

Fragmentalism: Putting All the Pieces Together

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*It was the best of times, it was the worst of times,
it was the age of wisdom, it was the age of foolishness,
it was the epoch of belief, it was the epoch of incredulity,
it was the season of light, it was the season of darkness,
it was the spring of hope, it was the winter of despair.*

Charles Dickens, *The Tale of Two Cities*

Abstract: According to perspectival realism, reality is (at least partially) constituted by “purely perspectival” facts, that is, facts that appear to describe reality only from a given “perspective”. Fragmentalism is a form of perspectival realism that maintains both that no perspective is privileged and that perspectival facts constitute reality absolutely. Assuming that reality is sufficiently variegated, fragmentalism entails that reality is absolutely constituted by incompatible facts. Given that incompatible facts can never obtain *together*, reality must be divided into a plurality of “fragments” that never compose a coherent, unitary whole. The main aim of this paper is to provide the first rigorous, detailed map of fragmentalism and its rivals. First, we will argue that fragmentalism is best construed as having two “unitist” (that is, non-fragmentalist) boundaries, which we will call ‘coherent’ and ‘incoherent unitism’. Second, we will present what we take to be the *six* main viable versions of fragmentalism and show how they can be categorized according to whether they take the logical operations of conjunction and negation to be either “local” or “global”.

Keywords: Perspectival realism; fragmentalism; unitism; conjunction; negation; metaphysical incompatibility.

1 Perspectival realism: A brief introduction

Perspectival realism is the view that reality is constituted (partly, at least) by “purely perspectival” facts, that is, facts that only obtain from a given perspective, so to speak. Crucially, these facts do *not* feature the relevant perspective *as a constituent*. Tense realism is a paradigmatic example. A tensed fact like *Socrates is sitting* only obtains from the perspective of the present time. And as opposed to a tenseless fact like *Socrates is sitting at t*, the tensed fact that *Socrates is sitting* does not feature any instant of time as its constituent. Standard versions of tense realism embed the thesis that the present time is somehow privileged. It is the *only* perspective from which it makes sense to describe how reality is absolutely speaking. More generally, we suggest that perspectival realism should be:

Perspectival realism: Reality is constituted (at least, partially) by “purely perspectival” facts.

The thought here is that having a perspective as a constituent renders these facts not purely perspectival anymore, insofar as the resulting “augmented” facts should intuitively obtain *independently* of any perspective. As an illustration, consider tensed facts again, and think of times as the relevant perspectives. A tensed fact like *Socrates is sitting* obtains from a given perspective, say, the present. But if we “absorb” the perspective into the fact itself by thinking of it as a constituent of the fact, the resulting “augmented” fact, viz. the fact that *Socrates is sitting at t*, does not obtain only presently, but rather at all times – or, we say, independently of any temporal perspective.¹

Drawing on Fine (2005), perspectival realism can be shown to be incompatible with the conjunction of the following theses:

¹ Strictly speaking, a fact having a particular perspective as a constituent could still qualify as perspectival, but only if the perspective in question is not the *relevant* one. For example, assuming that times are the relevant perspectives, a tensed fact like *Socrates is sitting in the actual world* can reasonably be considered perspectival, despite having a possible world as a constituent. Given the exploratory nature of our paper, we save these details for another occasion.

Neutrality: No *perspective* is privileged, the purely perspectival facts that constitute reality are not oriented towards one *perspective* as opposed to another.

Absolutism: The constitution of reality is an absolute matter, i.e., not relative to a *perspective*.

Coherence: Reality is not constituted by facts with *incompatible* content.

Fine (2005) presents this incompatibility argument with perspectives understood as times. Iaquinto (2020) discusses an analogous argument, by employing worlds as perspectives instead.² But the argument *does* seem purely general. From perspectival realism one has that reality is constituted by some purely perspectival facts. By Neutrality, no perspective is privileged. By Absolutism, however, the purely perspectival facts do not constitute reality *relative* to perspectives, but rather absolutely. If reality is “variegated” (Fine 2005: 272) enough to contain facts with incompatible content, then reality will be absolutely constituted by incompatible facts (like, e.g., the fact that *Socrates is sitting* and the fact that *Socrates is standing*), contra Coherence.

Different forms of perspectival realism are currently being widely discussed in different areas: metaphysics (see, e.g., Fine 2005, 2006, 2020, Correia and Rosenkranz 2011, 2012, Deng 2013, Merlo 2013, 2023, Solomyak 2013, 2020, 2024, Tallant 2013, Lipman 2015, 2016, 2018, 2023, Ludlow 2016, Savitt 2016, Loss 2017, Simon 2018, Iaquinto 2019, 2020, Torrenco and Iaquinto 2019, 2020, Eker 2022, Iaquinto and Torrenco 2022, Read 2022), philosophy of science (see, e.g., Berenstain 2020, Evans 2020, Massimi 2022), philosophy of mind (see, e.g., Hare 2009, 2010, Hellie 2013, Merlo 2016, Glazier 2020, List 2023), and philosophy of language (see, e.g., Rovane 2012, Einheuser 2008, Spolaore, Iaquinto, and Torrenco 2023). An investigation into the very *logical structure* of different forms of perspectival realism promises to have wide-ranging consequences for all these debates. And yet, beside few scattered remarks, there is nothing like the sort in the extant literature. This is what the paper is about. It offers the first, systematic account of a particular variant of perspectival realism, called ‘fragmentalism’.

² See also Zhan (2021).

Among different versions of perspectival realism there are *egalitarian* versions that stick to Neutrality. They are egalitarian insofar as they do not privilege any perspective. Such egalitarian views need to deny either Absolutism or Coherence. The denial of Absolutism leads to what Fine calls ‘external relativism’. By contrast, the denial of Coherence yields fragmentalism. For better or worse, fragmentalism has been the mostly debated alternative between the two (in effect, Fine himself explicitly expresses his preference for it in his seminal work; 2005: 307-310). As a result, several interpretations have emerged, each offering a distinct understanding of its metaphysical and logical implications. Navigating this debate is crucial, given that fragmentalism – as Fine, among others, influentially argued – offers promising solutions to longstanding philosophical issues (2005: 286-307). However, the debate is complicated by a lack of discussion of the common traits of these diverse interpretations. Thus, the central question becomes how to provide a clear taxonomy that can elucidate their salient features. Furthermore, a careful map of the logical space can bring to the foreground neglected fragmentalist variants or even reveal new ones that went unnoticed. It is a substantive question whether these variants are better suited to solve the aforementioned philosophical issues. What goes for fragmentalism goes for external relativism as well. That said, in this paper we chose to focus on the first. In the light of this, the rest of the paper is structured as follows. Section 2 presents fragmentalism’s most discussed interpretations, highlighting their main features. Section 3 lays the foundation of our taxonomy, introducing some basic logical and metaphysical notions. In Section 4, we will argue that fragmentalism is best interpreted as having two “unitist” boundaries, ‘coherent’ and ‘incoherent unitism’. Section 5 presents what we take to be *six* viable versions of fragmentalism and show how they can be categorized according to whether conjunction and negation are understood as “local” or “global”. Section 6 concludes the paper.

