



Serious Actualism, Typography, and Impossible Sentences

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Received: 2 September 2022 / Accepted: 23 March 2023
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Abstract

Serious actualists take it that all properties are existence entailing. I present a simple puzzle about sentence tokens which seems to show that serious actualism is false. I then consider the most promising response to the puzzle. This is the idea that the serious actualist should take ordinary property-talk to contain an implicit existential presupposition. I argue that this approach does not work: it fails to generalise appropriately to all sentence types and tokens. In particular, it fails to capture the right distinctions we ought to make between what I call *typographical sentence types*—an interesting and previously undiscussed class of fine-grained sentence types which are partially individuated by their typography, or how they look when written out.

1 Introduction

Serious actualism (SA) is the view that it is impossible for an object to have a property or stand in a relation and not exist.¹ Although rejected in Fine (1977a, 1985), Pollock (1985), and Salmon (1987a), support for SA is ubiquitous,² Moreover, a lot hinges on the truth of SA: it is assumed in Plantinga's (1983) argument for the necessary existence of propositions, plays an extensive role in Williamson's (2002, 2013) arguments for necessitism, and, as Fritz and Goodman (2016: 655) show, it plausibly entails that a certain form of higher-order contingentism for properties and propositions, elaborated and defended in Fine (1977b) and Stalnaker (2012), is

¹ SA has been discussed under various labels, including *Property Actualism* (Fine, 1985), *The Existence Requirement* (Yagisawa, 2005), the *Modal Existence Requirement* (Caplan, 2007), the *Ontological Principle* (Plantinga, 1974), and, recently, *The Being Constraint* (Williamson, 2013).

² For arguments for SA, see Stephanou (2007), Plantinga (1983: 11–15), Plantinga (1985: 316–23), Williamson (2013: 148–58), Kment (2014: 79) and Jacinto (2019).

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false. Now, SA is certainly plausible and some even take it to be obvious, see Kment (2014: 79). After all, one may wonder, if to exemplify a property is to just be a certain way, then it is surely obscure how something could *be* a certain way without *being* at all (Adams, 1981: 18). In this paper, however, I argue that serious actualism is false.

In the first half of the paper (§2), I present and discuss a simple puzzle for the serious actualist involving sentence tokens. In short, I argue that there are pairs of sentence tokens where the truth of the first necessitates the truth of the second and yet the first can be true without the second even existing. This puzzle seems to show that it is possible that some sentence tokens are true and yet do not exist. I argue (§3) that the most promising response for the serious actualist is to understand property-talk as having a built-in existential presupposition, as discussed in Fine (1985: 164–5). However, I then show, in the second half of the paper, that this response generates a new problem (§§4–5). In particular, I show that this way of understanding property talk does not appropriately generalise to all notions of sentence type and token by motivating the existence of a previously undiscussed class of fine-grained sentence types which are individuated by their typography, or how they look when written out—*typographical sentence types*.

Importantly, the puzzle and the subsequent arguments presented against SA in this paper improve upon existing arguments against SA in at least two ways. First, they don't presuppose any controversial meta-ontological positions such as Meinongianism—the view that there *are* things which do not exist (Reicher, 2019). For Meinongians, there simply are, in some sense, individuals like Sherlock Holmes and such individuals do not exist. Nonetheless, they have properties like the property of being a fictional detective (Berto, 2013: 8).³ In contrast, I simply assume here that existence and being are one and the same and are captured by the existential quantifier and identity: to exist is to be identical to something. That is: x exists iff $\exists y(y = x)$. The second advantage of the arguments presented here is that they don't presuppose implausibly strong comprehension principles for properties—principles about what properties there are—other than those which are obviously unproblematic for serious actualists. This is in sharp contrast with, for example, the argument against serious actualism from the property of nonexistence given in Fine (1985: 165–6) and Pollock (1985: 126), or the argument from the property of being the referent of a name given in Salmon (1987a: 94). For the arguments presented here we require only the property of sentence token truth and nothing more complicated nor ontologically demanding.

