Indeterminism about Discourse Domains

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1. Introduction

It is an uncontroversial assumption that our thoughts and speech fall within categories according to their topic or subject matter. Pre-theoretically, we distinguish between discourse about weather, politics, and interpersonal relationships, and we understand that there is something distinctive about these topics. In more formal contexts, schools offer classes on physics and mathematics, and similar distinctions are deployed in our scientific institutions, where boundaries are drawn between domains of inquiry, like physics and philosophy, and their subdomains, like ethics and aesthetics. Further, various philosophical theories rely on there being robust boundaries between discursive contents. For instance, some ethical expressivists argue that while sentences from the domain of physics are susceptible to claims about truth and falsity owing to their descriptive nature, the domains of ethics and aesthetics are non-truth-apt as they encompass primarily non-descriptive or expressive content.

However, such an argument relies on there being a robust distinction between the discourse domains of physics or descriptive discourse and ethics, aesthetics, or expressive discourse. As another example, a fact-based correspondence theorist who is a mathematical fictionalist might argue that assertions belonging to the mathematical domain are non-truth-apt as they are insusceptible to the preferred correspondence criterion for truth, assuming that there are no facts with which mathematical statements can correspond. Again, such an argument relies on there being a robust distinction between the domains of mathematics or fictional discourse and factual discourse. Finally, in more recent literature, alethic pluralists of various sorts explicitly rely on discourse

domains as an explanatory resource to support their core claim about the variability of truth across domains: "Domains are a crucial component of the theoretical framework of pluralism, as reflected by the fact that the core pluralist thesis is that the nature of truth varies across domains" (Pedersen, Wyatt, & Kellen 2018, 6).[1] Interestingly, domains have not been studied to the extent that one would expect in the current truth pluralist literature: "Despite the central role that domains play within the standard pluralist framework not much systematic work has been done on their nature" (Kim & Pedersen 2018, 111). In short, for some pluralists, sentences from distinct topically individuated domains, like physics and aesthetics, get to be true in different ways by possessing the operant truth-determining property, like correspondence or coherence for their domain.

Surprisingly, despite the widespread relevance of discourse domains for philosophical theories of various sorts, alethic theorists have said relatively little about their nature in current debates. One reason for this is that the project of defining discourse domains is similar to the challenging task of providing a philosophically tenable account of subject matters or content kinds. There are many ways to draw boundaries between discursive contents, and determining which divisions are fundamental or should be prioritized is a controversial matter. Further, as problems with defining subject matters and the domains of sentences falling within them concern a range of philosophical theories, this eases the pressure for any particular theorist to touch on this topic. Finally, the project of defining discourse domains bears an intimate connection to the notoriously challenging task of defining truth-aptness.[2] For instance, insofar as the traditional monist accounts make positive claims about the nature of truth via reference to truth-determining properties, like correspondence and coherence, such an argument involves demarcating

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[1] The pluralist thesis is intuitively appealing, for it is a reasonable assumption that different kinds of sentences can be true in different ways independent of how their kinds are defined or what the specific ways of being true are.

[2] According to one view, by being maximally permissive with truth-aptness, the problem of demarcating truth-apt and non-truth-apt domains dissolves. Such a case can be made in support of the deflationary position.

sentences to truth-apt and non-truth-apt domains according to their susceptibility to the preferred criterion for truth.[3] Usually, such arguments proceed as follows: for example, a neo-classical correspondence theorist will argue that domains like physics or discourse about extensional states of affairs are truth-apt, whereas discourse about abstract entities or projected properties is not, and vice versa for coherence theorists. Hence, the traditional monist accounts also rely on there being robust boundaries between kinds of sentences, which raises a question about how such kinds ought to be demarcated.

Motivated by the current lack of research on discourse domains especially in the alethiological literature, the primary goal of this paper is to participate in the discussion on the preferred method of defining discourse domains for them to provide the sought-after explanatory utility of drawing robust boundaries between truth-apt kinds of content or content types. Based on this, central themes of discussion are the theoretical desiderata of domains to provide explanatory utility for the monists to argue for the difference between truth-apt and non-truth-apt domains, and how pluralists can explain the variability of truth across topically individuated domains, like physics and aesthetics.

The concluding argument is that insofar as domains are understood as classes of sentences that are individuated by topical subject matters, the inevitable temporal development of our topical categories and the existence of so-called mixed content compromise our ability to definitively account for the domain membership of all truth-apt contents. This creates

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[3] While one might counter such an argument by pledging allegiance to some variant of deflationary theory of truth that can accommodate the truth and falsity of all syntactically proper sentences that can be supplemented to the preferred deflationary schema, the problem with the deflationary approach is that it renders either the concept of truth (conceptual deflationism) or the property of being true (metaphysical deflationism) insubstantive and unexplanatory, impeding us from utilizing truth to define other concepts, like knowledge, meaning, or validity, or understanding societally and theoretically important phenomena, like what is a general goal of inquiry that binds all the vastly different scientific disciplines or what is, in general, correct to believe and assert in epistemically relevant discourse.

confusion among alethic theorists of various sorts about the domain membership of some truth-apt sentences, subsequently generating definitional issues of various sorts. Based on this, alethic theorists specifically should seriously consider indeterminism about the extensions of fundamental domains. According to this view, while topical domains can be defined in general as relatively well-individuated classes of sentences, they are susceptible to inherent indeterminacies that leave even the more prominent accounts of domains confused on the domain membership of *some* sentences. This argument is relevant for all theorists who rely on there being robust boundaries between discursive contents.