2 Fragmentalism: The lay of the land

In its original formulation, fragmentalism was introduced as a non-standard version of tense realism (Fine 2005). As we noted, fragmentalism drops Coherence. As a result, reality is constituted by facts that are pairwise incompatible, like the fact that *Socrates is sitting* and the fact that *Socrates is standing*.

However, these facts can constitute reality only as far as they are *not the case together*, hence the idea that reality “fragments” into internally coherent collections of facts, depending on whether the latter “co-obtain”. Although rich in provocative insights, Fine’s (2005) seminal article offers only a broad-brush picture of fragmentalism, without fully articulating the (formal) details of the view. In recent years, as anticipated in the introduction, the debate has focused on different ways to pin down the idea that certain facts obtain together, while others fail to do so. For the sake of simplicity, in this section we will limit our attention to three of the most prominent proposals. (In what follows we will stick to taking times as the relevant perspectives, just for simplicity’s sake, but nothing prevents one from extending our considerations to other kinds of perspectives, like, e.g., possible worlds.)

The first interpretation is due to Martin Lipman. He articulates the view in terms of a primitive notion of *co-obtainment*, informally glossed as follows: “when two facts co-obtain, we might say that they form a unified qualitative manifestation of the relevant objects, one single bit of world within which the things are a certain way” (2015: 3127). Both the fact that *Socrates is sitting* and the fact that *Socrates is standing* can constitute reality in an absolute manner. However, there can be no unified qualitative manifestation of Socrates as *both* sitting and standing. Facts that are pairwise incompatible are never the case together. The details of the view – including the inferential behaviour of the notion of co-obtainment – have been thoroughly articulated by means of model-theoretic tools (Lipman 2015, 2016, 2018). The formal details are not important here. Rather, we would like to focus on the intuitive picture behind Lipman’s understanding of fragmentalism. His view relies on a fundamental distinction between *truth in a fragment*, which allows one to describe the “content” of each fragment, and *truth simpliciter*, which is the formal counterpart of absolute constitution. Crucially, the former does not entail the latter, as becomes clear when analysing how negation works. While an atomic sentence p is true simpliciter if and only if p is true in at least one fragment, a negation $\neg p$ is true simpliciter if and only if there is *no* fragment where p is true. Metaphysically speaking, this means that a negative fact like *Socrates is not sitting* can constitute reality just in case there is *no* fragment where Socrates is sitting. It follows that

no contradiction of the form $\phi \wedge \neg\phi$ can ever be true. That said, nothing prevents a conjunction like ‘Socrates is sitting and Socrates is standing’ from being true simpliciter, provided that ‘Socrates is sitting’ and ‘Socrates is standing’ are true simpliciter. In other words, conjunction obeys the rule of adjunction:

$$\phi, \psi \vDash \phi \wedge \psi$$

Note that the truth simpliciter of ϕ and ψ is not enough to conclude that the fact that ϕ and the fact that ψ co-obtain. The fact that ϕ and the fact that ψ co-obtain if and only if ϕ and ψ are true in *one and the same* fragment.

The second interpretation of fragmentalism is a version of *subvaluationism* (Loss 2017, Torrenco and Iaquinto 2020, Iaquinto and Torrenco 2022). While Lipman offers, as we just saw, an “asymmetric” treatment of atomic sentences and their negations, the subvaluationist interpretation treats any sentence ϕ – whether atomic or not – as true simpliciter if and only if ϕ is true in at least one fragment. This approach admits *dialetheias*, that is, cases where both ϕ and $\neg\phi$ are true simpliciter. However, it does *not* allow for *true contradictions*. Indeed, the following version of the principle of non-contradiction remains a logical truth:

$$\neg(\phi \wedge \neg\phi)$$

This is because, in contrast to Lipman’s view, here conjunction fails to satisfy the rule of adjunction:

$$\phi, \psi \not\vDash \phi \wedge \psi$$

This feature allows the subvaluationist to describe reality as a fragmented place, without resorting to a primitive notion of co-obtainment: we have no warrant that the fact that $\phi \wedge \psi$ constitutes reality, even assuming that the fact that ϕ and the fact that ψ constitute reality. The fact that *Socrates is sitting* and the fact that *Socrates is standing* constitute reality absolutely speaking, but they are not the

case together: the fact that *Socrates is both sitting and standing* does not constitute reality as well.

The third version of fragmentalism is Simon’s (2018) *smooth fragmentalism*. One might describe it as a “softened” version of fragmentalism (Pickup 2023: 274) in that it denies any sort of logical incompatibility, *inside* and *outside* each fragment. Simon’s view bears similarities to Lipman’s, if only because it resorts to a primitive co-obtainment relation. However, within smooth fragmentalism, the only facts that fail to co-obtain are those that are metaphysically incompatible without also being *logically* incompatible, as in the case of “distinct determinates of a common determinable, like being scarlet (all over) and being crimson (all over)” (Simon 2018: 129). Once logical incompatibility between different fragments is ruled out, the truth in a fragment of a sentence ϕ is enough to prevent a sentence of form $\neg\phi$ from being true in any other fragment.

The new taxonomy of fragmentalism we are going to present in §5 will mainly focus on *conjunction* and *negation*. Indeed, even just at a first glance, each of the three versions of fragmentalism just presented can be contrasted with the other ones depending on whether it admits:

1. “conjunctions” of facts from different fragments;
2. logical incompatibility between fragments (cases in which for some fact p , the fact that p and its “negation”, i.e., the fact that not- p , obtain at different fragments);
3. dialetheias (cases where for some fact p , both the fact that p and its “negation”, i.e., the fact that not- p , obtain simpliciter).

Lipman endorses 1 and 2, while rejecting 3. Subvaluationism accepts 2 and 3, while rejecting 1. Smooth fragmentalism embraces 1, while rejecting 2 and 3.

It is instructive to compare this way of framing fragmentalism with the taxonomy in Simon (2018). This is based on “how ‘jagged’ one’s fragmentalism is” (Simon 2018: 128). The most jagged version, which Simon calls ‘dialethic fragmentalism’, allows “for true (first-order) logical contradictions to obtain without *quodlibet*” (*Ibid.*). Simon counts Loss (2017) among the dialethic fragmentalists (*Ibid.*). However, as far as we know, no fragmentalist has ever endorsed such a view. Rather, as we just saw, Loss and other subvaluationists

limit themselves to propose a view where both ϕ and $\neg\phi$ can be true simpliciter even if the contradiction $\phi \wedge \neg\phi$ can never be true. There is then an intermediate version, which Simon (2018) calls ‘jagged fragmentalism’ (defended by Fine and Lipman), according to which “there is some notion of obtaining-in-a-fragment such that P can obtain at one fragment while $\neg P$ obtains at another, but this does not engender genuine contradiction” (Simon 2018: 128-9). Simon’s own view, smooth fragmentalism, is the least jagged one, as it maintains that ϕ and $\neg\phi$ are never both true, not even in distinct fragments.

As we will argue at length, our taxonomy is both more accurate and more fine-grained than Simon’s. Not only is it able to properly map the three versions of fragmentalism just discussed (by vindicating, among other things, the distinction between dialethic fragmentalism and the subvaluationist approaches), but it is also able to chart novel versions that have been so far overlooked.

