

Why inconsistent intentional states underlie our grasp of objects

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Abstract

Several authors maintain that we are capable of having inconsistent intentional states, either in cases of illusion, in certain cases of imagination, or because the observable world is (partly) inconsistent and we perceive it as such. These views are all premised on the assumption that inconsistent intentional states—even if acknowledged—are peculiar and have nothing essential to do with our perceptual capacities. In the present article, I would like to present, and argue for, a much stronger thesis: that inconsistent intentional states underlie the possibility of having intentional content in mind. I argue for this thesis based on a Husserlian phenomenological analysis of our grasp of objects, which I formulate in terms of incompatibility semantics.

1 | INTRODUCTION

Several authors maintain, for various reasons, that we are capable of having inconsistent intentional states. Some claim that this is what happens when we have illusions of a certain kind, such as we have when looking at Penrose's figure (Priest, 1999). Others stress our ability to imagine metaphysically (or otherwise) impossible scenarios (Berto, 2014, 2017). Still others maintain that certain worldly phenomena—say, vague objects—are inconsistent by nature, and we perceive them as such (see, e.g., Weber, 2010). These views are all premised on the assumption that inconsistent intentional states—even if acknowledged—are peculiar and have nothing *essential* to do with our perceptual capacities; in regular situations, such as in veridical experiences—so the assumption goes—inconsistent intentional states have no role to play. Thus, some of the above philosophers are adamant that the observable world is consistent, and we perceive it as such (Priest, 1999; see also Beall, 2000).

In the present article, based on a phenomenological analysis of our grasp of objects, I would like to present, and argue for, a much stronger thesis: that inconsistent intentional states

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underlie the possibility of having intentional content in mind, independently of whether the observable world is inconsistent or not. In particular, I shall argue that inconsistent intentional states are essentially required for grasping the world objectively.

The phenomenological analysis on which my arguments below are based originates in, and is clearly indebted to, some of Husserl's ideas, mainly in his *Experience and Judgment* (1973, 1999). However, my discussion of Husserl will be merely instrumental in nature; I shall not commit myself to everything he has to say about the issue at stake, let alone his entire phenomenological view, which may be disputed for various reasons. On the contrary, I would like to show that various considerations that Husserl raises—indeed, considerations that are well-motivated independently of his entire view—lead to a tension. Formulating the phenomenological picture in terms of what is known in the literature as “incompatibility semantics” (Berto, 2015; Berto & Restall, 2019; Dunn, 1993; Restall, 1999), I shall suggest a way of resolving the tension, the upshot of which is that inconsistent intentional states play an essential role in our grasp of objects.

It would be illuminating to compare the Husserlian ideas discussed in what follows with some common ways of talking about and understanding intentionality in the analytic tradition. Indeed, one can find many such comparisons in the recent literature (see, e.g., Berghofer, 2022; Crowell, 2013; Drummond, 1990; Hintikka, 1975; Madary, 2016; Smith & McIntyre, 1984). Yet, a discussion of this sort exceeds the scope of the present article and so I shall not be engaging with it. Rather, I shall only provide some motivational comments for the phenomenological picture, and then adopt it without further discussion; next, I shall proceed to account for how inconsistent intentional states figure in this picture. Accordingly, my conclusion will be limited in scope: that *if* the phenomenological picture is correct, *then* inconsistent intentional states underlie the possibility of having intentional content in mind.¹

The article proceeds as follows. In Section 2, I lay out the phenomenological picture that is going to be at stake here, point out the tension that is inherent in it, and discuss how—unsuccessfully, in my view—Husserl confronts that tension. In Section 3, I show how this phenomenological picture can be formulated with incompatibility semantics. I then argue that this formalization can be made use of in resolving the tension. I conclude that if the phenomenological picture is correct, then inconsistent intentional states underlie the possibility of having intentional content in mind.

2 | THE PHENOMENOLOGICAL PICTURE

Since the phenomenological picture laid out below revolves around our grasp of objects, it would be helpful to begin with a few clarificatory remarks on “grasp” and “objects,” respectively. In my account, I shall focus on *perceptual* grasp, and so the verb “grasp” may be understood later simply as “perceive,” and the noun “grasp” may be understood as “perception.” The “objects” of our grasp may be understood accordingly, that is, as the objects of our perception. Nonetheless, I believe that the account below may be extended to other ways of coming to be in a cognitive relation with objects, such as the cognitive relation we might have with abstract objects, for example, mathematical ones.² To maintain this possibility of a more permissive account, I shall keep using the term “grasp” rather than “perceive.”

It is also worth pointing out that we do not just grasp objects such as a “tree,” but a tree with certain physical properties, seen from a given perspective, located in space and time, and so on. All of these *characteristics*—that is, properties, spatiotemporal instances, etc.—are part of what we grasp when we grasp a tree. To indicate this point, I shall also refer sometimes to the “content” of our grasp, whereby I mean either objects or some of their characteristics.

¹My thanks to an anonymous referee for suggesting this qualification.

²See, e.g., Berghofer (2022), Posy (1991).

