized, to the point where they may rely exclusively on conspiracy theories to construct their understanding of reality (Miller, 2020b; Pierre, 2020). If this process is supported by a social network that validates and rewards commitment to such beliefs, theorists may actually act upon them, inflicting potentially major costs (Ahmed et al., 2020; Kruglanski et al., 2022).

As such, conspiracy theorizing progresses over time. It can be likened to a virus, slowly infecting and taking over the cognitive system. However, its onset and development differ. While everybody starts from an initial t_0 in which conspiracy thinking only represents an evolutionary predisposition (van Prooijen and van Vugt, 2018), it can be argued that each one of us is on a different path toward potential radicalization. For this development to be set in motion, a critical moment seems necessary (i.e. a crisis). Even though some general-purpose mechanisms are at play (e.g. trust-shattering experiences with epistemic authorities, deficits caused by the critical moment, or reinforcement from peers), the variables involved in the process differ from person to person. Precisely for this reason, each person's conspiracy ideation is unique.

3. Psychometric scales in the measurement of conspiracy theories

3.1. Fundamentals of psychometric scales

A psychometric scale is usually a self-report psychological instrument that can be used to measure a variety of mental attributes, such as attitudes or personality traits (*APA Dictionary of Psychology*, n.d.-a; Robinson, 2018). Typically, scales employ a Likert format, allowing respondents to indicate their degree of agreement or disagreement with specific, pre-determined items by selecting from a range of closed response options that are summed up afterwards in total indices (Robinson, 2018). In order to be considered psychometrically viable, scales must be reliable and valid (Paola, 2020; *Psychological Testing | Definition, Types, Examples, Importance, & Facts*, 2022). For the scope of this paper, we will focus on validity, which refers to the degree to which an instrument actually measures what it intends to measure (e.g. McCrae et al., 2011). Validity is an essential characteristic of any psychometric measurement, mainly because psychology usually studies intangible concepts that are not directly observable; therefore, the study of latent variables implies observing them indirectly (Paola, 2020). This is precisely the reason for which, on a lower level, validity broadly reflects different nuances of the psychological measurement.

Firstly, we must assess whether an instrument adequately covers all of the relevant dimensions for the measured construct. That is, the instrument must possess *content validity* (Robinson, 2018). As such, identifying the best combination of items to be included is crucial for the development of adequate scales. Needless to say, if the theoretical foundations underlying the targeted concept are not well understood, the selection of items becomes arbitrary. Without relevant items, one cannot hope to draw meaningful inferences or to predict real-world outcomes from the results collected while applying the scale. Put differently, content validity improves a scale's *predictive validity*, meaning the degree to which the scale can predict external criteria that is known to be correlated with the measured construct (e.g. Newson et al., 2000). However, being able to predict external criteria in a controlled study

environment is not enough, because researchers' findings are of no use if they cannot be generalized to broader, real-world contexts. Thus, a psychometrically viable scale increases the *external validity* of the study (Findley et al., 2021).

In addition to validity, the standardization of measurement is another crucial aspect of psychometrically sound assessments, that cannot be overlooked. Whereas validity represents a characteristic of the instrument itself, standardization refers to the manner in which it is applied. To be standardized, an instrument must be uniformly used during the administration, scoring, and interpretation of the evaluation (Fischer et al., 2010). Such procedures are essential to ensure that "all participants take the same test under the same conditions and are scored by the same criteria" (*APA Dictionary of Psychology*, n.d.-b). Needless to say, standardization represents one of the most important steps towards achieving a high level of validity (Cicchetti, 1994). Among other things, it minimizes the risk of human error while interpreting results, creates a more controlled environment, reduces the influence of confounding factors, and establishes baseline conditions for comparing not only individuals, but also different groups. This last point is particularly important, because a result alone cannot convey any meaningful information without an established way of connecting it to other results, which is exactly what standardization does.