2. Disambiguating discourse domains

Under any natural language *L*, such as English, one can find classes of linguistic objects, like words or sentences, which are individuated on the basis of a factor like topic or subject matter. In this paper, topics and subject matters are understood synonymously as semantic categories under which one finds concepts or sentences governed by the respective subject matter. The sentence "π is 3.141" is a mathematical sentence because it composes of mathematical content, and the sentence "the earth is moving" is a sentence of physics because it composes of content that is relevant for physical inquiry. This aligns with how some truth pluralists understand the nature of subject matters:

> Domains are sets of propositions individuated by their subject matter. […] ⟨2 + 3 = 5⟩, ⟨Mt. Everest is extended in space⟩, and ⟨Bob's drunk driving is illegal⟩ belong to different domains. Why? Because they concern different subject matters or are about different kinds of states of affairs. (Kim & Pedersen 2018, 112)

For the sake of clarifying the exposition, we treat the expressions falling under subject matters as *atomic sentences* of the form "*a* is *F*" ("snow is white") that consist of a singular term "*a*" (snow) designating a range of objects and a predicate "is *F*" (is white) that attributes a property to the objects designated. Thus, in the context of this paper, the discussion on the nature of discourse domains is constrained to classes of atom-

ic sentences individuated by a topical subject matter.[4] Note that as atomic sentences are generally taken syntactically as the most basic types of assertions, demonstrating problems with domains for such sentences also scales to more complex expressions, an obvious example being compounds of atomics. Further, treating atomic sentences as the constitutive contents of domains is compatible with them being interpretations of atomic sentences or atomic propositions.

Regarding the nature of subject matters, it is worth emphasizing that in the context of this paper, they are understood as topically rather than ontologically individuated categories. There are several reasons for this. Initially, the gate is open for arguing that under any natural language, one can form domains of sentences according to their representations of different aspects of the world, like ontologically distinct types of objects and properties. However, my contention is that subject matters are ordinarily taken as topical rather than ontological categories in both mundane and more formal discourses. Pre-theoretically, we regard subject matters as topical categories, and nothing prevents us from thinking that under such topics, one finds sentences about ontologically distinct aspects of the world. Similarly, in more formal discourse, we divide scientific disciplines into domains of inquiry, like physics and aesthetics, with no rules for what types of objects and properties are relevant for each domain. While we will defend this view further in the following sections, for now, it suffices to note that treating subject matters as primarily topical categories aligns with how some contemporary theorists of truth understand the nature of subject matters. Instead of discourse domains, Lynch (2009, 77–79; 133) discusses domains of inquiry, like physics and ethics. Furthermore, Wyatt argues as follows:

> There is, for instance, distinctively mathematical subject matter: sets, numbers, the successor function, and so on. There is also a class of propositions that are mathematical in kind: ⟨the null set has zero members⟩, ⟨the successor of 1 is 2⟩, and so on. These propositions are mathematical propositions because they are

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[4] There currently exists no general theory of sentential topics or subject matters in contemporary literature on the philosophy of language.

> composed of mathematical concepts, i.e., concepts about the subject matter mathematics. (2013, 230)

As Wyatt adequately notes, it is a reasonable assumption that sentences belong to domains by composing of kinds of concepts, where these kinds are understood in terms of topical subject matters. In this sense, there are topically defined subject matters, like physics and aesthetics, which govern a range of concepts about or falling under the relevant subject matter. Further, sentences assign as members of topically individuated domains by composing of the aligning concepts. Consequently, we understand discourse domains as individuated classes of (atomic) sentences that belong to their respective domains by instantiating kinds of concepts, where such kinds are understood on the grounds of topical subject matters. From here, we proceed to discuss the theoretical desiderata of domains for them to provide the sought-after explanatory utility of demarcating different kinds of contents reliably to distinguish between truth-apt and non-truth-apt sentences, or sentences that are susceptible to being true in different ways.

3. Theoretical desiderata of discourse domains

There are two desiderata that domains ought to fulfill for them to provide precise boundaries for demarcating content kinds. These are *unambiguous* identities and *determinate* rules for membership. By fulfilling such criteria, domains would stand as well-individuated classes of sentences with determinate (yet potentially infinite) extensions. Note that these requirements bear an intimate connection to one another. Without unambiguous identities, it becomes difficult to define domains as classes of sentences with determinate extensions. Further, without determinate extensions, particular sentences can have confused domain membership, or they can count as members of multiple domains in an indeterminate manner, creating subsequent confusion about the identities of the respective domains.

If the aforementioned criteria are met, then domains map robust distinctions between content kinds that theorists of various sorts can utilize as a theoretical resource to explain, for example, that some domains are susceptible to truth-

aptness while others are not, or that some domains are susceptible to being true in one way rather than another.