Now, the phenomenological picture of intentionality I shall be assuming throughout this article may briefly be put as follows. We grasp objects, and that is (partly) made possible due to certain *expectations* we have about these objects.³ Think, for example, about our grasp of a given ball. Among other things, we grasp the ball as a three-dimensional object. For that to happen, our grasp of the ball must be such that we expect it to have a back side, and we expect that back side to be a certain way, for example, to have a certain color. For instance, upon perceiving a ball that is—as far as we can see from our current perspective—uniformly colored red, we may *expect* its back side to be red as well. Notice that we form such an expectation even though we do not have eye contact with ball's back side, as our grasp of the ball is perspectival. Yet, if we were to find out that the back side is not what we expect it to be—say, that it is green—we would definitely be *surprised*, and such surprise implies that the ball has not met a previous expectation we had about it. Notice further that there is no way to grasp the ball as a three-dimensional object without forming relevant expectations about its unseen parts. In general, our consciousness would not be able to direct itself onto objects if we were unable to form such expectations. This conception of intentionality is particularly expressed in Husserl's notion of the “horizon,” to which I now turn.⁴

2.1 | The horizon

In brief, Husserl introduces the horizon to deal with the rule-governed nature of our grasp of objects (1973, §93a, pp. 360–361).⁵ The idea is that what allows us to identify an object across spatiotemporal instances, as well as to “put together” its different components and properties (as belonging to the same object), is that an object is grasped as being governed by certain *rules*. Think again about our grasp of a red ball:

- To grasp the ball as one object, we have to grasp its properties, say, its shape and color, as “holding together.” Namely, we have to grasp “redness” and “roundness” as properties of the same thing, that is, as belonging together in the same object. Such “belonging together” is a kind of copresence that manifests an integrated connection, as opposed to mere juxtaposition.
- Likewise, the left-hand side of the ball and its right-hand side are grasped as two components of the same thing, rather than a mere juxtaposition of two red areas.
- Moreover, the ball is grasped as persistent across space and time; namely, its grasp consists in a unification of different spatiotemporal instances. Once again, to grasp all these instances as episodes of the same object, they all must be grasped as sharing some integrated connection.

We are able to grasp such an integrated connection between properties, components, and spatiotemporal instances of objects because we grasp those properties, components, and spatiotemporal instances as governed by, or as instantiating, the same rules. To put it in Kantian terms, the rules, such as the one associating redness and roundness, “give unity” to the ball.

Now, the basic idea of a rule is that of repeated instances: a content is grasped as instantiating a rule if it is grasped as a repeated instance of that rule. Thus, to grasp “redness” and

³See, e.g., Husserl (1960, § 19, p. 44, §§ 38, 39; Husserl (1973, §§ 25, 26, § 67a, p. 277). This point is also stressed by what is nowadays known as the “predictive” approach to mind in cognitive science (e.g., Clark, 2013). Under this approach, one always grasps objects in light of, and as an attempt to confirm, previous hypotheses one already has about them. These hypotheses guide us to which elements we should focus on and which can be ignored. They thus enable us to represent the world in spite of ambiguity and excessive data.

⁴The notion of the horizon is characteristic of Husserl (1982) later, “transcendental” phenomenology, particularly after *Ideas I*. Yet, as I said in the introductory section, my discussion of Husserl here is merely instrumental. Therefore, I shall not elaborate on this exegetical issue.

⁵See also Crowell (2013, pp. 45–46).

“roundness,” or “right-hand side” and “left-hand side,” as belonging together, we have to view their copresence against a relevant *horizon*, that is, an implicit background of various other episodes—possible scenarios and expectations relating to the current situation of the ball and what might happen to it (as well as counterfactual scenarios)—where, in all of these episodes, the same shape, color, and sides still belong together in the same way. Likewise, to grasp the ball as persistent across space and time, we must view each spatiotemporal instance of it against various other possible instances, so that when one of these instances is realized, it is grasped in continuity with previous instances as an instance of the same ball. In general, then, to say that an object is grasped as being governed by a rule, or instantiating it, is to say that it is grasped against an implicit background of possibilities, all of which conform to the same rule (Posy, 1984, pp. 25–29; 1991, pp. 110–114). It follows that each possibility of the horizon should be regarded as an intentional state, as its content—the content of an implicit expectation regarding an object one grasps—takes part in the complex structure that allows our consciousness to direct itself onto that object.

Much more needs to be said about the horizon. For a start, the following three points will suffice:

1. The horizon consists in an *implicit* background of possibilities. By that I mean that we do not have to represent those possibilities in mind, nor do we need to consider every possible scenario of an object in order to grasp it. Rather, those possibilities are embedded in our grasp of the object as rule-governed, in the sense that such a grasp makes us form corresponding implicit expectations that the object will remain in compliance with the relevant rules: in the future, from a different perspective, in hypothetical scenarios, etc. (Drummond, 1990, pp. 216–226; Posy, 1991, pp. 110–114).

One may understand such “implicit expectations” in a dispositional manner. That is, to say that one has an implicit expectation of things staying in conformity with a given rule is to say that one is *disposed* to believe of things that they are so. To have such a disposition one need not be aware of it; that is, it need not be explicit in one's mind. Thus, for example, one who grasps a ball from one perspective may implicitly expect its back side to be the same color as the sides facing them, without necessarily being aware of this expectation and without even representing in their mind the back side of the ball. Such an expectation becomes explicit only if it is not met, for example, when one finds out that the back side is green rather than red. In such a case, one would definitely be surprised, and such a “surprise” implies that the ball does not meet one's expectation; that is, it clashes with one's disposition to believe of its back side that it has the same color (even though one has not formed such a belief and has not represented the back side in their mind at all).