Now, finally, one caveat, before I begin. To make the debate over SA interesting, I assume that necessitism—the view that necessarily everything necessarily exists, defended in Williamson (2013)—is false. Otherwise, SA is trivial: nothing exemplifies a property and does not exist if everything cannot fail to exist.

³ In fact, some Meinongians, known as *literalists* such as Parsons (1980), would say that Sherlock Holmes *literally* has the property of being a detective.

2 The Simple Puzzle

Here, I present a simple puzzle which seems to show that SA is false. Then, I'll consider some initial ways serious actualists may wish to push back, arguing that ultimately they do not work.

To begin, consider the following scenario. I write 'There are no philosophers' on a whiteboard. I then also write 'There are no two distinct things which are philosophers' on the same whiteboard. I let ' t_1 ' name the first sentence and let ' t_2 ' name the second sentence. By which, I mean: t_1 and t_2 name the very inscriptions or sentence *tokens* written on the board. Now, it seems true that:

It is metaphysically necessary that if t_1 is true, then t_2 is true. (1)

After all, t_1 just states that there are no philosophers and t_2 states that there are no two things which are philosophers. The truth of one very naturally implies the truth of the other. However, it is also true that:

It is metaphysically possible that t_1 is true and t_2 does not exist. (2)

Again, t_1 and t_2 are sentence *tokens*—just physical objects composed of ink arranged in some complex arrangement on my whiteboard—and there simply ought to be nothing about the *truth* of one particular sentence token of 'There are no philosophers' that necessitates the *existence* of a sentence token of 'There are no two distinct things which are philosophers'. After all, I could have written t_1 on the whiteboard, t_1 could have been true, but, for whatever reason, I fail to write t_2 , e.g., my whiteboard pen breaks before I can. Of course, the claim here is not that *generally* the truth of no sentence should necessitate the existence of another sentence. This is quite trivially false, since we can have sentences which name other sentences and say of those other sentences that they exist. All I claim here is that the truth of t_1 should not necessitate the existence of t_2 in particular.

Now, the problem for the serious actualist is that (1) and (2) entail:

It is possible that t_2 is true and t_2 does not exist. (3)

and (3) is inconsistent with serious actualism, i.e., t_2 possibly does not exist and exemplifies a property—in this case, the property of sentence token truth.

This puzzle for the serious actualist is simple. It doesn't take a stance on what is required for the *creation* of a particular sentence token.⁴ We just assume here that whatever needs to be done for t_1 and t_2 to be genuine sentence tokens has actually been done and that we then refer to *those very same tokens* throughout the argument. Moreover, as I emphasised in the introduction, it doesn't smuggle in any controversial meta-ontological assumptions or substantial assumptions about what properties there are. Needless to say, the puzzle does assume that we can talk about the

⁴ Of course, one might think that intention, for example, plays a significant role in this. However, I'm not committed to this idea or its negation. For more, see Kaplan (1990: 104), at least for the role of intention in producing *word* tokens.

counterfactual existence, or nonexistence, of sentence tokens. However, this should not be a problem. Whilst it is uncommon to talk about sentences existing at all, let alone existing in possible worlds, we should note that sentence tokens are, fundamentally, just some things related in some way, e.g., dots of ink in some configuration, or pixels arranged on a screen. So, once we guarantee that the very same tokens are discussed throughout, there is no more of a problem discussing their counterfactual existence than there is discussing the existence of, say, the Eiffel Tower, or other more ordinary contingent objects.

The puzzle also assumes that ‘is true’ ascribes the property of truth to t_2 in (3), otherwise the puzzle wouldn’t get traction against the serious actualist. Now, some have influentially denied that truth is even a property at all, e.g., in Quine (1986: 12), the truth predicate functions solely as a disquotational *device*. On such an account, to say that t is true is not to ascribe a special property of truth to t . The important point, however, is that such *strong* deflationary or minimalist accounts of truth are controversial and resisting the puzzle by appealing to them is unpromising. Most plausibly, minimalists about truth hold only that, whilst truth *is* a property, it is not a substantial property.⁵ That is, the property of truth doesn’t feature in substantial explanations, and has no explanatory power. Truth may well be inert in this way but this fact is irrelevant to our discussion of SA: the view under discussion is that *any* property is existence entailing, not that only some theoretically interesting properties are existence entailing.⁶