However, one might contend that the requirement of domains as unambiguous classes of sentences with determinate rules for membership is too restrictive. One reason is the reasonable assumption that the subject matters of the constitutive concepts of sentences might be mixed or confused, or that sentences can otherwise address multiple subject matters at once and hence count as members of multiple domains with no scaling answer to which of these domains ought to be treated as primary from the perspective of their truth-aptness or way of being true. For example, nothing prevents an aesthetical theory from referring to facts pertaining to the domain of natural sciences, and similarly, though unlikely, nothing in principle prevents the deployment of aesthetical concepts as explanatory resources under one's theory about the physical properties of extensional objects.[5] However, such an argument is blind to the distinction of how we still individuate the respective sentences themselves as aesthetical and physical. In this sense, while nothing blocks one from distinguishing so-called mixed domains including contents that address multiple subject matters, we individuate the subject matter of the constitutive contents themselves on at least seemingly unambiguous grounds. Consequently, these types of mixing issues can be bypassed by acknowledging a *hierarchy* of discourse domains, some of which are fundamental and pure and others are non-fundamental and potentially impure. For instance, assuming that there is a fundamental and pure subject matter of physics, we can define under it an impure sub-domain of aesthetical physics that deals, for example, with the aesthetical features of entities relevant to physics inquiry. The existence of such a mixed domain does not threaten the integrity of the fundamental domains of physics and aesthetics, for no overlapping of such domains is

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[5] For example, whether the theoretical virtue of simplicity does not bear any aesthetical content remains unclear, and similar concerns emerge from instances of concepts like symmetry, coherence, elegance, and harmony, which can be argued to be both scientifically and aesthetically relevant.

forced by acknowledging that there can be non-fundamental domains encompassing content from multiple domains.

Aligning with the explanation, nothing prevents one from forming compounds of atomics, such as "*The Birth of Venus* is colorful and *The Birth of Venus* is beautiful," that address multiple subject matters, yet where the constitutive sentences themselves count as members of a single fundamental domain. In this sense, we are discussing subject matters as categories of thought and speech that display hierarchy and fundamentality relations. At the most fundamental level, we have subject matters that are likely primitive categories of thought and discourse on the basis of which we can form mixed subject matters of various sorts.

Aligning with the notion of there being fundamental subject matters of atomics, Lynch treats atomic propositions as *essentially* belonging to only one domain:

> What makes a proposition a member of a particular domain? The obvious answer: the subject matter it is about. [...] [W]e believe all sorts of different kinds of propositions: propositions about ethics, mathematics, about the sundries of everyday life. No one, presumably, will deny that these propositions concern not just different subjects, but fundamentally different subjects. [...] Propositions are the kind of propositions they are essentially; therefore, belonging to a particular domain is an essential fact about an atomic proposition. (2009, 79–80)

While this aligns with the theoretical desiderata of how fundamental domains bear unambiguous identities and determinate extensions, it ought to be clarified why alethic theorists prefer such desiderata in the first place.

Starting with the truth pluralists, such theorists are explicit in their commitment to discourse domains as an explanatory resource. For pluralist accounts of various sorts, different kinds of sentences get to be true in distinct ways by possessing the operant truth-determining property for their domain:

> According to the alethic pluralist, there will be a robust property in virtue of which the propositions expressed by sentences in a particular domain of discourse will be true, but this property

will change depending on the domain we are considering" (Edwards 2011, 31).[6]

According to pluralists, there is one-to-one correspondence between the domains of sentences, like physics and aesthetics, and distinct truth-determining properties, like correspondence and coherence. Subsequently, knowing the domain membership of all truth-apt sentences enables the pluralists to account for their truth or falsity in a domain-reliant manner by looking at whether any particular sentence possesses the truth-determining property for their domain.

Now, combine this idea with ambiguous or indeterminate accounts of domains, where there would be a range of truth-apt sentences, the domain membership of which would be confused. If there is a range of truth-apt sentences ($S_1,…, S_n$) that have confused membership between the domains of D_1 (physics/realist discourse) and D_2 (aesthetics/anti-realist discourse) with distinct truth-determining properties of P_1 (correspondence) and P_2 (coherence), the pluralists would be unable to account for their truth in a domain-reliant manner. For example, if it is not clear whether the sentence "*The Birth of Venus* is symmetrical" belongs to the domain of physics, which deals with the extensional composition of perceivable objects (physical symmetry), or to the domain of aesthetics, which deals with the projected phenomena of beauty and harmony (aesthetical symmetry), and where the respective domains are governed by distinct truth-determining properties of correspondence and coherence, then the pluralists would be unable to account for the truth or falsity of such sentences in a domain-reliant manner. Simply put, a question emerges as to what property such sentences must possess to count as true. No simple answer is forthcoming.

Perhaps such sentences count as members of both domains? The problem with this explanation is that according to the pluralists, what constitutes truth for each sentence is the possession of the distinct truth-determining property for its

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[6] Without domains, explaining why any particular sentence is true on the basis of some specific factor, like coherence or correspondence, and not others becomes difficult if not impossible (Wyatt 2013, 231–232). Even worse, without domains, some sentences can be both true and false in some pluralist frameworks, conflicting with the law of bivalence and arguably even the laws of non-contradiction and identity (Edwards 2018b, 85–86; Tauriainen 2021, 198–199).

domain, and where its falsity lies in the lack of said property. If there is a range of sentences that count as members of multiple domains with distinct truth-determining properties, then such sentences can have one of the relevant truth-determining properties and lack another. Therefore, such sentences would have truth-determining and falsity-determining properties, rendering them simultaneously true and false, and thus conflicting with the standard law of bivalence, where each truth-apt sentence is either true or false but never both.