Finally, due to their self-report nature, psychometric scales' answers are not inherently right or wrong; they just reflect a person's predisposition towards one side of the spectrum (e.g. Schwarz, 1999). For instance, the question of whether one likes talking with strangers - a common item in extroversion assessments - does not have an inherently correct or incorrect answer, because it refers to a subjective evaluation of one's personality. This item differs from ones typically found in intelligence tests, which often aim to compare a participant's results against a predetermined performance standard. Even though the respondent may have an objective inclination towards introversion or extroversion, that could be different from what he reports of himself. This is problematic precisely because it is not clear to what extent people are good self-reporters (e.g. Devaux & Sassi, 2016).

3.2. How are psychometric scales used in the literature on conspiracy theories?

Two types of psychometric scales have been developed in the literature on conspiracy theories (Goreis & Voracek, 2019; Swami et al., 2017). On the one hand, there are *generic scales*, that are used to evaluate the overall tendency of the respondent to perceive and understand the environment through conspiratorial explanations. Even though the person may have conspiracy beliefs related to particular events, this paradigm focuses on the extent to which the respondent generally believes that the world functions according to conspiratorial motives and is the product of all sorts of conspiracies (i.e. a conspiratorial mindset). The underlying assumption of these scales is that a person with a developed conspiratorial mindset will be more prone to adopt conspiracy theories related to particular events, so it is futile to measure belief in thematic conspiracy theories. As we have seen, repeated negative experiences with an actor can lead someone to perceive that actor as harmful and to antagonize him through conspiracy theories, even in the absence of proof (Pierre, 2020). As a result, it would be pointless to ask respondents about particular events where the individual appeared suspicious, since they are likely to be perceived as such regardless of circumstances. That is precisely why in generic scales we find items on the lines of "important matters are voluntarily kept away from our knowledge" (*Conspiracy Mentality Questionnaire* - CMQ; Bruder et al., 2013), that are general, non-specific, and not related in any way with concrete events. In contrast, an item such as "Xi Jinping voluntarily kept away important matters from our knowledge throughout the pandemic" would not be considered generic, since it refers to the COVID-19 crisis.

Applied scales are the exact opposites of generic scales, because they test the endorsement of conspiratorial explanations referring to particular contexts or crises. For instance, in the pandemic period, we heard a lot of conspiracy theories specifically linked with COVID–19, explaining the why's, the how's, the what's and the who's of the sanitary crisis (for a systematic review, see van Mulukom et al., 2022). These instruments measure belief in particular conspiracy theories, with subjects ranging

from the assassination of JFK to the harmful substances emanated by smoke detectors (Imhoff & Lamberty, 2017), as opposed to generic scales that measure the conspiratorial mindset of that person. In these instruments, we find items such as "the assassination of J. F. Kennedy was not committed by the lone gunman […], but was rather a detailed, organized conspiracy to kill the president" (*Belief in Conspiracy Theories Inventory*; Swami et al., 2010, p. 753). This item highlights a specific crisis, namely the death of the American president, rather than a general state of affairs dominated by conspiracies.

Given that a propensity for conspiratorial thinking often correlates with belief in specific conspiracy theories (Enders et al., 2021), one might reasonably question the value of using applied scales. Still, it must be emphasized that the exact conspiracy theory one believes in can translate into different behaviors and consequences. For example, climate change conspiracy theories may thwart authorities' efforts to combat the environmental crisis (Douglas & Sutton, 2015), but that may not be the case for COVID-19 conspiracy theories. It has also been shown that COVID-19 conspiracy theories uniquely predict hoarding behaviors (van Mulukom et al., 2022), but that is not the case for climate change conspiracy theories. In other words, the content of psychometric scales predict different outcomes (Oleksy et al., 2021). This is precisely why it is crucial to understand the nuances of respondents' beliefs, as individuals with a prominent conspiratorial mindset do not necessarily believe in all existing conspiracy theories. Conspiratorial mindsets, if any existed, might perhaps result in conspiratorial webs of belief (Quine & Ullian 1978), not limited to specific conspiracy theories but spanning varying topics one could take attitudes with regard to.