How could the serious actualist respond? It should be clear that rejecting the inference from (1) and (2) to (3) is not an option. Such an inference is valid in the minimal modal logic K. This is a *weaker* system than the modal logic T which is itself *the weakest* logic in which the operators can be interpreted as representing an alethic modality like metaphysical modality. It should also be clear that denying (2) is not an option. As I motivated above, it is deeply implausible that the mere truth of there being no philosophers should necessitate the *existence* of t_2 . Indeed, a satisfactory solution to the puzzle for the serious actualist will involve rejecting (1). In the next section, I will discuss what I take to be the most promising way to reject (1); but, before doing so, I want to outline, and put to one side, one tempting way of denying (1) which I argue is mistaken.

One may worry that sentence tokens mean what they mean only contingently, and because of this (1) is straightforwardly false. That is, there are worlds in which t_1 is true but t_2 is false simply because whilst t_1 still means ‘There are no philosophers’, t_2 *instead* does not mean what it actually means. It might, for instance, mean ‘There *are* philosophers’. Now, there will, of course, be limits to how differently sentences may be understood owing to the need for there to be consistency within a language

⁵ For more, see Horwich (1998: 37–40), Künne (2003: 91), Stoljar and Damnjanovic (2014: §5).

⁶ One may also worry that sentential token truth should really be understood as a secondary kind of truth, defined in terms of what propositions sentences express and a primary notion of propositional truth. However, this is a *non sequitur*. Were we to take this line, (3) would still be problematic for the serious actualist, since the sentence token t_2 would nonetheless exemplify a property, only this time a complex one consisting of the expressing of a true propositions even if it didn’t exemplify some primitive property of sentential token truth.

and the fact that sentences typically share semantically significant parts. However, such internal limits do not plausibly rule out all such tricky cases of deviant meaning and so, the worry goes, we cannot guarantee that the truth of token t_1 does in fact necessitate the truth of token t_2 .

I agree with the brunt of this objection, and agree that it does raise a problem for the original statement of the puzzle. However, to avoid this problem, we need only reformulate the puzzle to make it explicit that, to get the puzzle for serious actualism, we only need to consider metaphysically possible worlds where English words and sentences *mean what they actually mean*. Needless to say, this requires formulating the argument not in terms of metaphysical necessity, but a narrower notion of necessity—truth in all ‘actual English’ worlds—if we chose to formulate the puzzle using modal language. However, for our purposes, we can more simply frame things explicitly in terms of worlds:

- (1^e) In all actual English worlds, if t_1 is true, then t_2 is true.
- (2^e) In some actual English worlds, t_1 is true and t_2 does not exist.
- (3^e) In some actual English worlds, t_2 is true and does not exist.

(1^e) and (2^e) entail (3^e) and the considerations in favour of (1) and (2) already considered will carry over to (1^e) and (2^e). Moreover, since, all actual English possible worlds are metaphysically possible worlds, (3^e) entails (3). So, the serious actualist has not avoided the puzzle.⁷

Of course, the mere existence of the reformulated puzzle (1^e)–(3^e) is enough to block worries about the contingency in sentence token meaning. So, for convenience, I will stick with the simpler formulation of the puzzle in terms of metaphysical modality.

3 The Swap Strategy

To salvage SA from the simple puzzle, we must reject (1). I think the most promising approach for the serious actualist—and the approach I will discuss for the rest of this paper—is what I call the *Swap Strategy*. To begin, here’s an observation. As I have argued, serious actualists must think (1) is false. However, they don’t have to reject conditional claims like:

⁷ One may be tempted to read (2^e) as the claim that possibly t_2 does not exist and means what it actually means and worry about how a token can mean something, if it doesn’t exist. This is, however, not what (2^e) says. (2^e) simply says that (i) there is a possible world w , (ii) in w English means what it actually means, (iii) t_1 is true in w and (iv) t_2 does not exist in w . Claims (i) and (ii) are what guarantee that t_2 does not have any deviant meaning in virtue of *general* facts about w , i.e., that in w English means what it actually means. No *specific*, perhaps obscure claims, about what t_2 *itself* means in w are required to reformulate the puzzle in this way. Another way of emphasising this idea is to think of the reformulation as follows:

- (1') Necessarily, if English means what it actually means, then if t_1 is true, then t_2 is true.
- (2') Possibly, English means what it actually means and t_1 is true and t_2 does not exist.
- (3') Possibly, t_2 is true and does not exist.