3. Preliminaries

In what follows, we will work within a framework that employs singular, plural, and propositional quantifiers. Singular and plural quantifiers are thought of as being restricted to *states of affairs* – a fact that we will signal by using ‘ r ’, ‘ s ’, ... as singular variables and ‘ rr ’, ‘ ss ’, ... as plural variables (instead of the more familiar ‘ x ’, ‘ y ’, ..., and ‘ xx ’, ‘ yy ’, ...). ‘ p ’, ‘ q ’, etc. are propositional variables. As is customary,³ we assume the following principles of plural logic (where ‘ $<$ ’ is the one-many relation ‘...is one of...’):

$$\text{One-of: } \forall rr \forall ss (rr = ss \rightarrow \forall r (r < rr \leftrightarrow r < ss))$$

$$\text{Plural comprehension: } \exists r \phi_r \rightarrow \exists rr \forall s (s < rr \leftrightarrow \phi_s)$$

$$\text{No empty: } \forall rr \exists s (s < rr)$$

According to One-of, identical pluralities have the same members. According to Plural comprehension, for every condition that is satisfied by some entity there

³ See Linnebo (2017: §1.2).

is the corresponding plurality including all and only the entities that satisfy that condition. According to No empty, there is no empty plurality, so that every plurality must at least have one member (where a plurality with just one member is an “improper plurality”; see Calosi 2016: 223). We will use ‘ $[s_1, s_2, \dots]$ ’ for the plural definite description ‘the plurality of entities such that something is one of them if and only if it is identical to either s_1, s_2, \dots ’.⁴ Furthermore, ‘ \overline{p} ’, ‘ \overline{q} ’, ‘ $\overline{p \wedge q}$ ’, and the like will stand for ‘the state that p ’, ‘the state that q ’, ‘the state that p and q ’, etc.

We make the following assumptions about states of affairs:

- they are *abundant* (there are, for instance, negative states of affairs, disjunctive states of affairs, universal states of affairs, etc.);
- they all have *content* (every state is, for some p , the state that p);
- some of them are *actual* (where, if s is the state that p , then s is actual if and only if p is the case), some of them are merely *possible* (where, if s is the state that p , then s is possible if and only if it is metaphysically possible that p), and some of them are *impossible* (where, if s is the state that p , then s is impossible if and only if it is metaphysically impossible that p).

Notice, however, that we leave open both the issue about whether states have unique content (in the sense that, for every state s , there is a unique p , such that s is the state that p) and the issue concerning how fine-grained states are. Furthermore, following Fine (2005: 268), we employ state-talk only for ease of exposition and we allow it to be “reducible” to one’s preferred “official idiom” (Fine 2005: 268). One may reduce talk of obtaining states of affairs either by means of a primitive “reality operator” (see Fine 2005: 268), by means of a primitive notion of metaphysical grounding, or by giving a metaphysical semantics of state-statements (in the sense of Sider 2011).⁵

Unlike Lipman (2015, 2016, 2018), we don’t take the fragmentalist notion of co-obtainment as primitive. Instead, we express it by means of the familiar

⁴ ‘ $[s_1, \dots, s_n]$ ’ can be defined as:

$$[s_1, \dots, s_n] =_{df} \text{iss} \cdot \forall r (r < \text{iss} \leftrightarrow (r = s_1 \vee \dots \vee r = s_n))$$

(where ‘ $\text{iss} \cdot \phi \text{ss}$ ’ stands for the plural definite description ‘the ss that ϕ ’ as per Russell’s theory of descriptions; see Loss 2021: 9205).

⁵ For some discussion, see Loss (2018: 9-11).

notion of obtainment, which we take to be both *primitive* and *irreducibly plural*. Therefore, we simply take states to co-obtain just in case they obtain together, or “collectively”:

Co-obtainment: A plurality of states *ss* *co-obtain* if and only if the *ss* obtain together, or collectively.

Thus, a scenario in which we have that, at a certain time *t*, Socrates is both sitting and happy can be simply understood as one in which the state that *Socrates is sitting* and the state that *Socrates is happy* obtain together. Singular obtaining is just a limiting case of plural obtaining. To say that a fact *s* singularly obtains is to say that the improper plurality of facts containing only *s* obtains “collectively”:

$$O(s) =_{df} O^C([s])$$

(For simplicity’s sake, in what follows we will express singular obtaining by means of singular terms and singular quantifiers.)

We will distinguish between *two* main ways in which a plurality of facts can obtain: *collectively* and *distributively*, where the notion of distributive obtainment is defined as follows:

Distributive obtainment: The states *ss* *obtain distributively* just in case each of them obtains (singularly) $O^D(ss) =_{df} \forall r (r < ss \rightarrow O(r))$

One prominent feature of our framework is that we *don’t* assume either that distributive obtaining entails collective obtaining or that collective obtaining entails distributive obtaining:

$$\forall ss (O^D(ss) \rightarrow O^C(ss))$$

$$\forall ss (O^C(ss) \rightarrow O^D(ss))$$

In fact, as will become clearer below, assuming that distributive obtaining entails collective obtaining is equivalent to ruling out the possibility of fragmentalism.

Instead, assuming that collective obtaining entails distributive obtaining would rule out the view (like Lipman’s 2015, 2016, 2018) according to which a negative state can co-obtain with some other state (and, thus, obtain *at a fragment*) without obtaining *simpliciter*. We will use ‘obtainment^v’ to refer to a generic notion of obtainment defined as the disjunction of collective and distributive obtaining:

Obtainment^v: The states ss obtain^v just in case they either obtain collectively or distributively $O^V(ss) =_{df} O^D(ss) \vee O^C(ss)$

A further notion will be important, that of *conjunctive obtainment*:

Conjunctive obtainment: The states $[s_1, s_2, \dots]$ *obtain conjunctively* just in case their corresponding conjunctive state obtains

$$O^{\wedge}([s_1, s_2, \dots]) =_{df} \forall p_1 \forall p_2 \dots \left((s_1 = \overline{p_1} \wedge s_2 = \overline{p_2} \wedge \dots) \rightarrow O\overline{p_1 \wedge p_2 \wedge \dots} \right)$$

However, as we will make clear below, we *don’t* take the notion of conjunctive obtainment to stand for a third way in which a plurality of states can obtain, alongside collective and distributive obtainment. We will take the relation between conjunctive, collective, and distributive obtainment to depend on the role played by conjunction in the theory at hand (see §5).