2. The horizon consists not only of future or counterfactual possibilities. The past—in particular, the near past—has a no-less significant role to play in it. This point has to do with Husserl's notion of “retention.” In a nutshell, the idea is that to grasp a given object and its characteristics as continuous in time, we have to hold in mind the object's moments in the near past, so that the present moment is conceived of against the background of these moments. For example, to grasp the redness of the ball as continuous in time—as opposed to a one-off occasion—we have to hold in mind simultaneously not only the present moment where the ball appears as red, but also the near-past moments where it appears so. In this way, the present moment is grasped as “following from,” and thus continuous with, the past, thereby giving our grasp its temporal depth (Husserl, 1960, § 19, p. 44, 1964, § 11, p. 26).

Moreover, not only does the horizon include *actual* past perceptions; it also includes *possible* past perceptions, that is, perceptions the perceiver *could have had* in the past instead of those he did have (Smith & McIntyre, 1984, pp. 258–259). The reason for this is simple: each moment of the actual past is itself rule-governed, and so we cannot hold it in mind unless we hold its own horizon—including those scenarios that have not eventually been realized. For brevity, I shall refer to those possibilities of the near-past moments—whether they have eventually been realized or not—as the “near-past horizon.”

3. The possibilities of which the horizon consists stand in various relations. For our purposes here, it is enough to consider two of them:

- (i) A part-whole relation. First and foremost, the horizon extends one's current experience in more and more *determined* ways. For example, each possibility where the back side of the ball has a specific, determinate color *extends* our current perspective where the back side is unseen and is thus indeterminate. As Husserl puts it: “Every experience has . . . its core of actual and determinate cognition . . . but beyond this core . . . it has its own horizon. This implies that every experience refers to the possibility . . . of obtaining . . . new determinations of the same thing. Every experience can be extended in a continuous chain of explicative individual experiences . . . as a realm [Spielraum] of possibilities, as the prescription of the path to a more precise determination” (Husserl, 1973, § 8, p. 32).
- (ii) An incompatibility relation. Two possibilities need not be compatible with one another. For example, suppose that we have no specific expectation in regard to the color of the unseen back side of the ball: it may well be that the back side is red, and it may well be that it is green. The horizon includes, in this case, a scenario where the back side is green and a scenario where it is red. But these two scenarios are *incompatible* with one another, and so it seems that they cannot be held together in one intentional state. That is to say, the horizon includes, in this case, at least one possibility where the back side is red and one possibility where the back side is green, but no possibility where the back side is both red and green. Thus, Husserl says that “a horizon of what is anticipated as possible” consists of “systems of disjunctive possibilities” concerning “how subsequent experience could advance (what, in several *mutually incompatible* ways [miteinander unverträglichen Weisen], it could be)” (1973, § 93, p. 361; emphasis added).

Now, the above points are in clear need of elaboration. For instance, one may expect to hear more about the part-whole relation, the incompatibility relation, and about how the two interact. For now, let me postpone these discussions and turn to my main point regarding the phenomenological picture, namely, that there is an inherent tension in this picture, one that Husserl himself was aware of.

2.2 | The tension

To see where the tension comes from, let us consider a case of an unmet expectation. Suppose we do not have a line of sight with the back side of the ball, but we nevertheless expect it to be red. In the above picture, this means that, at the very least, the back side is red in any possibility of the horizon in which (i) our current line of sight is extended, and (ii) the color of the back side is revealed to us. But now suppose that we turn to the other side of the ball

and find out that it is actually green. As a result, we experience a clash between what is revealed to us and our previous expectation. Needless to say, there is nothing remarkable about such clashes, as they happen all the time. However, those clashes are of paramount conceptual importance, as they underlie the objectivity of our grasp. Let me dwell a bit on this point.

The rationale behind the last claim is simple: there is no way to objectively grasp the world if whatever we grasp cannot in principle clash with our own subjective expectation of it. Donald Davidson makes this point quite clearly:

One cannot have a belief without understanding that beliefs may be false—their truth is not in general guaranteed by anything in us. Someone who believes that there is a dragon in the closet opens the door and sees there is no dragon. He is *surprised*; this is not what he expected. Awareness of the possibility of surprise, the entertainment of expectations, these are essential concomitants of belief. To recognize the chance that we may be wrong is to recognize that beliefs can be tested—belief is personal, and in this sense subjective; truth is objective. (Davidson, 1995, p. 208)

In other words, the possibility of having unmet expectations—finding that the world is not how we expected it to be—is a necessary condition for grasping the world objectively. I shall call this point “the objectivity principle.”⁶

Now, Davidson goes on to discuss the question of where we have acquired this concept of objectivity (1995, p. 208). Unfortunately, such a discussion exceeds the scope of the present article, and so I shall only take it as an assumption that we have acquired this concept. Rather, what I would like to explore in more depth here is how such clashes—between our expectations and what we grasp—are accounted for in the phenomenological picture.

To begin with, recall that an expectation need not be explicit in our mind; we may be unaware of it. On the other hand, a failure to meet the expectation—experienced as a clash—is striking by nature and thus explicit. In other words, such a clash makes us aware of our expectation, which might have been implicit up to this point.