4. The Current Criticism

In what follows, I will develop a critique of psychometric scales that disputes the idea that the usage of these scales represents a suitable way of measuring conspirational beliefs.

4.1. Applied Scales

I will start by discussing applied scales' most evident flaw: so far, nobody has developed a guideline of objective standards to be considered when creating or using applied scales in the literature on conspiracy theories (Enders et al. 2021, p. 4). The creation and usage of these scales refer to different facets of the problem. While the creation of applied scales concerns content itself, their usage pertains to the ways in which scales are used in research contexts.

A growing body of evidence shows how much the content of the instrument really matters in predicting different criteria (e.g. Imhoff & Lamberty, 2020; Oleksy et al., 2021; van Mulukom et al., 2022). Each time an applied scale is created, researchers have to arbitrarily choose the items to be included (e.g. Gligorić et al., 2021; Imhoff & Lamberty, 2020; Jolley et al., 2019; Miller, 2020a; Oleksy et al., 2021; Stoica & Umbreș, 2021), subsequently influencing the outcomes with which the content gets to be correlated. This point is illustrated by two studies claiming to have studied COVID-19 conspiracy theories, in the same culture and with the same population (Romanians), that had strikingly different results: Stoica and Umbreș (2021) observed that education correlates positively with COVID-19 conspiratorial beliefs, whereas Buturoiu et al. (2021) claim that the correlation is negative. Without clear standards as to how many items to use, how broad or narrow to formulate them and even how many response options to allow in Likert scales (for a discussion on this topic, see Sutton & Douglas, 2022), cases such as the presented one strongly suggest that the scale used in at least one of the studies (or perhaps both) lack content validity. However, considering the vast amount of variations that a particular conspiracy theory could have, it is no wonder that researchers have a hard time finding the best combination of items to correctly assess them. Moreover, some conspiracy theories do not even fit into one theme, so the task of choosing items becomes even more complicated. Lack of content validity undermines not only the inferences we draw on the basis of results (i.e. predictive validity), but also their generalizability to other conditions (i.e. external validity). While these types of validity refer to somewhat different particularities in terms of

measurement accuracy, the failure to have representative content also impairs the predictions we draw on the basis of the results and their applicability in different contexts.

It seems, therefore, that researchers have no explicit guidelines for using applied scales in a standardized manner. Standardization is essential to ensure that "all participants take the same test under the same conditions and are scored by the same criteria" (APA Dictionary of Psychology, n.d.-b). If assessment items are changed each time the evaluation is conducted, there are no fundamentals on which to create consistent baseline conditions to evaluate all participants. That is, the results of different studies claiming to measure variations of the same conspiracy theory become incomparable. Considering that a result alone cannot convey meaningful information without an established way of connecting it to other results, the usage of applied scales seems questionable.

The main reason why the elaboration of standards might not even be possible is that many conspiratorial statements pertain to their believer's identity, political orientation or group membership. Consequently, we can generate an astounding number of different conspiratorial explanations for particular situations (Enders et al., 2021), because no two people have the exact same set of beliefs. This means that applied scales should be constantly adapted and updated to keep up with the wide and ever-changing variability of conspiratorial content.

Conspiracy theories also develop on a social level. They gain a lot of momentum and gain different peaks of popularity during crises (Buturoiu et al., 2021; Zeng, 2021). Therefore, they can quickly become "outdated". As the media continuously reports new information and misinformation about current events, popular narratives may change. In addition to the influence of the media, consider how prominent public figures may be motivated to deliberately spread conspiracy theories - even fictional ones - in pursuit of personal gain (Dale, 2020; Douglas et al., 2019, p. 23), effectively contributing to sudden and swift changes in mainstream conspiratorial narratives. While one may argue that conspiracy theorists steer towards a critical mass of thematic conspiracy theories, the rapid development and increasing complexity of the

dominant conspiratorial discourse make it hopeless to develop lasting standards for creating and using applied scales.