Another option would be to argue that such sentences belong to no domain, which would prevent the pluralists from accounting for the truth of such sentences in a domain-reliant manner. This would conflict with the basic pluralist permissiveness regarding truth-aptness: "Truth pluralists take the demands for truth-aptness to be very minimal, and focus their attention on what kind of truth a sentence is apt for" (Edwards 2018b, 95). Such permissiveness is a central motivation in arguing for the benefits of pluralist accounts over the traditional monist views that face pressing issues of scalability: "The most common pluralist move against monism is to invoke the so-called scope problem: no monist theory has a scope sufficiently wide to accommodate all truth-involving discourse" (Ferrari, Moruzzi, & Pedersen 2020, 631). Even worse, dispensing with the truth-aptness of the aforementioned types of sentences would generate truth value gaps, and thus necessitate inference with such a sentence's problematic, assuming the standard Tarskian definition of validity. Finally, the inability to account for the domain membership of confused sentences would render the pluralists' accounts incomplete, especially when we ordinarily take sentences like "*The Birth of Venus* is symmetrical" as capable of being true or false.

While critics like David (2013, 49; 2022, 8.2) have made skeptical remarks about the possibility of forming a sufficiently well-individuated account of discourse domains for the truth pluralists to scale their accounts, a neglected fact is that the substantive monist accounts also rely on there being

precise boundaries between discursive contents to demarcate truth-apt and non-truth-apt contents.[7]

Under substantive monist accounts, there is only one way of being true overall via sentences possessing the relevant truth property, such as correspondence or coherence. However, such accounts should explain why some sentences are susceptible to their preferred criteria for being true, which involves separating them into truth-apt and non-truth-apt domains. Separating sentences into such domains has been an important part of the historically significant debate between the classical or neo-classical correspondence and coherence theories, where the former accounts have difficulties in explaining the truth of ethical and aesthetical sentences, whilst the latter have difficulties in explaining the truth of physics and other natural sciences that are rendered so by mind- and theory-independent facets of the world.

More specifically, if there is no clarity on whether a range of sentences (S_1, …, S_n) belongs to D_1 (truth-apt) or D_2 (non-truth-apt) or both, then the monists cannot account for the truth-aptness of such sentences. Utilizing the same example sentence, "*The Birth of Venus* is symmetrical," which arguably belongs to both domains of physics and aesthetics or discourses about mind-independent and -dependent aspects of the world, at least some correspondence and coherence theorists would face difficulties in accounting for the truth-aptness of such sentences. Of course, monist theorists can deploy similar strategies to that above in dealing with such sentences, treating them as simply confused or removed from the range of truth-aptness, but they are also susceptible to similar definitional issues that follow.[8]

Simply put, with insufficient accounts of domains and their membership at hand, pluralists face challenges in accounting for the domain membership and, subsequently, the

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[7] For example, David notes, "I want to remark in passing that the notion of a domain of discourse may well be a serious liability for pluralism about truth [...] Pluralism wants to sort propositions into different domains according to the subject matter they are about [...] Giving a principled account of how this is to be done is likely to be difficult" (2013, 49).
[8] Monists can reject the truth-aptness of such sentences more easily than the pluralists, for the former are not in general pushed towards accepting permissiveness regarding truth-aptness.

truth-value of *some* sentences, and monists face similar difficulties in demarcating the truth-aptness and non-truth-aptness of *some* contents. Likely, similar problems emerge for other philosophical theories as well, but their articulation is left to another occasion. We thus move to discuss the prospect of defining domains in a manner that posits them as having unambiguous identities and determinate rules for membership.

4. Individuating domains and accounting for their membership

The view of discourse domains that has been articulated thus far treats domains as classes of atomic sentences individuated by topical subject matters, where we further recognize a hierarchy of fundamental and non-fundamental subject matters and domains. For instance, a fundamental subject matter like physics or aesthetics would be a primitive category of discursive contents where a sentence counts as an instance of such a subject matter by composing of concepts of the aligning kind. Further, concepts fall under the aligning kinds on the basis of them denoting distinctively physical or aesthetical phenomena, or perhaps on the basis of them advancing discourse about relevant subject matters. In this sense, the sentence "snow is white" would be a distinctively physical sentence owing to its singular term concept referring to a range of extensional objects and where the predicate concept denotes an objective color property. Further, a non-fundamental domain would be such that it combines contents from two or more fundamental subject matters like physics and aesthetics.

As noted in the previous section, initially, one might wonder why one should bother to individuate fundamental subject matters and domains on topical rather than *ontological* grounds. There are several reasons for this. First, topical categories are widely utilized both within and outside of philosophy. Ordinarily, we take subject matters and discourse domains as primary topical categories, like physics and aesthetics, and this also aligns with our formal understanding of the world, where scientific disciplines are sorted into aligning domains of inquiry. Second, it is customary to hold that sentences addressing distinct subject matters, like physics and

aesthetics, can instantiate concepts denoting entities with varying ontological statuses. Nothing prevents the subject matter of physics from encompassing sentences that make reference to abstract objects or projected properties. Similarly, aesthetical sentences can concern objective properties of extensional objects, like whether some artwork qualifies as a mosaic. In this sense, there are well-grounded reasons for thinking that our mundane and theoretical ways of demarcating discursive content kinds are independent of concerns about the ontological status of entities denoted by the concepts that compose such a discourse. Third, it seems difficult to achieve a clear distinction between topical and ontological categories in the first place since there are abundant mutually exclusive ontological categories, and arguments for which of these are philosophically tenable or should be treated as fundamental are notoriously difficult to solve. Finally, as ontological categories are ultimately human categories and relative to the background theory through which they are formulated, this allows them to be treated as proto-subject matters or proto-topics, which results in the further blurring of boundaries between topical subject matters and ontological categories. Therefore, it is not even remotely clear whether ontological categories would provide any more robust distinction than topical categories for demarcating kinds of contents, especially when both categorizations are dependent on mind-dependent factors.