Moreover, says Husserl, those clashes are of *logical* importance, as they underwrite our use of the logical concept known as negation in making judgments about what we grasp:

Suppose that we have observed a ball uniformly red; for a time the course of the perception continues in such a way that this apprehension is harmoniously fulfilled. But now . . . a part of the back side, not seen at first, is gradually revealed; and, in opposition to the original perception . . . there emerges a consciousness of otherness which disappoints the anticipation: “not red, but green.” . . . Thus is described the *original phenomenon of negation* . . . it thus appears that negation is not first the business of the act of predicative judgment but that in its original form it already appears in the prepredicative sphere. (Husserl, 1973, § 21a, pp. 88–90)

In other words, we are justified in making use of the logical-linguistic (“predicative”) concept of negation—such as in judging “this is *not* red” while grasping the green back side of the ball—based on a raw, prelinguistic (“prepredicative”), perceptual experience of a clash between our expectation and what is revealed to us.

⁶This line of thought also appears in Husserl's writings, with respect to what he calls the “transcendence” of objects (see Crowell, 2013, pp. 15–21, for a discussion.) Yet Davidson is much clearer on that matter; given my nonexegetical purposes, I shall not elaborate on Husserl's notion of transcendence here.

Furthermore, these clashes have far-reaching consequences for the horizon. For it seems that, upon finding that the back side of the ball is green, we can no longer maintain our previous expectation of “redness,” as it turns out not to be met. Hence, we ought to revise any possibility of the horizon where the back side is red: “redness” has to be revised to “greenness.” As a result, we are presented with a dilemma—indeed, a genuine tension—regarding whether and how we ought to revise the near-past horizon. I now turn to expound this point, which is rather delicate.

The tension results from the fact that, in revising the near-past horizon, we are faced with considerations that pull us in opposite directions, namely, (i) the failure of our expectation and (ii) our grasp of the ball as continuous in time, as well as its rule-governed nature. I shall now address each of these considerations in turn.

- Regarding (i): We cannot maintain the unmet expectation of “redness” in mind, as it clashes with our current grasp of the green back side of the ball. Indeed, “redness” and “greenness” are incompatible with one another, and, hence, the expectation is not met; the two contents cannot be held in mind together in one intentional state. That is to say, upon grasping “greenness,” we can no longer maintain “redness” in those possibilities of the near-past horizon. Thus, the near-past horizon must be revised in such a way that “redness” is replaced by “greenness.”
- Regarding (ii): As we saw, to keep our grasp of the ball continuous in time, we must hold in mind its actual near-past moments. Moreover, to maintain the rule-governed nature of each such moment, we must hold in mind its relevant horizon, where the back side is still expected to be red. Such holding-in-mind is crucial, for otherwise we would not be able to grasp the present moment of the ball as continuous in time with its near-past moments. This means, in particular, that the back side has to remain red in each (ultimately unrealized) possibility of the near-past horizon.

In brief, to maintain our grasp of the ball as continuous in time and rule-governed, we have to preserve in mind its near-past moments, including the unmet expectation, but that expectation cannot be preserved since it is unmet: our current grasp clashes with it.

One might object that in cases of unmet expectations we have no need for the near-past horizon, and so it can simply be discarded and not kept in mind. In terms of our example, it seems that preserving “redness” makes no contribution to our grasp of the ball as continuous in time, since there is no continuity in our specific experience of the clash between “redness” and “greenness.” Thus, there is no point in preserving the “redness” expectation in mind if we currently grasp “greenness.” However, such an objection is based on a misunderstanding of the role of the near-past horizon; it is not in charge of maintaining a sense of continuity with the present moment—that is why the *actual* near-past moments are kept in mind—but in charge of maintaining the rule-governed nature of each actual near-past moment. Indeed, recall that in the phenomenological picture, the rule-governed nature of our grasp of the ball amounts to the requirement that each moment in which we grasp it be accompanied by a relevant horizon, independently of whether its possibilities are eventually realized. Thus, the objection does not go through.

One may acknowledge that the near-past horizon must be preserved, but object that we can simply revise it in the relevant cases. In terms of our example, one may suggest replacing “redness” with “greenness” in each possibility of the near-past horizon, so that this horizon is preserved, but the unmet expectation is not preserved in it. This suggestion, however, would be tantamount to erasing a bit of our memory, that is, our entire expectation of “redness.” If that were the case, then we would have completely forgotten our expectation of “redness” upon grasping the green back side of the ball, rather than experience a clash between that expectation and our line of sight. Yet, (a) we *do* experience such a clash, and (b) the clash *is* important

because of the objectivity principle: there is no way to objectively grasp the world if whatever we grasp cannot in principle clash with our subjective expectation of it. Therefore, this second suggestion does justice neither to our *actual* phenomenology in the relevant cases, nor to how our phenomenology *should* be if we are to objectively grasp the world. Thus, I conclude, the tension cannot be easily dismissed.