A possible counterargument might envisage developing applied scales when conspiracy theories will have reached their climax during a crisis. In reply, note that it may be impossible to predict the timing of such a moment, since each crisis is unique[4]. Besides, it is plausible to think that dominant thematic conspiracy theories may have gained a multidimensional nature before reaching full maturity (Swami et al., 2017). Consequently, the crisis may have already occurred and passed by the time researchers can understand and accurately incorporate these dimensions into applied scales, undermining efforts at measuring belief in specific (thematic) conspiracies.

Let's illustrate the process of using and creating applied scales. In this endeavor, I will only consider COVID-19 applied scales, for ease of understanding. Typically, researchers employed at least one conspiratorial proposition about the origin of SARS-CoV-2 while creating these instruments (van Mulukom et al., 2022). For instance, Lobato et al. (2020, p. 3) asked respondents about the claim that "COVID-19 was created in a lab as a bioweapon". Similarly, Achimescu et al. (2021, p. 305) used this statement: "the virus was created by some powerful individuals to make money". Additionally, Miller (2020a, p. 2) inquired whether people agreed with the idea that the "virus is a biological weapon intentionally released by China", while Chan et al. (2021, p. 3) asked about the notion that "the novel coronavirus was stolen by Chinese spies from a laboratory in Canada". Naturally, all of these can be considered conspiracy theories, because they fulfill the prerequisite conditions to be qualified as such. Moreover, all the references pertain to the same issue - the origin of the virus - but involve distinct nuances. Even though we can see a somewhat recurrent theme, that is the artificial creation of the virus, each item portrays different layers of this conspiracy theory. For instance, Miller's (2020a) item accuses Chinese people of the creation of the virus, whereas Chan et al.'s (2021) implies that the Americans are to blame.

[4] While it is clear that crises may generally be divided into categories (e.g. social crises, humanitarian crises, economic crises, etc.), here we are referring to the particular features of these contexts, features that arguably differ from situation to situation.

Therefore, we have to admit that participants would likely respond differently to each item, despite dealing with the same underlying topic. Participant might agree that the virus was created even when they do not believe that it was stolen by Chinese spies. And yet, the scale might force them to choose: rate this item favorably since they believe the virus was artificially fabricated, or disagree with it because they don't fully accept its proposed explanation? A neutral response would fail to accurately reflect their true preference. Consequently, scores regarding belief in COVID-19 conspiracy theories might vary due to measurement inconsistencies. In the following lines, I examine three possible ways of addressing this situation and find none of them satisfactory.

Firstly, consider the scenario in which all the four variants are used when creating the scale. Although this increases the likelihood of obtaining an exhaustive scale, it would likely result in an excessively lengthy questionnaire that could induce respondent fatigue. For instance, it has been shown that longer survey completion times are associated with higher rates of distorted response patterns, such as straight-lining (Herzog & Bachman, 1981) or rushed, shortened response behaviors towards the end of the assessment (Galesic & Bosnjak, 2009). Besides, increasing the amount of items alone does not necessarily guarantee a psychometrically sound scale on its own, as multiplying the items may result, in fact, in the erroneous inclusion of irrelevant aspects, thus decreasing the scale's validity (e.g. Robinson, 2018). As such, a trade-off between the number of items and their content is essential while developing accurate psychological measurements. Moreover, increasing the number of items may result in the inclusion of contradictory items. While some sources claim that some respondents do endorse contradictory conspiracy theories simultaneously (e.g. Miller, 2020b), it is not at all clear whether this pattern is real or merely reflects expressive responding (Schaffner & Luks, 2018). That is, participants may have evaluated the items in a favourable manner either because they were not sure which version of the same theory to believe in more, or out of a desire for emphasis.

Secondly, a researcher can use the most general statement when creating the instrument. However, not only does the mainstream

narrative develop constantly, but what seems relevant in terms of conspiracy theorizing today may become obsolete by tomorrow. Therefore, choosing the most general statement unnecessarily restricts the ever-growing variety of conspiracy theories we face. In addition, some conspiracy theories may concomitantly tap into multiple themes. As such, choosing the most general variant of the theory may not be an easy endeavor.