Necessarily, if both t_1 and t_2 exist, then, if t_1 is true, then t_2 is true. (1*)

That is to say, it's consistent with serious actualism that, necessarily, if t_1 is true, then t_2 is true, *provided* both t_1 and t_2 exist. Now, the *Swap Strategy* exploits the observation that the serious actualist does not have to reject (1*):

Swap Strategy: Generally, we understand the kind of necessitated property-talk involved in the puzzle as having a built-in existential presupposition. That is, we swap \lceil Necessarily, if t_1 is true, then t_2 is true \rceil in exchange for (1*).⁸

Here's the big-picture idea. The serious actualist recognises that paying attention to the existence of sentence tokens means that they cannot readily accept ordinary compelling claims about the truth of one token necessitating the other. For the serious actualist, a claim like (1), taken at face value, is not innocuous and they can tell a story about why. With (1), we want to say something specific about how t_1 and t_2 relate across all possible worlds. Yet, according to the serious actualist, taking (1) at face value *also* involves violating fundamental facts about existence and exemplification. Instead, then, the serious actualist wants to retain some, more innocuous, version of our compelling ordinary discourse by regimenting our ordinary property-talk in terms of property-talk which is conditional on the relevant entities existing. This allows the serious actualist to preserve the idea that all properties are existence entailing *as well as* allow them to accept versions of our ordinary, seemingly true claims, about properties, particularly true *modal* claims about properties like those in the puzzle. Of course, the serious actualist must also claim that these alternative ways of understanding our ordinary discourse are good enough for our purposes, e.g. they allow us to make the right kind of modal claims about sentence tokens and make the right distinctions between sentence tokens across possible worlds. Crucially, though the idea is that such innocuous versions of these claims are also good enough for these purposes without also introducing a fundamental metaphysical mistake.

That's the big-picture idea, but note that the Swap Strategy *as formulated here* is actually quite minimal in two ways. First, the Swap Strategy, as formulated here, concerns *only* the kinds of necessitated truth ascriptions in the puzzle. Of course, the serious actualist may want to systematically understand all property-talk in this way. However, here I just want to focus on the most minimal adjustments they can make to solve the puzzle. This means that I put to one side what the serious actualist might have to say about other properties. Secondly, I have intentionally left open other questions about what precisely swapping non-conditional for conditional property-talk should be understood to involve. The serious actualist may want to claim that ordinary property-talk should be *analysed* in terms of conditional property-talk, or that conditional property-talk is what our ordinary property-talk *really means*.

⁸ This strategy of exchanging non-conditional property talk for property talk which is conditional and has a built-in existential presupposition is discussed in Fine (1985: 164–5).

Alternatively, the serious actualist may accept the Swap Strategy because they have some substantial view about the meaning, or nature, of the exemplification relation. Here, however I am not interested in exploring the plausibility of these stronger claims. Instead, I am simply interested in whether swapping out ordinary, for conditional, property-talk—for whatever reason—is going to capture enough of what we should want to ordinarily say about sentence tokens and sentence token truth.