Now, Husserl was well aware of this tension. Here is what he has to say about it:

There is not only conflict . . . “green” . . . overcomes . . . the prior anticipation of “being red.” But the certitude which has been overcome is still present to consciousness, although with the character of the “null.” . . . To be sure, there results from this a certain doubling in the total sense-content of the perception . . . the sense of perception is not only changed, but . . . streams back in the form of a retroactive cancellation in the retentional sphere . . . if we would make intuitive in an explicit recollection the retentional complexes . . . we would find in all of its horizons, in conformity with memory, not only the old prescription . . . but also, built up over it, the appropriately modified prescription . . . in such a way that the moments of the old prescription which are in conflict with it are characterized as null. (1973, § 21a, pp. 88–89)

This passage is extremely difficult, so let me make two clarificatory points. First, Husserl is explicitly dealing here with the tension. While acknowledging that “green . . . overcomes . . . ‘being red,’” he insists that redness must somehow be preserved: “the certitude which has been overcome is still present to consciousness.” Second, Husserl gestures toward a way of resolving the tension, namely, by preserving “redness” in a special way, “with the character of the null,” that is, as something that is being both preserved and canceled at the same time. Later in the text Husserl even invokes (untypically for him) Hegelian terminology, commenting that “Damit ist das ursprüngliche Phänomen der Negation, der Nichtigkeit oder der ‘Aufhebung,’ des ‘anders’ beschrieben” (1999, §21a, p. 97). (In the English translation: “Thus is described the original phenomenon of negation, of the ‘other,’ of nullification or ‘anullment’” [1973, § 21a, p. 90]). Such terminology—an “Aufhebung” that negates a content while preserving it at the same time—undoubtedly seems to fit here.

Yet, the Hegelian terminology is of little explanatory help. More needs to be said about how an expectation can be maintained even though it clashes, indeed, cannot coexist with one's current grasp. Unfortunately, Husserl does not offer here more than a gesture, and so we cannot seriously consider his suggestion unless and until further details are provided.

One may suggest at this point that this tension reveals a substantive flaw in the phenomenological picture, and so this picture should be rejected altogether. Yet, I take it that such a reaction is too radical. After all, the considerations that lead to the tension—namely, the objectivity principle along with the rule-governed nature of our grasp and its temporal dimension—seem well-substantiated. Therefore, resolving the tension, if possible, would be preferable to evading it simply by rejecting the entire phenomenological picture as a whole. In the rest of this article, I take up this task and offer a reconstruction of the phenomenological picture, on the basis of which the tension may be resolved. To do so, I first must provide a more precise formulation of this picture. This formulation, in turn, will point to a way with which the tension can be dealt. Accordingly, the next section begins with a suggestion of mine, namely, that the above phenomenological picture can be formulated with a specific formal semantics, known in the literature as “incompatibility semantics.”

3 | INCOMPATIBILITY SEMANTICS AND THE TENSION

Incompatibility semantics is a variant of possible-worlds semantics. Introduced by Dunn (1993) and further elaborated by Restall (1999), it has gained much philosophical

interest in recent years,⁷ but its application to Husserlian phenomenology, to the best of my knowledge, is new.⁸

The basic idea behind incompatibility semantics is that the “core notion” of negation derives from the notion of incompatibility. That is, the features of incompatibility impose precise constraints on what counts as negation. This insight has proven fruitful: it turns out that various kinds of negation, such as intuitionistic, classical, or relevant negation can all be accounted for by imposing certain constraints on the notion of incompatibility. Some have even argued for a moderate version of “logical pluralism” based on these results (Berto, 2015). For my purposes here, I shall not address these intriguing issues. Rather, I would like to point out that the above phenomenological picture can be formalized at least partly by incompatibility semantics.

It is also worth mentioning that, starting with Hintikka (1975), several authors have already suggested to spell out Husserl's notion of horizon in terms of (the more traditional) possible worlds semantics.⁹ Others (e.g., Drummond, 1990; Mohanty, 1984) have criticized such a suggestion. For my purposes here, I shall not address this exegetical issue in greater detail either. After all, I would merely like to show that this association of the phenomenological picture with incompatibility semantics is helpful in resolving the tension discussed above.¹⁰ But, first things first, we need to clarify what incompatibility semantics is and how it applies to the phenomenological picture.

3.1 | Incompatibility semantics and the phenomenological picture

To begin with, we consider a collection W of possibilities, or “states,” as they are often referred to in the literature. W will designate for us the set of all possibilities of which a given horizon consists. We distinguish a special possibility $0 \in W$, which is regarded as our current line of sight, or the origin of our coordinate system. Thus, the content of 0 will be thought of as what we see from our current position.

Let me stress this point. According to the above interpretation, 0 does not represent our current *experience*; that is what the entire set of possibilities stands for, since every experience inherently includes a relevant horizon in the phenomenological picture. Rather, 0 represents only the content that is in our line of sight. For instance, 0 may be identified with the position from which we see the ball, where two other possibilities a, b may be identified with two possible scenarios that extend 0 , for example, in regard to the color of the back side of the ball: “red” and “green,” respectively.

As we saw, two relations are defined over the elements of W : a part-whole relation, and an incompatibility relation. We denote these relations by \leq and \perp , respectively. Thus, in the above example, we have both $0 \leq a$ and $0 \leq b$, as both a, b extend 0 , but we also have $a \perp b$, as the back side of the ball cannot be both red and green.