Finally, we may choose to use a specific item, rather than the most general alternative from the four options. In fact, this is how researchers solved the dilemma when creating and using applied scales: by choosing conspiratorial accounts that seem to be very popular and combining them (Gligorić et al., 2021; Imhoff & Lamberty, 2020; Jolley et al., 2019; Miller, 2020a; Oleksy et al., 2021; Stoica & Umbreș, 2021). However, we can see how this may allow for too much subjectivity on the side of the researcher that is conducting the study. Also, there is a high chance of choosing unrepresentative items for the conspiracy theories under scrutiny.

None of the ways mentioned to address the situation seem satisfactory, suggesting that applied scales are not a psychometrically viable solution for measuring conspiracy beliefs. Besides, these instruments have other additional limitations. For example: the inclusion of context and cultural biases (e.g. the relevance of JFK conspiracy theories may be limited to the US), their incapacity to gauge personal experiences (where direct interaction with a crisis may lead to a different type of conspiracy belief compared to the ones that are obtained only from secondary sources), and the risk of reinforcing the very beliefs the scales purport to measure (by providing participants with another opportunity to engage with the theories, the scales may effectively lend credibility to the theories; Buchanan, 2020). Additionally, researchers tend to focus only on high-profile events while creating applied scales (e.g. the assassination of celebrities, pandemics, etc.), potentially overlooking obscure conspiracy theories that may be more helpful in understanding the broader picture of the factors underlying belief in conspiracy theories. For instance, conspiracy theories tackle topics as mundane as the harmful effects of smoke detectors (Imhoff & Lamberty, 2017), but it is hard to believe researchers have solid reasons to include such contents in applied

scales. Overall, these issues severely constrain the utility of applied scales in the research of conspiracy theories.

4.2. Generic Scales

Generic scales are the exact opposite of applied scales: they are made up of general items that do not refer to particular real-world contexts, but rather to the elements of a conspiratorial view of the world. The underlying assumption of this approach is that a conspiratorial mentality exists, and that it makes its holder more prone to use conspiratorial terms to explain real situations (Swami et al., 2017). For instance, if I tend to perceive the world as being controlled by nefarious forces, I may be inclined to believe that the same forces may have also played a role in the assassination of JFK, hence the futility of using an applied scale to measure this belief. Unlike applied scales, whose content varies based on the specific theme or topic, generic scales maintain a consistent set of items. This actually allows for the ideal of standardized measurement to be achieved when using generic scales.

Despite the obvious advantages of generic measurements over the applied ones, my contention is that not even generic scales are psychometrically adequate to accurately measure conspiracy beliefs. Just as was the case with applied scales, the idea that we can generate an abundance of conspiratorial explanations for particular situations (Enders et al., 2021) implies that a person's conspiratorial worldview can also be constituted along a large number of coordinates (i.e. dimensions to be measured through generic scales; Swami et al., 2017). That is, a person may use conspiracy theories to antagonize whatever actor they want while creating their conspiratorial ideation: we can have generic conspiratorial perspectives about doctors, researchers, governments, Illuminati, Jews, Polish, Chinese, Americans, Russians, Ukrainians, Muslims, corporations, rich people, white people, black people, and the list can go on and on. Since it is unclear which factors are relevant and which must be excluded, generic scales also lack content validity.

Earlier I mentioned that conspiracy theorizing is not static, but it rathers develops over time (Bruns et al., 2020). In the same vein, conspiratorial ideation is unique from person to person. Therefore, a generic scale should be able to tap into all possible dimensions of a conspiratorial worldview that an individual could possess, while also accounting for the fact that the conspiratorial mindset of each person may be in a different developmental stage.