We also assume a primitive plural, collective notion of *metaphysical incompatibility*. This means that the fact that a certain plurality of states ss are jointly incompatible doesn’t tell us anything about whether any rr among the ss are also jointly incompatible. This is a point that we take to be rather uncontroversial, as we are already familiar with a similar phenomenon in the case of logical consistency (a plurality of sentences can be jointly inconsistent and yet pairwise consistent). An informal gloss on the notion of metaphysical incompatibility might be given by saying that states are jointly incompatible just in case their obtaining together would engender what might be called a ‘worldly contradiction’ (or ‘inconsistency in reality’). One might find it natural to think of a worldly contradiction as the way reality would be, were a certain contradiction (that is, a sentence of the form ‘ p and not- p ’) to be true. However, *worldly* contradictions must be distinguished from *true* contradictions. It seems at least

possible to conceive a scenario in which a worldly contradiction obtains, and no contradiction is true. For instance, those who think that the obtaining of the state of a certain chip a being blue doesn't entail that the state of a being not-red also obtains (like Simon 2018: 129) could imagine a scenario in which the state of a being blue and the state of a being red co-obtain without it being true either that a is both blue and not-blue or that a is red and not-red. Assuming that the two states in question are incompatible, we would have in this case a worldly contradiction (given by the co-obtainment of two incompatible states) without a corresponding true contradiction (since no sentence of the form ' p and not- p ' would be true in this case). Furthermore, although we assume in this paper that contradictory states (that is states that, for some p , are the state that p and not- p) would give rise to worldly contradictions if they were to obtain, we also take this claim to depend on the meaning that one assigns to both conjunction and negation. Given the appropriate choice, a contradiction may well be true without anything "metaphysically bad" going on in the world. For instance, if a fragmentalist were to adopt Lipman's view on conjunction (according to which, a conjunctive state can be formed by putting together facts from different fragments) and the subvaluationist take on negation (according to which a negative state obtains simpliciter just in case it obtains in at least one fragment), they would have to conclude that for any p such that both the state that p and the state that not- p obtain (even if in different fragments), the contradiction ' p and not- p ' is true even if no worldly contradiction takes place in reality (given that the state that p and the state that not- p don't co-obtain). Consequently, it is crucial to distinguish between dialetheias and true contradictions, where a *dialetheia* is any sentence S such that both S and its negation ' $\neg S$ ' are true, while a *true contradiction* is any true sentence of the form ' $S \wedge \neg S$ '. Notice, furthermore, that we allow single states to be incompatible "with themselves", so to speak. This idea may seem to stretch the familiar notion of incompatibility (which appears to apply only to a proper plurality of entities). However, the gloss just given on this notion should make clear the sense in which a state is incompatible with itself: a state is incompatible ("with itself") just in case its obtaining would give rise to a worldly contradiction.

We will assume some principles concerning the notions of obtainment and incompatibility to be non-negotiable axioms. The first two are the following:

Axiom 1: p is the case if and only if the state that p obtains

$$\forall p(p \leftrightarrow O\bar{p})$$

Axiom 2: Conjunctive obtainment entails distributive obtainment

$$\forall p_1 \forall p_2 \dots \left(O(\overline{p_1 \wedge p_2 \dots}) \rightarrow (O(\bar{p}_1) \wedge O(\bar{p}_2) \wedge \dots) \right)$$

Axiom 1 reflects the fact that we take states to have content, so that a state is taken to obtain just in case its content is the case. Axiom 2 strikes us as fairly uncontroversial even in the context of fragmentalism. Indeed, to the best of our knowledge, no fragmentalist has ever denied that the obtaining of a conjunctive state entails the obtaining of the states corresponding to the conjuncts. Notice, however, that we *don't* assume here that conjunctive obtaining entails collective obtaining:

$$\forall p \forall q (O(\overline{p \wedge q}) \rightarrow (O(\bar{p}, \bar{q})))$$

Indeed, fragmentalists who take the rule of adjunction to be valid think that conjunctions of incompatible facts can obtain even if the corresponding conjuncts fail to co-obtain.

Pluralities of entities are insensitive to order. This entails that incompatibility is symmetric in the following sense:

$$\forall s_1 \forall s_2 \dots \left(Inc([\dots, s_1, s_2, \dots]) \rightarrow Inc([\dots, s_2, s_1, \dots]) \right)$$

Clearly, since we allow states to be incompatible with themselves, we don't assume that incompatibility is irreflexive. We also *don't* assume that incompatibility is transitive in the following sense:

$$\forall r_1 \forall r_2 \dots \forall s_1 \forall s_2 \dots \forall t_1 \forall t_2 \dots \left(\left(Inc([r_1, r_2, \dots, s_1, s_2, \dots]) \wedge Inc([s_1, s_2, \dots, t_1, t_2, \dots]) \right) \rightarrow Inc([r_1, r_2, \dots, t_1, t_2, \dots]) \right)$$

This is how it should be. The state of this piece of paper being crimson is incompatible with the state of this piece of paper being blue. In turn, the state

of this piece of paper being blue is incompatible with the state of this piece of paper being red. But the state of this piece of paper being crimson is clearly not incompatible with the state of this piece of paper being red.

4. Fragmentalism and its boundaries

We can now draw a map of fragmentalism and its boundaries by using the following three pairs of claims:

Fragmentation: Some states obtain distributively but not collectively

$$\exists ss(O^D(ss) \wedge \neg O^C(ss))$$

Unity: No states obtain distributively but not collectively

$$\neg \exists ss(O^D(ss) \wedge \neg O^C(ss))$$

Incoherence: Some states obtain^v and are jointly incompatible

$$\exists ss(O^V(ss) \wedge Inc(ss))$$

Coherence: No states obtain^v and are jointly incompatible

$$\neg \exists ss(O^V(ss) \wedge Inc(ss))$$

Absurdity: Some states obtain collectively and are jointly incompatible

$$\exists ss(O^C(ss) \wedge Inc(ss))$$

Normality: No states obtain collectively and are jointly incompatible

$$\neg \exists ss(O^C(ss) \wedge Inc(ss))$$

Fragmentation and Unity are the two characterizing theses, respectively, of *fragmentalism* and (what we will call) *unitism*. According to Fragmentation, reality is fragmented, and so there are states that obtain only distributively but not collectively. Instead, according to Unity, reality is “of a piece”, so that it “[does] not contain facts that are incapable of jointly obtaining at a single standpoint” (Fine 2005: 15). Incoherence and Coherence concern the obtaining^v of incompatible facts. According to the former reality is incoherent, so that at least some incompatible states obtain^v. Instead, according to the latter all the states that obtain^v are jointly compatible. This seems to capture the thought behind Coherence as formulated in §2 (where we took it to be the claim that reality is not constituted by facts with incompatible content). Absurdity is a *stronger* thesis

than Incoherence: even if reality is incoherent, that doesn't necessarily mean that incompatible states obtain *collectively* and, thus, that reality is, in this sense, "absurd" (in virtue of containing what we have called above 'worldly contradictions'). In effect, as noted in §3, reality can be incoherent but fragmented, thus making it free of any worldly contradiction despite its being incoherent.