While both intuitively appealing and theoretically justifiable, the topic-based understanding of subject matters involves the cumbersome task of categorizing their contents like truth-apt atomics into the aligning domains. As noted, we can assume that this categorization happens at the level of singular term and predicate concepts of atomics. From this, we approach the question of demarcating singular term and predicate concepts into fundamental domains on topical grounds.

One problem is that there is no shortage of natural language concepts that can be deployed in the singular term or predicate positions of atomics, and assigning each of them to some topically individuated domain poses a challenging task that is subject to skeptical remarks. Utilizing the aforementioned example, it is not clear whether symmetry would be a concept or property that belongs to the domain of inquiry

about physics, mathematics, or aesthetics, or whether the predicate "is a mosaic" is a distinctively aesthetical concept when it concerns the material composition of extensional objects. Were one to argue that the concept of symmetry is ambiguous owing to the different ways of being symmetrical, an argument is required to explain why the phenomenon of symmetry is such that is permits a clear-cut disambiguation where nothing more than either physical, mathematical, or aesthetical symmetry is involved in each deployment of this concept. In relation to this, one might justifiably argue that in certain instances, the concept of symmetry denotes a property or phenomenon that is *simultaneously* relevant for both physics and aesthetics, and where these senses cannot be straightforwardly separated. We will discuss the problems caused by such mixed concepts further in the following section.

Another challenge in achieving a well-individuated account of topical domains, and of ontologically individuated domains for that matter, follows from the fact that our conceptual frameworks change, as do our conceptions of what the identities of subject matters are, which of them are fundamental, and what concepts instantiate which subject matters. This is also true for ontological categories that are subject to change according to the development of our metaphysical understanding of the world. For instance, while one could argue that there is a distinctively psychological domain that deals with discourse about mental states and experiences, nothing in principle prevents our conceptual frameworks from changing in a way that reduces this domain to one concerning a simple material change of complex systems—that is, physical and chemical processes of the brain. In such a hypothetical instance, what is now considered its own distinctive domain of psychology with its distinctive concepts would eventually reduce to a more fundamental domain, thus posing a challenge for providing robust accounts of domains that would persist over time by rendering one's account of their individuating factors relative to the present time and the contingent conceptual framework from which the individuating distinctions are drawn and justified. Further relativization would follow from there being competing theories or frameworks of thought that can provide incom-

patible understandings of what subject matters exist, what their boundaries are, and which of them are fundamental.

Hence, the topics-based approach, while intuitively appealing, suffers from a general lack of facts for grounding precise boundaries between subject matters and their respective concepts, thereby casting suspicion on the ability to form a well-individuated account of discourse domains when individuated on topical grounds.

However, this feature of our conceptual frameworks being subject to endless progress and re-evaluation concerns almost *all* philosophical theories, and as such provides a poor critique of one's account of domains per se. Similarly, such a conclusion does not diminish the prospect of there being better or worse ways of defining domains relative to each theoretical context or conceptual framework, and it thus allows the possibility that domains can be defined as well-individuated classes relative to the assumed background theory or conceptual framework.

It would also be apt to further discuss the actual ways in which discourse domains can be defined relative to the assumed background framework. In addition to the described topic-based and ontology-based approaches to individuating subject matters, by articulating a promising view that accounts for the domain membership of sentences via the *functional* or *teleological* role of their constitutive concepts, we can discuss problems with such accounts in the following section.

5. Functional or teleological approach to identifying subject matters and discourse domains

According to the functional or teleological view, truth-apt atomics are categorized into kinds according to the functional roles of the relevant constitutive concepts of truth-apt contents:

> The suggestion is that we can individuate kinds of predicates in accordance with the general functional roles that those predicates are taken to have. These are intended to mark fairly intuitive distinctions between kinds of subject-matter" (Edwards 2018a, 63; cf. Gemester 2020, 11353).

Note that Edwards, for one, accounts for the domain membership of atomics by kinds of concepts, where the consideration is restricted to the predicate concept: "So, it is not what a sentence is about that we should be considering for domain membership, it is rather how the thing the sentence is about is represented, by the use of a predicate to attribute a property" (2018b, 96; cf. Pedersen & Wright 2018, 4.5). The reasoning is relatively straightforward: atomic sentences are always *about* the objects designated by or referred to by singular terms, but what renders such sentences bearers of content is that something *is said* about these objects in the form of predication.[9] A less controversial claim would be that predication is what renders atomic sentences truth-apt, and hence the predicate concept should be taken as the *primary* content kind when considering the domains of atomics.