More than that, conspiratorial ideation is culturally specific. Recall the evolutionary origins of conspiracy theories used by our ancestors to protect themselves from hostile groups (van Prooijen & van Vugt, 2018). This seems to suggest that a nation's contemporary conspiracy theorizing reflects its unique history. As individuals interacted with different environments throughout their history, some conspiracy-related cues may have been more prevalent in certain settings, leading each nation to emphasize particular conspiratorial elements in their ideation. This last idea is of great help to show that, while generic scales more accurately reflect the ideal of standardized measurement, their external validity may be restricted to particular cultures.

To support this position, let us consider the most commonly used generic scales, as per Swami et al. (2017): *the Belief in Conspiracy Theories Inventory* (BCTI; Swami et al., 2010), *the Conspiracy Mentality Questionnaire* (CMQ; Bruder et al., 2013), and *the Generic Conspiracist Beliefs Scale* (GCBS; Brotherton et al., 2013). Take, for instance, one item according to which "the government agencies closely monitorize all citizens" (CMQ). Such a statement may be more salient in cultures like the Romanian one, in which the state actually strictly surveilled the activity of its citizens throughout much of the communist period. In the same vein, conspiracy theories pertaining to terrorist activity (e.g. "the government permits or perpetrates acts of terrorism on its own soil, disguising its involvement"-GCBS) could be more appealing to Americans and less to Romanians. Arguably, the US have historically experienced a higher level of terrorist activity than Romania, as is shown by the two Terrorism Indices specific

for each country; in Romania, the reported Terrorism Index was 1.06 in 2021 (Institute for Economics and Peace, n.d.), whereas the American one was 4.96 (Institute for Economics and Peace, n.d). These examples convey the idea that the content of widely used generic scales may not be relevant beyond the countries in which they were developed. So, developing a universal, one-size-fits-all generic scale appears unrealizable.

The current state of generic instruments seems to further support this conclusion. In a first of its kind study, Swami et al. (2017) meta-analyzed each of the above instruments (i.e. BCTI, CMQ, and GCBS) in relation to their multidimensional nature and discovered an alarming situation: the generic scales currently in use suffer from significant problems. While BCTI manifested factorial validity, the degree to which it really taps into conspiratorial ideation is unknown. In other words, it is not clear whether BCTI actually measures belief in generic conspiracy theories. The situation is not even surprising, since the items seem to be extracted from an applied scale (e.g. "Princess Diana's death was not an accident […]", "The assassination of JFK was not committed by the lone gunman […]", etc.). The same analysis revealed that CMQ had poor factorial validity, which suggests that some items may not in fact reflect a tendency toward conspiratorial ideation. Finally, GCBS did not seem to pass the psychometric assessment either, with Swami et al. (2017) expressing concerns over the use of this measure. In their own words, "the GCBS […] may tap multiple dimensions that do not cohere very well" (Swami et al., 2017, p. 23).

In short, the most commonly used generic scales seem to suffer from the same problem as applied scales, that is, content validity. This limitation impacts not only the predictions we can make from the data collected with these instruments (i.e. predictive validity), but also the degree to which we can generalize the findings (i.e. external validity). Generic scales fare better than applied scales with regards to their standardized applications, but they are not psychometrically adequate to accurately measure the construct they claim to measure: conspiratorial ideation.

5. Implications and future directions

Since none of the scales discussed meet content validity requirements, I tentatively conclude that psychometric scales do not represent an adequate method of measuring conspiratorial beliefs. This issue influences not only the predictions we make on the basis of these scales, but also their generalizability to real-world contexts. Given that objective standards for these instruments are not forthcoming, I conjecture that psychometric scales will most likely face these issues in the future, as well.