It is customary to impose certain conditions on \leq and \perp . First, the part-whole relation should at the very least be reflexive (for all $a \in W$: $a \leq a$) and transitive ($a \leq b$ and $b \leq c$ entail $a \leq c$). Thus, each possibility will be part of itself, and if a is part of b and b is part of c , then a is part of c . Second, the incompatibility relation should be symmetric ($a \perp b$ iff $b \perp a$), as it is natural to require that a be incompatible with b iff b is incompatible with a . Third, it is customary to

⁷See, e.g., Berto (2015), Berto and Restall (2019) and the references therein.

⁸It is worth pointing out, though, that a recent paper (Kinkaid, 2020) argues for an affinity between incompatibility semantics and some ideas of Sartre, as well as of Heidegger!

⁹See Smith and McIntyre (1984) for a comprehensive presentation of this view.

¹⁰For the same reason, I shall not attempt to further develop incompatibility semantics so as to make it even more precise for capturing all the intricacies of the phenomenological picture.

demand that \leq and \perp interact in a way that forms an upward closure: if a is incompatible with b , then so is the case for every a' and b' such that a and b are parts of a' and b' , respectively. Formally put: if $a \perp b$ and $a \leq a', b \leq b'$, then $a' \perp b'$.¹¹

With those conditions in mind, we are in a position to define a frame $\mathcal{F} = \langle W, 0, \leq, \perp \rangle$, which consists of a collection of possibilities W with $0, \leq$, and \perp as above. According to the phenomenological interpretation of this formalization, each frame stands for one's entire experience at some point: what is in one's line of sight (i.e., 0) along with one's entire horizon and the relations defined over its possibilities.

Yet, frames alone are not enough, as we not only perceive the world, but also make judgments based on what we perceive. For example, we may judge “this ball is red” based on perceiving a red ball. To do so, we first must have a language at our disposal. Let \mathcal{L} be the propositional language with the connectives \neg, \wedge, \vee . Given a frame $\mathcal{F} = \langle W, 0, \leq, \perp \rangle$, we can define a satisfaction relation $\models \subseteq W \times \mathcal{L}$ between possibilities and sentences. $w \models A$ will be understood here as saying: “It is epistemically justified to judge A on the basis of perceiving the content of w .”

Now, certain conditions are usually imposed on \models . First, there is what is known as the “hereditary condition”: the idea is that if it is epistemically justified to judge A on the basis of w , and if w' extends w , then it is epistemically justified to judge A on the basis of w' just as well. After all, in perceiving the content of w' we *ipso facto* perceive anything that is in w and in particular, anything that is needed for judging A . Formally put, the hereditary condition says that if $w \models A$ and $w \leq w'$ then $w' \models A$. In effect, we shall impose this condition only on the atomic sentences and make sure that it holds for complex sentences too.

Before we do so, however, we have to lay out the semantic clauses for complex sentences. For disjunction and conjunction, the idea is straightforward: it is epistemically justified to judge $A \vee B$ based on perceiving a content w if it is epistemically justified to judge either A or B based on perceiving w , and it is epistemically justified to judge $A \wedge B$ based on perceiving a content w if it is epistemically justified to judge both A and B based on w . That is to say, we stick to the regular, extensional clauses of disjunction and conjunction:

1. $w \models A \vee B$ if $w \models A$ or $w \models B$.
2. $w \models A \wedge B$ if $w \models A$ and $w \models B$.

And now to the main point: What about negation? What is it that makes it epistemically justified to judge a negative judgment of the form $\neg A$ on the basis of perceiving some content? Recall that we have already stumbled upon Husserl's answer to this question. For him, the logical-linguistic concept of negation rests on a raw prelinguistic (“prepredicative”) experience of an unmet expectation. Therefore, in order to extract a specific semantic clause for negation on the basis of such an experience, we have to spell out, in more precise terms, the content that we perceive in such a case. Here is the deal: this experience (of an unmet expectation) has a *modal* character to it. Upon perceiving the ball's green back side, we do not experience a contingent lack of “redness” such as in the case of perceiving the back side covered in some green sheet; rather, what we experience is a *clash*: the back side *cannot* be red, not just now, but as long as “greenness” persists, because “redness” and “greenness” are incompatible with one another.

¹¹I take the above conditions to be intuitively justifiable, independently of the phenomenological picture. Let me nevertheless point out that these conditions do have origins in Husserl's writing. In fact, Husserl dedicated the third investigation of *Logical Investigations* (2001, §§ 1–25, pp. 1–46) to a comprehensive theory of part-whole relations that is, according to Kit Fine, “perhaps the most significant treatise on the concept of part to be found in the philosophical literature” (1995, p. 463). Likewise, an extensive and thorough discussion of incompatibility relations can be found in the fourth chapter of the sixth investigation (2001, §§ 30–35, pp. 250–258). It is also worth pointing out that Fine (1995) himself provides a formalization of Husserl's part-whole theory, and one may also provide such a formalization for Husserl's discussion of incompatibility relations. Yet again, for my purposes here I need not get into all the intricate matters that are involved in such projects. I shall only impose the above, rather simplified, conditions. It is clear from Husserl's text that he endorsed them too.