In this paper we aim to be as ecumenical as possible and chart different fragmentalist theories. At the same time, however, we choose not to include every possible fragmentalist variant in logical space. Instead, we will focus on what we take to be the least controversial ones in this (admittedly, already controversial) context. For this reason, we assume Axioms 3 and 4:

Axiom 3: If there are states that obtain distributively but not collectively, then there are states that obtain distributively and are incompatible

$$\exists ss(O^D(ss) \wedge \neg O^C(ss)) \rightarrow \exists ss(O^D(ss) \wedge Inc(ss))$$

Axiom 4: If there are states that obtain distributively but not collectively, then there are no states that obtain collectively and are incompatible

$$\exists ss(O^D(ss) \wedge \neg O^C(ss)) \rightarrow \neg \exists ss(O^C(ss) \wedge Inc(ss))$$

Axiom 3 deserves some discussion. It states that if reality is fragmented, then it is also incoherent. The thought behind this idea is that incompatibility is the only possible source of fragmentation. Therefore, if two obtaining states don't co-obtain, that must be either because they are incompatible or because they co-obtain with states that are jointly incompatible. For instance, two compatible states like the state of Georg's sitting and the state of Georg's singing may fail to co-obtain because the first co-obtains with the state of Georg being 15 years old while the second co-obtains with the state of Georg being 21 years old (assuming that Georg being 15 and Georg being 21 are incompatible states). The requirement that fragmentation is always the result of incoherence rules out some metaphysical possibilities. Let's focus as usual on the temporal case. Then, for example, Axiom 3 rules out the possibility that nothing ever changes between

goings-on at different times.⁶ This is surely a theoretical option. However, there are several things to note. First, one might try to resist the claim that this a genuine metaphysical possibility after all. Historically, at least, there have been proposals pointing in the opposite direction, starting from McTaggart’s (1908: 459) tenet: “A universe in which nothing whatever changed [...] would be a timeless universe”.⁷ For example, Geach’s analysis of ‘It will be that p ’, later adopted by Prior when defining tenses in terms of Diodorean modalities (1967: 85-88), explicitly requires the presence of change at different times.⁸ Second, as already noted, we are trying to be as ecumenical as possible, but not *maximally ecumenical*. If some fragmentalist position in logical space is left out as a result of our axiom, so be it. Finally, it should be conceded that the possibility that is in fact ruled out is one that fragmentalists *might want* to rule out. As Fine himself underlines in his seminal paper, while there is no logical guarantee that reality is variegated enough to exclude “boring” scenarios in which nothing ever changes, “any reasonable view of how temporal reality might be constituted should allow for its being reasonably variegated over time; and presumably it will then be constituted by incompatible facts” (Fine, 2005: 272). Indeed, returning to the argument that motivates perspectival realism in the first place (§1), one sees that the assumption that reality is reasonably variegated is functional to get the argument off the ground.

According to Axiom 4, if some states that obtain distributively don’t co-obtain, then there are no jointly incompatible states that co-obtain. In this case the idea is that reality can be fragmented only on the condition that *every* case of incompatibility results in fragmentation, thus allowing no plurality of jointly incompatible states to co-obtain. This assumption strikes us as plausible, even if not unassailable. Perhaps one may distinguish between different degrees of incompatibility and think that even if some cases of metaphysical incompatibility

⁶ Thanks to a referee for this journal for this suggestion.

⁷ This is particularly interesting given the very role that McTaggart’s original argument played in Fine’s seminal work (2005: 270-284).

⁸ “‘It will be that p ’ [...] can be equated with ‘For some q , q is not the case, but it either-is-or-will-be that both- p -and- q ’ [...]. For if p is going to be true later (whether it is true now or not), there will surely be *some* proposition which *will* be true contemporaneously with it but is *not* true now” (Prior 1967: 85; italics in the original).

always fragment reality, so that the relevant states can never co-obtain, there can be states that are incompatible in a more metaphysical lightweight sense that can co-obtain despite being incompatible. Although we find these suggestions fascinating and worthy of further discussion, we take the possible failure of Axiom 4 to be exotic enough to be discarded.

In any event, Axioms 3 and 4 taken together convey the idea that *all and only cases* of incompatibility result in a fragmentation of reality. Thus, we have:

(i) Fragmentation entails Incoherence⁹

(ii) Fragmentation entails Normality¹⁰

Given (i) and (ii) there is just one single “fragmentalist package” which includes – beyond Fragmentation – both Incoherence and Normality. This is not the same for Unity. One should expect different “unitist packages”. This is indeed the case. It can be shown that

(iii) Coherence entails Normality¹¹

Thus, one unitist package (which we will call ‘coherent unitism’) is obtained by adding Coherence to Unity to deliver Unity, Coherence and Normality. This leaves out adding Incoherence to Unity. In effect:

(iv) Unity and Incoherence jointly entail Absurdity¹²

⁹ Given Fragmentation, some states obtain distributively but not collectively. According to Axiom 3, if there are states that obtain distributively but not collectively, then there are states that obtain distributively and are incompatible. It follows that there are states that obtain^v and are incompatible, as stated by Incoherence.

¹⁰ Given Fragmentation, some states obtain distributively but not collectively. According to Axiom 4, if there are states that obtain distributively but not collectively, then there are no states that obtain collectively and are incompatible, as stated by Normality.

¹¹ According to Coherence, no states obtain^v and are jointly incompatible. Therefore, no states obtain collectively and are jointly incompatible, as stated by Normality.

¹² Given Incoherence, some states obtain^v and are jointly incompatible. According to Unity, no states obtain distributively but not collectively. It follows that some states obtain collectively and are incompatible, as stated by Absurdity.

We thus have a second “unitist package” consisting of Unity, Incoherence, and Absurdity (which we will label ‘incoherent unitism’).

Our characterization of fragmentalism as the theory consisting in the combination of Fragmentation, Incoherence, and Normality allows us to take it as having *two unitist boundaries*, so to speak. On the one hand we have coherent unitism, namely, the idea that reality is “of a piece” and there are no incompatible facts. This is the classical picture of reality which we take to be (at least implicitly) assumed by the vast majority of metaphysical theories on the market. On the other hand, we have incoherent unitism, the extreme view that reality is *both* of a piece *and* incoherent so that incompatible facts actually *obtain together* giving rise to worldly contradictions. Fragmentalism represents, therefore, the middle ground between these two forms of unitism (Figure 1). Although fragmentalists do take reality to contain incompatible facts, they agree with coherent unitists that reality *cannot* be absurd. Therefore, since reality is incoherent, it must be fragmented into facts that don’t co-obtain.

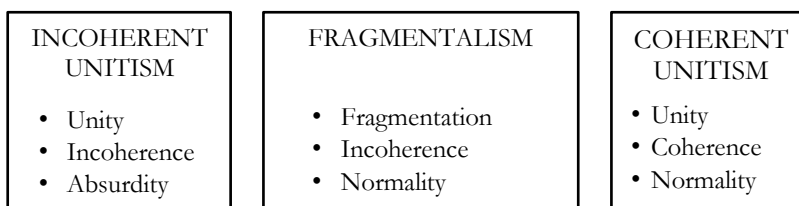


Figure 1: Fragmentalism and Its Unitist Boundaries

5. Charting the fragments

In the previous section we saw how different principles guided us in charting a “map of Reality” (to abuse terminology for the sake of a little drama) where fragmentalism sits in between unitist boundaries. In this section we zoom in on fragmentalism. We will classify different varieties of fragmentalism with respect to their understanding of the logical operations of negation and conjunction as *global* or *local*:

Global Operation: An operation that looks, so to speak, at the *über-reality*, the entire collection of fragments (see Fine 2005: 281-3).

Local Operation: An operation that looks, so to speak, at only one fragment.