The Swap Strategy is a natural and promising response to the simple puzzle for the serious actualist. After all, it's not implausible that when inquiring about the truth of some particular sentence token in, say, a counterfactual world, we implicitly presuppose that *it* exists in that world. Moreover, the shift from non-conditional to conditional predications is conservative in non-modal contexts: in such cases the existential presupposition is typically just satisfied.⁹ There is, of course, much more than can, and should, be said—particularly about whether the serious actualist can plausibly embed such an understanding of necessitated property-talk into a broader, systematic account of properties. Here, however, I want to just focus on whether the Swap Strategy is adequate as a solution to the kinds of puzzles about sentence token truth we began with. For the rest of the paper, I argue that it isn't. I argue that the Swap Strategy fails precisely because such conditional claims are too weak to capture the right distinctions between certain pairs of tokens in which one token really does necessitate the truth of the other and pairs of tokens in which neither token necessitates the truth of the other. In particular, the Swap Strategy *trivialises* many claims like (1) which involve a fine-grained notion of sentence type which I introduce in the next section—what I call a *typographical sentence type*.

4 Typographical Sentence Types

In this section, I will motivate the existence of a class of particularly fine-grained notions of sentence type which are tied to typography. I'll then discuss the problem they pose for the serious actualist's Swap Strategy.

⁹ The Swap Strategy also differs from the approach which simply rejects (1) as mistaken and does not articulate an alternative way of understanding claims like (1). For instance, as an anonymous reviewer noted, the serious actualist may think that when (1) seems right, we just make a mistake. That is, we unthinkingly endorse (1), rather than the correct claim which is not about sentences tokens, i.e., 'Necessarily, if there are no philosophers, then there are no two distinct things which are philosophers'. Now, I have no knock-down arguments against this approach. However, I think it is best to focus on the Swap Strategy instead because we should place particular importance on solutions to the simple puzzle which are conservative and preserve, in some sense, a commitment to what are, on the face of it, intelligible and true fragments of ordinary discourse about sentence tokens. After all, (1) is not an isolated problem for the serious actualist—various claims about sentence tokens will turn out to be false on this approach. Ideally, a solution to the simple puzzle should not imply a wide-scale, revisionary rejection of such talk as *simply* false.

4.1 Typographies, Sentence Types, and Tokens

First things first: what is a type versus a token? So far, I have been exclusively talking about sentence tokens like t_1 and t_2 . These are, invariably, physical entities: the very marks, pixels, or whatever you see before you. A type, in contrast, is an abstract object which bears a special relation to certain tokens. We can get a clearer idea of the notion of a type by thinking about how two sentence tokens can be *the same*, in some significant sense. For instance, consider:

The cat sat on the mat. (4)

The cat sat on the mat. (5)

The cat sat on the motorbike. (6)

(4) and (5) are clearly the *same sentence* in a way which (6) is not. Needless to say, each of (4)–(6) is numerically distinct from the others. However, (4) and (5) are sufficiently similar so that we say they are instances of the same type—if two tokens are the same in some significant way, this can be expressed as their being of the same type.¹⁰ (6) is also an instance of some sentence type—the same sentence type of which any token of ‘The cat sat on the motorbike’ is an instance,¹¹

We intuitively get a handle on the notion of a *typographical sentence type* following much of the same pattern. That is, we look at sentence tokens for which we can say they are sufficiently similar and *the same sentence* in some sense. For instance, consider the following sentence tokens.

The cat sat on the mat. (7)

The cat sat on the mat. (8)

The cat sat on the mat (9)

In an obvious way, (7)–(9) are the same sentence in some sense: they are each tokens of the broad sentence type of which (4) and (5) are also tokens. However, it is clear that we can also make distinctions between (7)–(9) in an interesting way. To begin, (7) and (8) both differ from (9) in that they *appear* differently when written out. In other words, (7) and (8) are tokens of some type of which (9) is not. Of course, this

¹⁰ To be clear, not all similarity between sentence tokens is sufficient for them to be instances of some type—that each of (4)–(6) are on the *same page* is not enough to say they are instances of some *same* sentence type. Now, where we draw this line between sufficiently similar to be all instances of some sentence type or not is not something I will get into: the cases I am interested in are clear enough that I do not need to be drawn on where the dividing line is precisely.