That is to say, what we perceive is that our current position of “greenness” is *incompatible* with any position of “redness”—any possibility of the horizon where the back side is red is incompatible with our current position. It is this modal character of our experience that makes it epistemically justified to judge “The back side is *not* red,” meaning that any possibility in which the back side *is* red is incompatible with our line of sight. Hence, the following clause for negation seems appropriate:

3. $w \models \neg A$ if for all w' such that $w' \models A$: $w \perp w'$.

With semantic clauses 1–3 in hand, we can make sure that the hereditary condition holds for complex sentences. To do so, we proceed by structural induction. For conjunction and disjunction, the proof is trivial. For negation, let us assume that $w \models \neg A$ and $w \leq w'$, and prove that $w' \models \neg A$. Suppose that $w'' \models A$ for some w'' . By definition, $w \perp w''$. By the upward closure condition, $w' \perp w''$. Summing up, $w'' \models A$ entails $w' \perp w''$, and so $w' \models \neg A$, as required.

We complete the initial presentation of incompatibility semantics with definitions of models and consequence. A model $M = \langle W, 0, \leq, \perp, \models \rangle$ is a frame augmented with a satisfaction relation \models that meets the above conditions: the atomic hereditary condition and clauses 1–3. Logical consequence may then be defined in the usual way: we say that some sentence A follows from a set of sentences Γ ($\Gamma \models A$) if there is no model where $0 \models \gamma$ for all $\gamma \in \Gamma$, but $0 \not\models A$. We shall next discuss some further technical aspects of incompatibility semantics and see what we might learn from these aspects about the phenomenological picture.

3.2 | Further technical aspects

The concept of negation that is at stake here—namely, the one characterized by the above-defined models—is called “minimal negation” in the literature (Dunn, 1993, pp. 341–342). Minimal negation is sometimes characterized by the condition that $A \models \neg B$ iff $B \models \neg A$. In effect, this negation is weaker than both relevant negation and intuitionistic negation. It is weaker than relevant negation in that it allows for failures of the law of excluded middle (there exist states w such that $w \not\models A \vee \neg A$) and it is weaker than intuitionistic negation in that it does not satisfy explosion ($A \wedge \neg A \not\models B$).¹² Thus, to make sure that the above formalization is suitable for our purposes, we have to explain why, and in what respect, the picture we aim to capture should allow for failures of the law of excluded middle, and need not satisfy explosion.

Let us begin with the excluded middle. To see why we should allow for failures of this principle, consider again the example of our perspectival grasp of a ball, and let A stand for: “The back side of the ball is red.” As our grasp of the ball does not encompass the back side, we are not epistemically justified to judge, on its basis, that the back side is red ($0 \not\models A$). However, it may well be that we do not expect the back side not to be red. That is to say, there is a possibility w , which is compatible with our current position (it is *not* that case that $0 \perp w$), that the back side is red ($w \models A$). By the semantic clause of negation, $0 \not\models \neg A$, and so $0 \not\models A \vee \neg A$, as required.¹³

¹²On the other hand, one can easily check that minimal negation has the following, both intuitionistically and relevantly accepted, properties:

- (i) If $w \models A$ then $w \models \neg \neg A$.
- (ii) $w \models \neg(A \vee B)$ iff $w \models \neg A \wedge \neg B$.
- (iii) If $w \models \neg A \vee \neg B$ then $w \models \neg(A \wedge B)$.
- (iv) If $w \models A$ then $w \models \neg \neg A$.

¹³There is a large body of literature that argues for a close affinity between Husserl and intuitionists such as Brouwer, who refrain from endorsing each and every instance of the excluded middle (see, e.g., Posy, 1991; van Atten, 2003, 2007). I will not address this issue here.

What about explosion? Technically speaking, explosion fails if we allow for states to be incompatible with themselves. Indeed, we have not introduced at any point a requirement that the relation \perp be antireflexive. To see how the lack of such a requirement plays out, suppose that $w \vDash A$. It may nevertheless be the case that for every w' : $w' \vDash A$ entails $w \perp w'$, and so $w \perp w$ in particular; this scenario is not ruled out by any of the above stipulations. Applying semantic clause (3), we get $w \vDash \neg A$, and so $w \vDash A \wedge \neg A$. Moreover, the above stipulations do not force w to be trivial and satisfy each and every sentence. Thus, it may well be that $w \not\vDash B$ for some B , even though w satisfies a contradiction. From a technical perspective, we may thus say that explosion does not hold because incompatibility semantics allows for the possibility of (non-trivial) states that are incompatible with themselves.

This aspect of incompatibility semantics calls for explanation: Why should we allow for states that are incompatible with themselves? Before we come back to phenomenology, it is worth mentioning that advocates of incompatibility semantics provide independent reasons for having such states on board. Most notably, they appeal to information-based interpretations of this semantics, that capture the idea that sometimes we receive inconsistent information about the world. That is to say, if each state represents a given piece of information that we receive at some point, then we have no choice but to allow for states that are incompatible with themselves.¹⁴

Yet, the present article is concerned not with an information-based interpretation of incompatibility semantics, but with a phenomenological one. So the question arises, whether this aspect of incompatibility semantics—namely, the possibility of having states that are incompatible with themselves—can be justified based on the phenomenological interpretation. Or, to put it in more specific terms: Is there a way of justifying intentional states—possibilities of which a given horizon may consist—that are incompatible with themselves? I would like to answer this question in the affirmative: the possibility of having such states can be justified, because it resolves the above-discussed tension. This is what I shall argue for next.