More precisely, negation is *global* in those views, like Lipman's, where it is the case that $\neg\phi$ if and only if there is no fragment containing the fact that ϕ . Negation is instead *local* in those views, like the subvaluationist ones, where the mere existence of a fragment containing the fact that $\neg\phi$ is enough to conclude that it is the case that $\neg\phi$. Global negation, then, looks at the über-reality in its entirety, by requiring that *no* fragment be able to contain a certain fact. Local negation, instead, requires no more than one fragment containing a negative fact, while being insensitive to the content of all the other ones.

If conjunction is *global*, then one is allowed to conjoin two sentences ϕ and ψ – assuming that it is both the case that ϕ and the case that ψ – even when their corresponding states belong to different fragments, as in Lipman's view, where conjunction satisfies the rule of adjunction. If conjunction is *local*, instead, one is allowed to conjoin ϕ and ψ – assuming, once again, that it is both the case that ϕ and the case that ψ – only when their corresponding states belong to the *same fragment*, as in the subvaluationist approaches, where conjunction fails to satisfy the rule of adjunction. So, while global conjunction ranges over all fragments, so looking, as it were, at the über-reality in its entirety, the range of local conjunction is always limited to a given fragment. Notice that, in both cases, the conjuncts ϕ and ψ must be such that it is both the case that ϕ and the case that ψ . This requirement is obviously redundant if one is about to adopt local negation, for in that case the mere existence of a fragment containing the fact that ϕ – be the sentence ϕ atomic or not – suffices to have that it is the case that ϕ . However, it is *not* redundant if negation is taken to be global, for in that case the existence of at least one fragment containing the fact that $\neg\phi$ does not guarantee that it is the case that $\neg\phi$. This means that, regardless of one's take on conjunction, if global negation is adopted, then one is not allowed to treat *any* negation whatsoever as a conjunct. This is as it should be, if one considers that by Axioms 1 and 2, it follows that conjunction satisfies the rule of simplification:

$$\phi \wedge \psi \vDash \phi, \psi$$

Before moving forward, let us introduce yet another principle which we take as axiomatic. This principle might not be unassailable, but at least for the purpose of the paper, we simply *assume* it:

Axiom 5: Conjunctive obtaining is equivalent to either distributive or to collective obtaining $\forall ss(O^{\wedge}(ss) \leftrightarrow O^D(ss)) \vee \forall ss(O^{\wedge}(ss) \leftrightarrow O^C(ss))$

The idea is that there are just two ways in which a plurality of states can obtain at the same über-reality so to speak: distributively and collectively (which means that states obtain “at the same time” in this sense just in case they obtain^v). Therefore, since it appears highly plausible to take the notion of conjunctive obtaining as a notion of obtaining “in the same über-reality” in this general sense, it must be equivalent to either distributive or collective obtaining.

The first principle (out of three) that shapes different versions of fragmentalism centers around the existence of negative states:

Neg-Frag: If r and s are incompatible states that obtain distributively and r is the state that p , then the state that not- p co-obtains with some state t

$$\forall r \forall s \forall p ((Inc([r, s]) \wedge O^D([r, s]) \wedge r = \bar{p}) \rightarrow \exists t O([\bar{p}, t]))$$

Neg-Frag conveys the idea that incompatibility is a “source of negative states”. It claims that if the state that p obtains distributively with an incompatible state, then the negative state that not- p has to co-obtain with some other state, so that it must obtain at some fragment.

Fragmentalists that reject **Neg-Frag** deny the existence of negative states, and so do not face any further choice when it comes to recognizing *global* vs. *local* negation. Let’s call the kind of fragmentalism that only recognizes positive states ‘Positive Fragmentalism’. One can distinguish two versions of Positive Fragmentalism depending on whether conjunction is taken to be global or local, and therefore on whether there can be conjunctions of incompatible states. As we shall see, there is a clear sense in which positive fragmentalism with local conjunction is the variant of fragmentalism that is closer to Coherent Unitism.

The endorsement of **Neg-Frag** is the general hallmark of *Negative Fragmentalism*, that is, a version of fragmentalism that admits of the existence of negative states. The second choice point is whether contradictory states are incompatible:

Bad-Contra: Contradictory states are incompatible $\forall p \forall s (s = \overline{p \wedge \neg p} \rightarrow Inc(s))$

One might protest that **Bad-Contra** should be taken as an uncontroversial axiomatic principle rather than a real choice point. However, there is an important reason for not doing so. As already noted in §3, by taking the notion of incompatibility as primitive one thereby makes it potentially independent of the notion of true contradiction not only in the sense (central to fragmentalism) that incompatible states may obtain (distributively) without giving rise to any true contradiction, but also in the (admittedly, more exotic) sense that there may be contradictory facts that are *not* incompatible. For example, if one endorses a local negation and a global conjunction there seems to be nothing especially malevolent in having contradictory states from the metaphysical point of view. In the end, one might think the contradictory state is just a sign that we have the state that p in a fragment and the state that not- p in another fragment. This also suggests that those who deny **Bad-Contra** are naturally interpreted as endorsing local negation and global conjunction. As we shall see, Negative Fragmentalism with local negation and global conjunction is the variant of fragmentalism that is, in a precise sense, closer to incoherent unitism. Indeed, it is possible to show that the package consisting in **Neg-Frag** and **Bad-Contra** together with the assumption that negation is local while conjunction is global simply collapses into incoherent unitism:

According to Incoherence, there are incompatible states which obtain^v. Suppose that one of them is the fact that p . Given **Neg-Frag** and the fact that negation is local we have that both the fact that p and the fact that not- p obtain. Assume that conjunction is global. Then, any pair of facts obtaining at any pair of fragments can be conjoined in a conjunction. It follows, thus, that the conjunctive fact that p and not- p obtains. Given **Bad-Contra**, said fact

is incompatible. Hence, Incoherence is true. Contraposing Axiom 4 one obtains that all the facts that obtain distributively also obtain collectively, so that Unitism is true.

Therefore, negative fragmentalists who endorse **Bad-Contra** cannot have both local negations and global conjunctions.

The next choice point concerns the following principle:

Neg-Simp: If r and s are incompatible states that obtain distributively and r is the fact that p , then some obtaining state t is the state that not- p

$$\forall r \forall s \forall p ((Inc([r, s]) \wedge O^D([r, s]) \wedge r = \bar{p}) \rightarrow \exists t (O(t) \wedge t = \overline{\neg p}))$$

Negative fragmentalists who endorse **Neg-Simp** are naturally interpreted as understanding negation as a *local* operation. By contrast, those who accept **Neg-Frag** but reject **Neg-Simp** are better understood as taking negation as a *global*