¹¹ Here, type-talk is not a convenient way of speaking. I assume that types really do exist. The type-token distinction is ubiquitous in philosophy and logic, but is little discussed in detail. There is some scepticism of the distinction in the literature, particularly concerning realism about *types* see Lewis (1986a) and Simons (1987b), but here I bracket off these concerns. For a book-length treatment of this distinction and a defence of realism, see Wetzell (2009).

difference is tied to typography, i.e., how we are supposed to arrange things to look the way they do. Insofar as (7) and (8) are the same sentence written in the same way, we say that they are both sentence tokens of the same, more fine-grained, *typographical sentence type*. This contrasts with (9) which, although an instance of the same broad sentence type as (7) and (8), appears differently to (7) and (8)—it is thus also an instance of some distinct typographical sentence type.

Abstractly put, typographies are the ways things are arranged and relate to each other such that they form a sentence—how things are arranged in order to form the syntactic structure of the sentence. Two comments are in order here. First, the syntactic structure of a sentence is simply understood in this paper to be the symbols involved in the sentence and their order or arrangement. That is, the notion of syntax I am concerned with in this paper is distinct from the notion of syntactic structure which we find in linguistics which is either more than, or independent of, the simple order of the symbols involved and more concerns the organisation of the words into their grammatical roles.¹² Second, the notion of typography is understood very liberally—throughout this paper I am concerned with a notion of typography which is an extension of the ordinary notion. Here, a typography is *any* way some things can be arranged so as to form the syntactic structure of the sentence. The notion employed here is thus not limited to merely spatial relations between parts of a sentence, as with the more ordinary notion of typography. Moreover, the liberal notion of typography I employ here does not limit what kinds of objects can be related to each other to constitute a typography, provided the things and the relations between them are sufficient to form the syntactic structure of the relevant sentence.

What kind of entity is a typography? At first glance, talk of typographies as *the ways things are arranged* suggests that one way of understanding them is as properties, or constructions out of properties. A typography, then, could be a complex plural property satisfied by the parts of the sentence-type just in case they are related in the right way to be a type in that typography; or a set of conditions determining the properties which must be jointly exemplified by the parts of the type just in case they are a type in that typography. Both of these approaches are intuitive, but they come with some philosophical baggage. For example, both approaches presumably require a generous and abundant conception of properties in order to define the variety of finely individuated typographies.

A more promising alternative is to take typographies as sets of typographical sentence-types such that, for some characteristics, the types in the typography are all and only the types having those characteristics.¹³ This proposal gets the order of ‘abstraction’ the right way around: we first have typographical sentence-types, distinguished in terms of how they look when written out, and we can then talk about the typography associated with some typographical sentence-types, provided they share significant characteristics. This approach also means that we can stay neutral on the role that properties play in the characterisation

¹² Thanks to a helpful anonymous reviewer for noting this difference.

¹³ Thanks to a helpful anonymous reviewer for suggesting that typographies could be understood as certain sets of typographical sentence-types.

of typographies. All this being said, however, my argument here does not hinge on any one approach to understanding what typographies ultimately are. Rather, what matters is that the liberal notion of typography as, very generally, the way in which things are arranged so as to form sentences is intelligible and well motivated.

To keep matters clear, let T_1, T_2, \dots, T_n stand for typographical sentence types—from here on, I will call these, simply ‘typographical types’—and let $\mathcal{T}_1, \mathcal{T}_2, \dots, \mathcal{T}_n$ be the associated typographies. I will continue to use lower case letters for sentence tokens, t_1, t_2, t_3, \dots . We say, then, that for each typographical sentence type T there is an associated typography \mathcal{T} and there may be many tokens t_1, \dots, t_n of T each displaying the distinctive typography \mathcal{T} of T . I’ll say that a typography \mathcal{T} is *realised* just in case there exists a token t of type T in that typography \mathcal{T} .

This completes the outline of typographical types. They’re important for our concerns here because they have some interesting features. First, in order to be realised, typographies make demands on the world, since they require matter at that world to be capable of being arranged as the typography requires. Some worlds can meet these demands whilst others fail to do so. Trivially, all typographies which are, or can be realised, in the actual world make demands which are consistent with how the actual world fundamentally behaves. However, things could have been different and it may have been the case that some typographies, although actually realised, could not have been realised. Each typography \mathcal{T} is associated, then, with a set of *typographically consistent* worlds, $\mathcal{W}_{\mathcal{T}}$:

($\mathcal{W}_{\mathcal{T}}$) For each typography \mathcal{T} , let $\mathcal{W}_{\mathcal{T}}$ be the set of all and only those worlds having features which allow for tokens of typographical types in \mathcal{T} to exist.