3.3 | Resolving the tension

Recall that the tension results from different considerations pulling us in opposite directions in regard to unmet expectations, such as in the case where we expect the back side of the ball to be red, but it turns out to be green. On the one hand, we have to maintain our expectation—that is, maintain “redness” in all the possibilities of the near-past horizon—in order for our grasp to be continuous in time, as well as rule-governed. On the other hand, we have to revise those possibilities of the near-past horizon in order to adjust them to the present moment, where the expectation is not met: “greenness” thus has to be added “on top of redness” in each of those possibilities. However, “redness” and “greenness” are incompatible with one another, and so we cannot hold them together in the same intentional state.

Now, there is a tacit assumption in putting things as above, namely, that the incompatibility of “greenness” and “redness” amounts to a *prohibition on states*. That is to say, such incompatibility amounts to the requirement that there is no state where the two incompatible contents are held together. It is at this point that the above formalization proves extremely useful, as it reveals to us that the assumption can be dispensed with. For, there is yet another way of understanding the effect of incompatibility here: not as a *prohibition on states*, but as a *classification of states*. That is to say, incompatibility semantics—which was developed independently of any phenomenological context—reveals to us that the incompatibility of two contents need not be represented as a prohibition to begin with; indeed, there may well be states that are

¹⁴See, e.g., Berto (2015, pp. 20–23) and the references therein.

incompatible with themselves, but they have to be classified as such. To be specific, there may well be states in which “greenness” and “redness” are held together, but each such state must be classified as incompatible with itself. I now turn to elaborate on this latter understanding and, in particular, on how it may be made use of in resolving the tension.

What I suggest is that as a result of the failure to meet one's expectation of “redness,” each possibility of the near-past horizon be revised such that the back side is both red and green. Consequently, each such possibility is to be classified as incompatible with itself, since “redness” and “greenness” are incompatible with one another. Needless to say, such a revision does not affect the present moment, where we see only “greenness,” and there is no room for “redness.” Nor does it affect all future possibilities for the same reason. That is why “greenness” takes priority over “redness” in this picture: only the former, and not the latter, carries over to present moment and its horizon. It is in this respect that “greenness” is “built on top of redness” in such a way that the former makes the latter “null” (to use Husserl's terminology): “redness” is preserved in this picture, but only in the near-past horizon, and its presence makes the relevant possibilities incompatible with themselves.

According to this understanding, there no longer appears to be a tension in the phenomenological picture. On the one hand, we keep in mind not only the actual near-past moments, but also their relevant horizons. In particular, we keep in mind the expectation of “redness.” Thus, our grasp of the ball remains continuous in time, as well as rule-governed. On the other hand, we do adjust the near-past horizon to the present moment where the expectation is not met, by way of revising its possibilities, so that the back side appears not only red, but also green in them. In this way, we account for the unmet expectation and the incompatibility of “greenness” and “redness,” as each possibility in which the two contents are held together is classified as incompatible with itself. As a result, we can account for how our grasp of the ball is continuous in time as well as rule-governed, even though the expectation of “redness” is not met.

Now, this way of resolving the tension comes with a price, which is the admission of *inconsistent* intentional states, since states that are incompatible with themselves may in effect be inconsistent. To see this, let A, B stand for “the back side of the ball is red” and “the back side of the ball is green,” respectively. Clearly, for every two states s_1, s_2 such that $s_1 \models A$ and $s_2 \models B$ we have $s_1 \perp s_2$. In particular, let s be a state in the near-past horizon in which the back side of the ball is both red and green. As we saw, $s \perp s$ since both $s \models A$ and $s \models B$. But for the same reason $s \perp s'$ for every s' such that $s' \models A$, since $s \models B$. Likewise, $s \perp s'$ for every s' such that $s' \models B$, since $s \models A$. Employing the semantic clause for negation, we get both $s \models \neg A$ and $s \models \neg B$. Consequently, $s \models A \wedge \neg A$ and $s \models B \wedge \neg B$. That is to say, the revision of the near-past horizon makes each of its states inconsistent.

Granted this solution in particular, and the phenomenological picture in general, we achieve our goal, namely, getting an argument to the effect that inconsistent intentional states underlie the possibility of having intentional content in mind. To see this, recall the objectivity principle: unmet expectations underlie the possibility of grasping the world objectively, since there is no way to objectively grasp the world if whatever we grasp cannot in principle clash with our own subjective expectation of it. Moreover, (i) to fully account for unmet expectations in the above phenomenological picture, we posited the ability of having intentional states that are incompatible with themselves, and (ii) such states are inconsistent. Hence, my conclusion: if the above phenomenological picture is correct, inconsistent intentional states underlie the very possibility of having intentional content in mind.

4 | CONCLUSION

To be sure, there is nothing in the above argument that suggests that we perceive the world as inconsistent, let alone a metaphysical claim that the world is inconsistent by nature. On the contrary,

the phenomenological picture is compatible with, but not committed to, the view that the world is consistent and that we perceive it as such. Rather, my ultimate conclusion is that if the phenomenological picture is correct, then inconsistent intentional states underlie the possibility of having intentional content in mind, independently of whether the world is inconsistent or not.

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