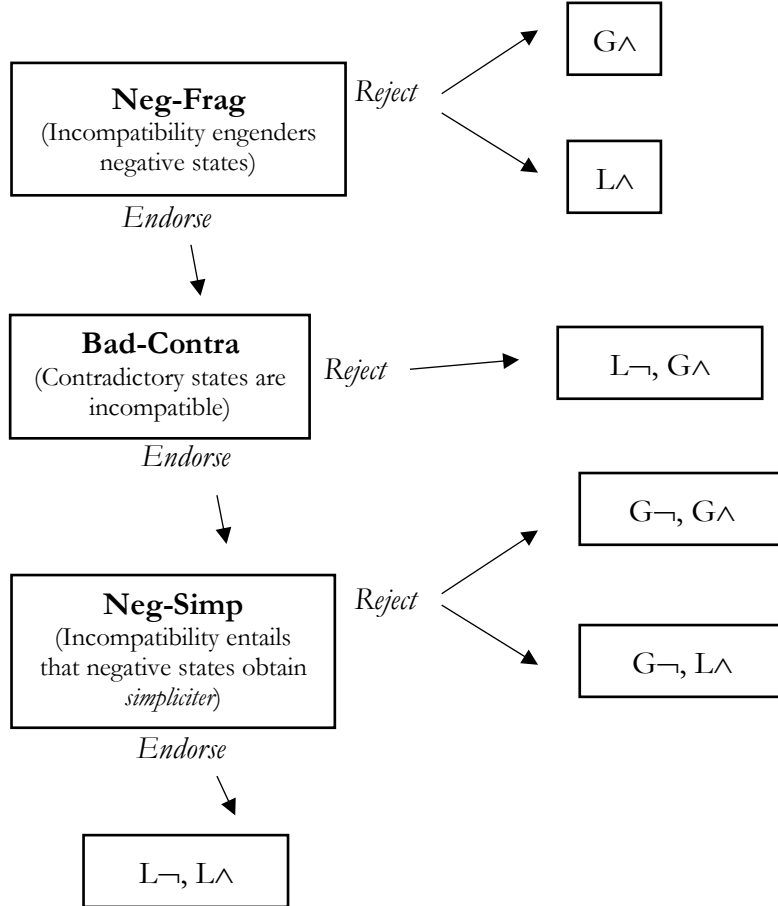


Figure 2: The 'Bare' Flow Chart

operation. In effect, **Neg-Simp** entails that when the fact that p and some fact incompatible with it obtain distributively, also the fact that not- p obtains simpliciter. Therefore, since the über-reality contains (at some fragment) the fact that p , the negation featuring in the fact that not- p cannot be global.

By contrast, if **Neg-Frag** is assumed we have that the fact that not- p is guaranteed to obtain at some fragment. The invalidity of **Neg-Simp** means, therefore, that something *more* than just obtaining at some fragment is required for a negative fact to obtain *simpliciter* – which within this framework is plausibly interpreted as the requirement that *nowhere in über-reality* (that is, in *no fragment*) the fact that p obtains, and thus as the idea of taking negation to be a global operation (see Figure 2 for a quick summary of our discussion; ‘G’ and ‘L’ stand for ‘Global’ and ‘Local’).

We can now provide a new, more detailed, more fined-grained map of fragmentalism. Let us focus on the following five claims:

ABS: Absurdity – see §4.

DIAL: There are *dialetheias* (i.e., for some p , both p and not- p are true *simpliciter* – and so both the fact that p and the fact that not- p obtain *simpliciter*).

INCOMP&: There are conjunctions with incompatible conjuncts.

CONT-F: For some p , there is some fragment at which the fact that p obtains and there is some fragment at which the fact that not- p obtains.

INC: Incoherence – see §4.

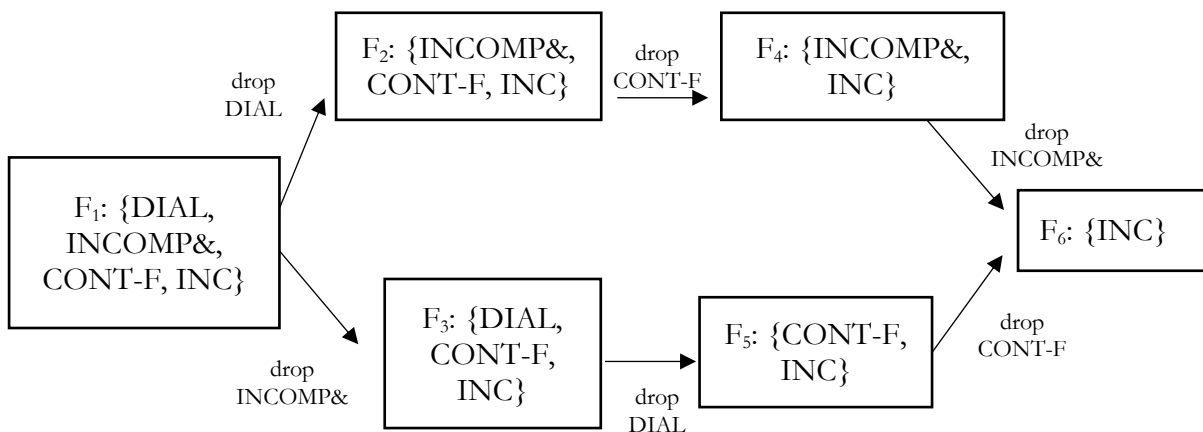


Figure 3: The Fragmentalist Chart

By the arguments in §3-4 one has the following. According to incoherent unitism all the claims above are true. By contrast, according to coherent unitism, all the claims above are false. According to fragmentalism Absurdity is false whereas Incoherence is true. The arguments in this section help us then distinguish different forms of fragmentalism according to whether they validate DIAL, INCOMP&, and CONT-F. Indeed, it helps us place different varieties of fragmentalism according to whether they are closer to the fragmentalist boundaries, incoherent and coherent unitism. To start, note that the only logical entailment between the claims is that DIAL entails CONT-F (that is, the existence of dialetheias entails that there are logically incompatible fragments). Hence, this only leaves six logical options for fragmentalists which generate the chart in Figure 3, where one passes from left to right by rejecting one claim among DIAL, INCOMP&, and CONT-F.

These six variants of fragmentalism include both Positive and Negative Fragmentalism and differ with respect to their stance towards local and global conjunction and negation, as shown in Figure 4.

	<i>Negative Fragmentalism</i>		<i>Positive Fragmentalism</i>
	$G\neg$	$L\neg$	
$G\wedge$	$F_2: \{\text{INCOMP\&}, \text{CONT-F}, \text{INC}\}$	$F_1: \{\text{DIAL}, \text{INCOMP\&}, \text{CONT-F}, \text{INC}\}$	$F_4: \{\text{INCOMP\&}, \text{INC}\}$
$L\wedge$	$F_5: \{\text{CONT-F}, \text{INC}\}$	$F_3: \{\text{DIAL}, \text{CONT-F}, \text{INC}\}$	$F_6: \{\text{INC}\}$

Figure 4: Varieties of Fragmentalism and Logical Operations

At this point, we can finally go back to the “flow chart” in Figure 2 and fill it in with different varieties of fragmentalism, as shown in Figure 5. Some of the different varieties of fragmentalism we just discussed in detail correspond to extant proposals in the literature. For example, F_4 seems to be Simon’s (2018) smooth fragmentalism, whereas F_3 represents subvaluationist variants of

fragmentalism endorsed by Loss (2017), Torrenco and Iaquinto (2020), and Iaquinto and Torrenco (2022). Lipman’s (2015, 2016, 2018) fragmentalism is arguably a version of F_2 .¹³ This leaves out F_1 , F_5 , and F_6 . F_1 is arguably what Simon (2018) calls ‘dialectic fragmentalism’ and mistakenly attributes to Loss (2017). F_5 and F_6 are genuinely new versions of fragmentalism that no one has discussed or defended in the literature and that deserve further debate. F_5 can be thought of as a non-adjunctivist version of Lipman’s view, whereas F_6 is an adjunctivist version of Simon’s smooth fragmentalism.