Ferrari promotes a view along these lines, arguing that a singular term can sometimes help disambiguated ambiguous predicates and hence have a secondary role in assigning atomics into domains: "However, looking at the predicative expression may not always be enough to determine to which domain a proposition belongs. When this is the case, we need to look also at the main subject matter of our judgement" (2021, 33). For instance, in the case of ambiguous predicates that potentially assign sentences to the distinct domains of personal taste and ethics, like "is good," the respective singular terms of "sushi is good" and "charity is good" help to disambiguate the initially ambiguous predicates and assign the sentences to the appropriate domains. Evidently, this is in stark contrast to Edwards, according to whom "Atomic sen-

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[9] Edwards motivates the predicate-emphasizing approach to domain membership as follows: "I will suggest that it is the predicate that determines the domain [of atomic sentences]. We can distinguish between two things: what a sentence is about, and what is said about the thing the sentence is about. A sentence is about its object […] But what makes these things sentences is that there is more: there is something that is said about the things that the sentences are about. […] It is this aspect—the attribution of a property to an object—that makes these kinds of sentences *sentences* in that they are bearers of content. So, it is not what a sentence is about that we should be considering [when assigning them into domains,] it is rather what is said about the thing the sentence is about" (2018a, 78–79).

tences are thus assigned to domains by the predicate they contain. The singular term is not relevant to domain individuation" (2018b, 97). However, even if it is controversial, we can simply accept the predicate-emphasizing approach since demonstrating problems with this strategy also scales to more complex strategies that look at *both* the singular term and the predicate concepts when accounting for the domain membership of atomics.

Assuming this premise and returning to the case of functional analysis, predicates like "is a proton" are distinguished as distinctively physical owing to their ability to "mark features of fundamental phenomena, such as matter, mass, and force," and predicates like "is beautiful" are distinguished as aesthetical owing to their ability to "mark a particular kind of the sensory features of an object" (Edwards 2018a, 66). While this is not the place to provide an extensive analysis of the philosophical sustainability or strengths and weaknesses of such an approach, there are a few skeptical notes that can be made to demonstrate that even this strategy does not offer a confusion-free method of individuating discourse domains.

First, the functionalist strategy relies on existing taxonomical distinctions (i.e., subject matters) between discursive contents to allow for categorizing their functional roles into the kinds articulated above. To be able to define the functional role of "is white" as an aesthetical rather than a physical predicate, some pre-existing distinctions for distinguishing between such predicate kinds ought to be in place. Further, defining such pre-existing proto-distinctions or subject matters would lead to similar issues with defining topical (or ontological) subject matters. Therefore, and partially due to the need for there to be prior taxonomical distinctions to define the functional roles of predicates, the functional strategy is susceptible to fringe cases where the domain membership of atomics would be unclear due to the presence of instantiating predicates that encompass confused content or bear mixed functional roles.

Second, Edwards (2018a, 81) acknowledges that what determines the domain membership of atomics is the *primary* functional role of predicates. However, this implies that predicates can also have secondary functional roles, which creates the need to offer some account for distinguishing such roles

in the case of any particular predicate. Again, in the case of "is white," such a predicate can have the primary functional role of advancing aesthetical discourse on one occasion and a physical role on another occasion without any clear prospect for distinguishing between such roles beforehand. Hence, the predicate would be able to assign one and the same sentence to distinct domains depending on the instance that determines its primary functional role, which would potentially result in issues where sentences have either confused domain membership or belong to multiple domains between instances. This is merely intuitive, for nothing prevents a single predicate from advancing discourse about *both* physics and aesthetics, yet it is difficult to see how a scaling account can be offered for determining which type of discourse is primarily being advanced in any particular instance, especially when keeping in mind the already discussed feature of our conceptual frameworks being susceptible to constant development and change. Therefore, while my contention is that this does not render the functional approach inherently flawed or necessarily more problematic than the alternative views, this approach does not provide an unproblematic foundation for defining domains as unambiguous classes of sentences with determinate rules for membership.

6. Complex content

In addition to the aforementioned problems in defining subject matters and achieving a well-individuated account of discourse domains on topical, ontological, and functional or teleological grounds, there are neglected issues with complex content that compromise one's ability to define domains as unambiguous classes of sentences with determinate rules for membership under all of the aforementioned strategies.

Starting with the problem of ambiguity, insofar as discourse domains are defined for a natural language *L*, then the inherent ambiguities involved with such languages risk being transferred to one's account of domains. Natural languages encompass polysemous terms that can allow for multiple and mutually incompatible readings, and this lays the foundation for the phenomenon of lexical ambiguity to emerge, where the meanings or referents of terms can be confused. From the

phenomenon of lexical ambiguity emerges semantic ambiguity, where sentences composed of ambiguous terms allow for multiple and mutually exclusive readings in a potentially indeterminate or confused manner. The problem that such ambiguity poses for one's account of domains is that insofar as sentences are assigned to domains on the basis of the concepts deployed in the singular term or predicate positions, yet where both the singular term and predicate terms can encompass ambiguity, then our ability to assign such sentences to domains in an unambiguous manner will be compromised even if the respective (fundamental) domains themselves have unambiguous identities. For example, ambiguous predicates, such as "is white," compromise one's ability to assign sentences to a single domain in a determinate manner according to the predicate allowing for *both* objective color-property and projected social-property readings, which would assign the respective sentence to the independent discourse domains of physics, sociology, and perhaps even aesthetics. Note that the initial solution proposed by Ferrari (2021), where a singular term can help to disambiguate an ambiguous predicate, does not work in full scale since predicates, like "is white," can apply to the same unambiguous or ambiguous singular term. Similarly, while a functional analysis can help to disambiguate such predicates in *some* contexts, nothing prevents instances where confusion persists between, for example, the primary and secondary functional roles of such predicates.