Even though it can be argued that this domain is still in its prime (Douglas et al., 2017), the fact that psychometric scales represent the main method of measuring the phenomenon (Douglas et al., 2019) raises serious concerns when it comes to the validity of what is generally known regarding conspiracy theories. Lack of standardization in applied scales makes results reported using these instruments virtually incomparable. Recall the striking contradiction between the two studies claiming to had studied COVID–19 conspiracy theories, in the same culture and with the same population (Romanians) (Buturoiu et al., 2021; Stoica & Umbreș, 2021). If we are to assume that both of them measured belief in COVID-19 conspiracy theories, then the natural course of action would be to conduct further research to test the relationship. However, the current criticism suggests that this assumption may be unwarranted, and that what one study found was actually a correlation between *something* and higher levels of education, while the other identified a relationship between *something else* and lower levels of education. While the degree to which this phenomenon is representative of the applied scales literature is uncertain, its existence represents a tremendous problem that allows us to better understand why social psychology is facing a replication crisis (Trafimow, 2018; Yaffe, 2019). In the same vein, generic scales often face dimensionality issues, despite their standardized application (Swami et al., 2017). So, the same concerns could also be raised about the literature that employed these instruments to measure conspiratorial perspectives.

If we are to make real progress in this area, a good alternative may be constituted by discourse analysis, a method already used to some extent (Douglas et al., 2019). The superiority of this approach lies in its flexibility - researchers are not constrained to present respondents with a predefined set of items to agree or disagree with, as is the case with applied and generic scales. Instead, discourse analysis allows researchers to study conspiracy theories as they are naturally communicated in people's everyday lives. Given a sufficiently large sample, discourse analysis may help us understand what the most relevant elements of a culture's conspiratorial ideation are. By analyzing a person's conspiratorial discourse, one should be able to identify the frequency with which some themes occur. One may check how many times somebody invokes an unfalsifiable explanation of an event, an *us-vs.-them* rhetoric, or clues that the they experienced trust-shattering experiences with epistemic authorities. One drawback of this method might be that we would have to clearly understand how to separate conspiratorial discourses from other, similar ones (i.e. populist discourses; Pirro & Taggart, 2023).

Another potentially fruitful route may be represented by the creation of a new type of scale in the literature on conspiracy theories. To be a better contender than existing ones, it should be able to address the limitations of existing instruments, and it should be firmly grounded in the current understanding of conspiracy theories. However, my discussion above implies that such a scale can only be conceivable if it paradoxically did not directly measure conspiratorial beliefs. Thus, instead of measuring conspiracy theories, maybe we should focus on what is known so far to be generating them: the unfulfillment of epistemic, existentialist and social needs (Douglas et al., 2017). By measuring the extent to which people feel these needs, we may indirectly assess the probability of a person endorsing conspiracy theories. I will attach below an attempt to create a scale along the lines of the above suggestions.