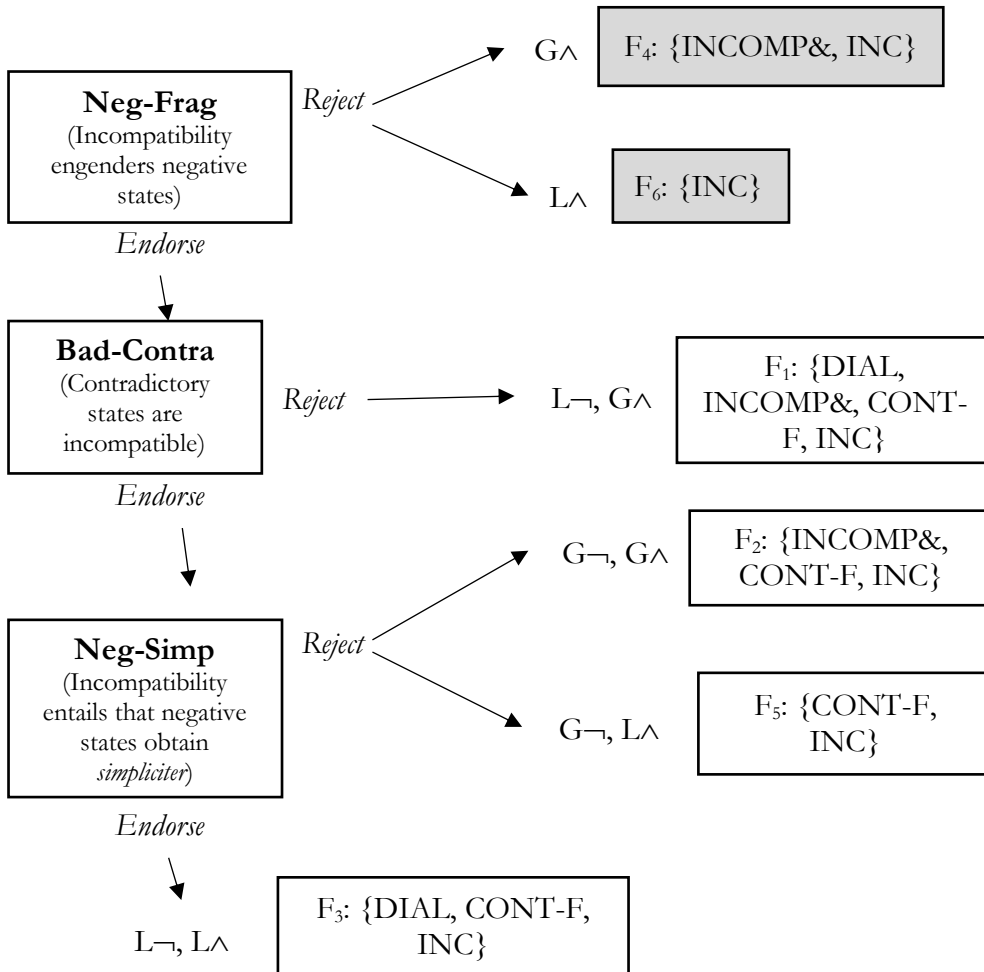


Figure 5: Flow Chart with Varieties of Fragmentalism

¹³ Fine’s original variety of fragmentalism may also correspond to F_2 . However, Fine’s broad-brush discussion makes it difficult to settle this point.

6. Conclusion

To sum up. In this paper we provided a fine-grained, detailed, and rigorous characterization of one form of perspectival realism, namely fragmentalism. First, we “placed” fragmentalism in between its natural unitist boundaries. Then, we charted the landscape of (all) possible forms of fragmentalism.¹⁴ *Putting all the pieces together*, the result is the map in Figure 6. Now that we have a clear map of the entire lay of the land, we will be hopefully better equipped to decide whether and where we want to plant our flag.

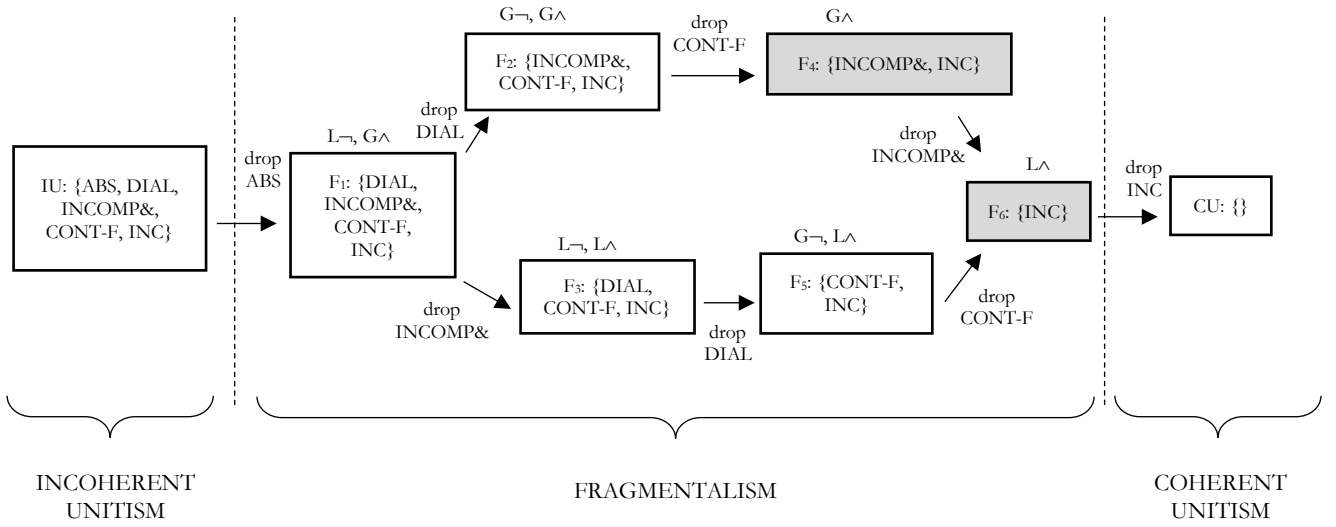


Figure 6: *Fragmentalisms and Unitisms*

Acknowledgments

We would like to thank two anonymous referees for this journal for their insightful comments, which substantially improved the paper.

¹⁴We do not mean to suggest that our classification exhausts all possible versions of fragmentalism or every possible classification. For instance, as we noted in §1, Axioms 3 and 4 rule out certain metaphysical possibilities. In turn, our classification does not capture potential fragmentalist variants that could account for such possibilities. Merlo (2023) introduces a distinction between structured and unstructured versions of fragmentalism. It relies on the possibility of distinguishing what is the case and what is *really* the case (at a more fundamental level). Our classification is silent as to whether different forms apply to the fundamental or the derivative level. In effect, it is a substantive question how our classification interacts with the idea that reality may be structured in layers of relative fundamentality. What we are suggesting is that once the axioms and logical operations we propose have been selected, then – *and only then* – can the classification be considered complete. Thanks to an anonymous referee here.

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