However, the aforementioned ambiguity issues are well known and there are effective methods for philosophers to deal with them from both theoretical and pragmatic perspectives (Sennet 2021). Theoretically, perhaps the most efficient way of dissolving lexical and semantic ambiguities is to *not* treat sentences as the contents of domains. Rather, one can adopt *interpretations* of atomic sentences or atomic proposition as the contents of domains to avoid issues of lexical and semantic ambiguities. While sentences like "Charlie is white" are ambiguous because they allow for multiple interpretations in an indeterminate manner, the interpretations themselves have, at least when casting vague expressions outside the range of consideration, clear and determinate meanings. In this sense, ambiguous sentences allow for multiple readings, yet these readings themselves are what cognitive agents

are able to clearly and unambiguously identify. Simply put, in the case of the aforementioned predicate, one always understands "is white" as *either* a physical, aesthetical, or social predicate, and there is arguably no confusion between these distinct interpretations as they display clear variance in the kind of their content. Assuming that one has a well-individuated account of domains and robust rules for membership, then any interpretation of an atomic sentence would determinately assign the sentence to an appropriate domain independently of our ability to identify definitively whether any particular sentence or concept stands for this or that reading. From this, it follows that the issue of ambiguity can be constrained wholly to the side of the language or our ability to *know* which sentences should be interpreted in what ways. Hence, this can occur for the language for which one defines domains, and it does not threaten the prospect of reaching a well-individuated account of domains and their membership for disambiguated contents, such as interpretations of sentences or concepts.

Beyond the theoretical prospects of satisfactory disambiguation, there are also effective ways of dissolving language-bound ambiguity on pragmatic grounds, and thus of reaching a more desirable account of discourse domains overall. In general, the problems caused by ambiguity can be managed by *regimenting* the discursive contents over which domains scale. For example, in certain technical contexts where ambiguity regarding our ability to know about the domain membership of atomics can cause issues, one can simply eliminate ambiguous terms or disambiguate them by adding indications for correct readings. In this sense, the predicate "is white" can be disambiguated to encompass two distinct readings, "is white [in color]" and "is white [in class]," encompassing distinct content kinds and having their own application rules, subsequently governing membership to the respective domains of inquiry of physics and sociology.

However, it is worth emphasizing that regimenting the whole range of natural discourse will not do. One reason for this is that polysemy-based ambiguity is a feature, not a bug, of such discourse. In general, polysemous and ambiguous discourse can be useful, where we sometimes *want* our speech to be confused. For instance, when we watch improvi-

sation theater or read a piece of literature, we do not mind that expressions sometimes allow for multiple readings in an indeterminate manner. There is also strategic ambiguity, for example, in the case of the US–Taiwan situation, where the United States' commitment to defend Taiwan from possible invasion from foreign forces is left intentionally ambiguous for political purposes. Nonetheless, unregimented natural discourse can be allowed to encompass these types of ambiguities, under which our knowledge of the domain membership of some sentences is subsequently confused, yet membership-governing concepts can be appropriately regimented in technical contexts of various sorts that benefit from there being precise and known boundaries between discursive contents.

Based on the aforementioned discussion, ambiguity does not provide a serious threat to reaching a philosophically sustainable account of discourse domains. However, beyond ambiguity, there is a distinct and neglected phenomenon of complex and *mixed* content that poses a threat to reaching a well-individuated account of discourse domains even after following the disambiguating strategies for both the topical and functional strategies. For the sake of argument, we can assume that an unambiguous account of discourse domains can be achieved by restricting the contents of such domains as interpretations of atomics, where each interpreted predicate concept assigns sentences to only one topically individuated fundamental domain. From this, we reach the question of whether all disambiguated domain-relevant predicate concepts are such that they are governed by or fall under only one fundamental domain, or whether all such concepts address only one primary subject matter. Aligning with the intuition that some concepts address multiple subject matters at once, and hence govern membership to more than one domain, nothing in principle prevents there being mixed concepts that encompass content that is equally relevant to multiple fundamental subject matters at once or that advance discourse about distinct subject matters on equal grounds.

An example of mixed content would be a concept or sentence encompassing content from multiple topically individuated domains at once or when abiding by the functional approach that simultaneously advances discourse about more

than one subject matter with no prospect for separating primary and secondary functional roles. It is worth emphasizing that here, the focus is strictly on predicate concepts and their mixing, but matters are only complexified if singular terms are allowed to govern domain membership, since nothing prevents them from being mixed as well.

Returning to the previously introduced example case of symmetry, the problem with this concept is that it arguably not *only* presents ambiguity between physical, mathematical, and aesthetical readings or ways of being symmetrical but, as a phenomenon or property of both concrete and abstract objects, is complex enough to warrant a view where it can compose of content that is relevant for multiple subject matters simultaneously. This is because, in certain instances, it is reasonable to hold that symmetry denotes a phenomenon that encompasses physically, mathematically, and aesthetically relevant content. For example, nothing prevents thinking that in the case of certain natural symmetries, like the fractal structures of snowflakes, the phenomenon of symmetry is inseparably physical and mathematical, or when discussing the symmetry of an artwork, like architectural elements, there can be inseparable physical, mathematical, and aesthetical content involved. In this sense, there are reasons to believe that in some cases, symmetry as a concept denotes a phenomenon encompassing content that is relevant to more than one fundamental subject matter or domain of inquiry based on, for example, it concerning the harmony or balance of portions of concrete and abstract objects of various forms in a sense that is relevant to physical, mathematical, and aesthetical domains of inquiry. Such a balance of portions can be an extensionally manifesting natural phenomenon of material objects and can sometimes even act as a precondition for certain biological processes to emerge. Further, such a balance of portions is an inseparable component of the phenomenon of aesthetical symmetry, which concerns the perceived symmetricity of concrete or abstract entities. However, while both physical and aesthetical symmetries are such that no criterion of idealization is required, in at least some of the mathematical senses of symmetry, only theoretical entities displaying a perfect or idealized balance of portions count as symmetrical, where some such symmetries cannot even, in