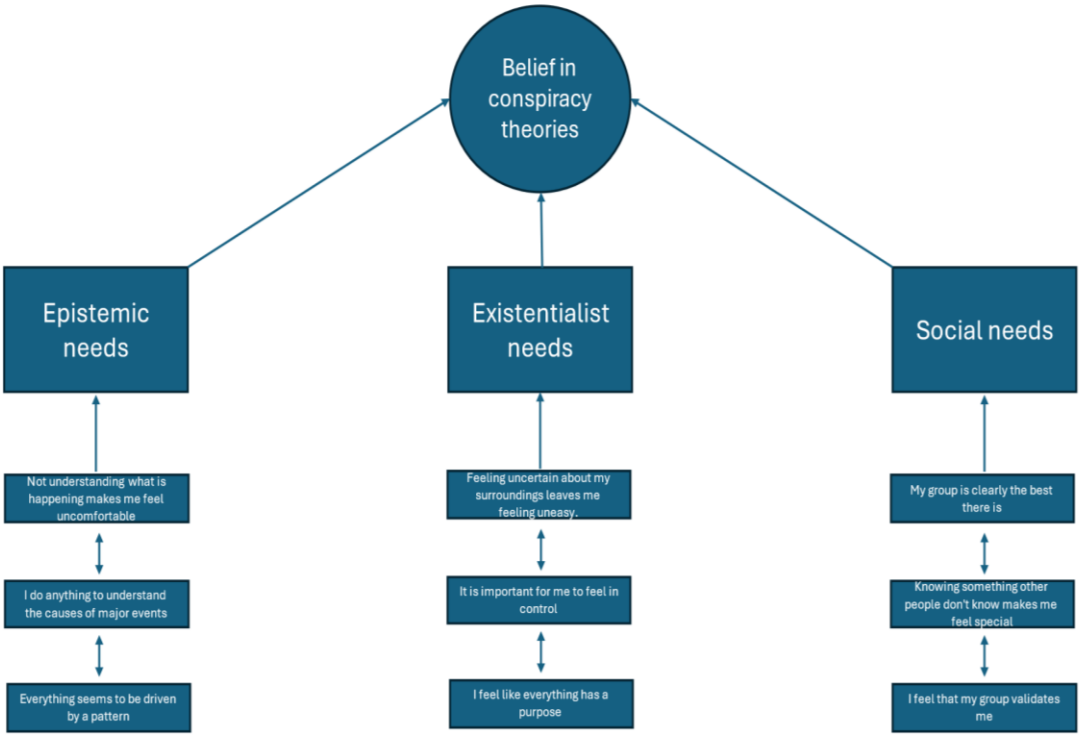

Figure 1. An attempt at a scale indirectly measuring conspiracy theories, inspired by the deficit model (Douglas et al., 2017).

There are several things to be noted in regard to this novel proposal. Firstly, while I have tried to include a similar number of items across the three needs, a content-valid approach may imply having a disproportionate amount of items for each need specified by the deficit model (Douglas et al., 2017). Secondly, consider the fact that conspiracy theories may develop in peaks throughout crises (e.g. Bruns et al., 2020), and the epistemic, existential and social needs of people endorsing these narratives will likely change during these peaks. That is, applying the scale in different moments of time could result in stark differences

observed for the same individual. As such, given that conspiracy theorizing develops on an individual level as well, the scale should probably be used only for longitudinal study designs (*APA Dictionary of Psychology*, n.d.-c). Thirdly, while the deficit model (Douglas et al., 2017) is indeed a compelling explanation as to why people believe in conspiracy theories, let us not forget that certain conspiracy theories are *not* related to crises (Pappas & Radford, 2023), which is the fertile ground for the appearance and development of epistemic, control and social needs. Therefore, there may appear some situations in which the scale would either fail to detect a conspiratorial mindset if the scale is applied outside the times of a crisis (since the person will not have the respective needs at that moment), or it would erroneously detect a conspiratorial mindset if it is applied during a crisis, on a person that does not necessarily employ conspiratorial views, but whose epistemic, control and social needs appeared due to the crisis. All of these presumptions require further study. Last but not least, there seems to be no other way to test the utility of this scale without comparing it with the scales currently in use. In this endeavor, my recommendation would be to assess this scale by reference to generic instruments only, as the underlying assumptions of the two approaches appear to be similar.

6. Conclusions

This text advances the state of the current literature on conspiracy theories by evaluating whether psychometric scales are an appropriate method for measuring conspiracy theories. My answer is a negative one, due to these scales' problems in regard to three critical assumptions of an accurate assessment: content validity, predictive validity and external validity. The inability to objectively define the best combination of items to be included in applied scales raises serious issues when it comes to the degree to which their items can be considered representative for the construct they purport to measure. In turn, this restricts their standardization, leading to a situation in which independent results cannot be compared to each other. As for generic scales, the existence of a theoretically limitless

number of conspiratorial actors that people could theorize about and the fact that each of these elements could vary in importance from person to person suggest that it is difficult to construct a scale complex enough to measure all of this variance in conspiratorial beliefs. Unsurprisingly, this situation is reflected by the generic scales in use (Swami et al., 2017).

All of the above considerations convey an alarming message about the current state of the literature on conspiracy theories, since psychometric scales seem to be prominent in this research (Douglas et al., 2019). I proposed a change of paradigm in terms of measurement, one that involves an indirect assessment of such narratives. Other methods - such as discourse analysis - may also prove more useful than applied and generic scales in characterizing conspiratorial ideation.

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