principle, manifest in extensional objects, and where other mathematically symmetrical objects might be infinite to the point of inconceivability, hence repelling evaluations of aesthetical symmetry.[10] In this sense, at least certain theoretical conceptions of symmetry require from symmetrical objects more than a simple balance of portions by, for example, requiring a symmetrical object to display an idealized property of being perfectly symmetrical. This complexifies matters by raising a concern about the concept of symmetry being able to denote distinct *kinds* of symmetries, rendering the general-level concept potentially ambiguous between such kinds but also rendering some of these kinds mixed, where they inseparably involve content that is relevant for more than one fundamental subject matter at once. Consequently, truth-apt sentences bearing the concept of symmetry pose a troublesome case for assigning them to fundamental domains in an unambiguous and determinate manner.

Here, the skeptic might contend that such instances are not really about the concept or property of symmetry being mixed between topical subject matters but rather demonstrate that the general-level concept of symmetry is simply ambiguous regarding the different ways of being symmetrical. To emphasize, however, the point here is not that symmetry as a concept is *only* ambiguous between different readings but that the concept of symmetry can sometimes denote phenomena that are relevant for multiple subject matters at once. In this sense, the question of whether some object is physically symmetrical can, in some instances, be *inseparable* from whether it is also aesthetically symmetrical, or the phenomenon of physical symmetry can be inseparably entwined with a mathematical understanding of symmetry. Therefore, and aligning with the intuition of how some concepts can bear content of distinct kinds or address or fall under multiple fundamental subject matters at once, it is a reasonable assumption that even after conducting the disambiguating programs, all domain-membership governing concepts do not assign truth-relevant contents to only one fundamental domain.

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[10] My contention is that inconceivability does not preclude aesthetical evaluations.

Moreover, some such concept can assign contents to distinct domains that can either be truth-apt and non-truth-apt or susceptible to being true in different ways, raising concerns about the subsequent definitional issues for some monist and pluralist theories of truth, which were discussed previously.[11] Simply put, insofar as a monist would argue for the truth-aptness of physical discourse while rejecting the truth-aptness of aesthetical discourse, sentences like "School of Athens is symmetrical" can prove problematic by falling within both the aforementioned domains. Similarly, the truth pluralists face difficulties in articulating the way in which such sentences get to be true when the aforementioned domains are governed by distinct truth- and falsity-determining properties, and where the respective sentence can possess one of these properties while lacking another.

7. Concluding remarks

From a definitional standpoint, both alethic monists and pluralists would benefit from fundamental domains over which truth-aptness or ways of being true vary as unambiguous classes of sentences with determinate rules for membership. However, a few considerations in this paper have aligned with one another to formulate a joint argument against the idea of fundamental discourse domains as such classes when individuated on topically understood subject matters.[12] First, the project of defining subject matters as well-individuated categories is susceptible to indeterminacy due to the general lack of boundaries for demarcating content kinds on particular grounds and where such boundaries are unstable over time owing to inevitable development and changes in our conceptual frameworks through which the deployed topical distinctions are justified. Second, even after deploying certain

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[11] The question of whether mixed concepts are vague concepts or what their relation is to one another ought to be addressed in full detail in an independent study. My contention is that mixed content is distinct from vague content since the former can enable a clear compositional analysis.

[12] All this leaves open whether the desired account of domains could be achieved on ontological rather than topical grounds. However, because of the extensiveness of this topic, ontology-based approaches to discourse domains ought to be examined elsewhere in detail.

disambiguating strategies, defining fundamental domains as well-individuated classes of sentences faces problems due to the intuition that not all concepts are simple or univocally about a single subject matter. According to the example case of mixed content, some concepts can encompass content that is simultaneously relevant to multiple subject matters, which are relevant to more than one domain of inquiry or advance multiple discourse at once without any prospect of precisely separating primary and secondary functional roles. Insofar as such concepts compose atomics, which are responsible for domain membership, such sentences can arguably belong to more than one domain at once. This causes problems for alethic theorists who bind truth-aptness or distinct ways of being true to domains rather than individual sentences.

Therefore, the concluding argument is that alethic theorists and others who rely on natural language discourse domains as an explanatory resource should consider a commitment to moderate indeterminism about the extensions of fundamental discourse domains when individuated on topical grounds, where general guidelines for assigning sentences to domains can be provided, yet where the domain membership of *some* sentences cannot be unambiguously accounted for. At the bare minimum, such a conclusion is in stark contrast to Lynch's (2009, 79–80) early approach and Edwards' (2018a, 79; 2018b, 96–97) current approach that insist on atomics belonging solely to one fundamental domain. The promoted view also contrasts with those for whom truth-apt atomics can belong to multiple domains yet where determinate rules for primary domain membership can nonetheless be given (Wyatt 2013, 233). In conclusion, insofar as one argues that all domain-relevant concepts ought to be defined in a manner that posits them as being governed by only one (primary) fundamental domain, then such theorists should address the neglected issues that complex and mixed contents pose for assigning all truth-apt content to discourse domains in an unambiguous and determinate manner.

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