Note that here we should understand ($\mathcal{W}_{\mathcal{T}}$) so that $\mathcal{W}_{\mathcal{T}}$ is the set of all and only those worlds having general features which *allow* tokens of T to exist, for every typographical type T in \mathcal{T} . That is, $\mathcal{W}_{\mathcal{T}}$ is the set of worlds with general features which *do not rule out* the realisation of typography \mathcal{T} . As such, if $w \in \mathcal{W}_{\mathcal{T}}$, then the general features of w allow for \mathcal{T} to be realised and this means that w allows for tokens of typographical type T in \mathcal{T} to exist, for every typographical type T .

Some more concrete examples of typographies and their respective typographically consistent worlds will be helpful here. Let T_4 be the typographical type of which (4) is a token, where \mathcal{T}_4 is the typography of that token. Clearly, no token of T_4 could exist, if space were one dimensional. Thus, no $w \in \mathcal{W}_{\mathcal{T}_4}$ will have a one-dimensional space. This contrasts with, for example, a typography \mathcal{T}_M which is a genuinely *flat* Morse code done entirely in terms of length—dots being one measure of a specified distance of matter and dashes being two. Tokens of types in \mathcal{T}_M could exist in one dimensional space— $\mathcal{W}_{\mathcal{T}_M}$ thus includes one-dimensional worlds. Generally, then, some w might fail to be in $\mathcal{W}_{\mathcal{T}}$ because the geometric properties of space in w —if w is spatial at all—may not allow the certain shapes required for \mathcal{T} to be realised, e.g., the properties of space which allow for this or that curly arc, or this straight-line intersected by an angle of this size, etc. Alternatively, w may be temporally static, not allowing the realisation of typographies which have a distinctive

temporal element like a Morse code where the dots and dashes are distinguished by signal *duration*.¹⁴

These features of the relevant worlds are metaphysical features of the world which do not permit certain typographies to be realised. But there are also ontological reasons which do not permit other typographies to be realised: some w may be excluded because there aren't enough entities in w for \mathcal{T} to be realised—after all, there must exist *some things* for any token sentence to exist. For instance, no $w \in \mathcal{W}_{\mathcal{T}_4}$ will be empty of objects, since (4) and other tokens like it can only exist if there are the necessary means of creating ink blots on a page or pixels on a screen, depending on how you are reading this. Likewise, any sentence token of \mathcal{T}_M —that is, the genuinely flat Morse code discussed earlier—still requires there to be objects, just like \mathcal{T}_4 . Thus, at any $w \in \mathcal{W}_{\mathcal{T}_4} \cup \mathcal{W}_{\mathcal{T}_M}$ there must be at the very least one object.

This feature of typographies—that each makes demands on the world to be realised—means that it may be the case that two typographies make incompatible demands. In which case, they are *impossible*:

Typographies \mathcal{T}_1 and \mathcal{T}_2 are *impossible* if there is no $w \in \mathcal{W}_{\mathcal{T}_1} \cap \mathcal{W}_{\mathcal{T}_2}$.

In turn, we say that two typographical *types* are impossible if they have impossible typographies, i.e., if the existence of any token of one precludes the existence of a token of the other.¹⁵ Impossible typographies are important because, I will now argue that if they exist, then the Swap Strategy cannot be right and the serious actualist cannot appeal to it to resolve the simple puzzle. At first, I'll simply *assume* that such typographies exist and show what follows in §4.2. Then, in §5, I will argue that such typographical sentence types exist.

¹⁴ Although traditional Morse code is not typically considered to be a typography in the usual sense, it qualifies as a typography in the extended sense discussed earlier: it is a way objects—parts of a signal, or a beam of light, or something like this—are arranged—they at the very least bear certain temporal relations to each other. Thanks to an anonymous reviewer for noting the need to clarify this.

¹⁵ It follows from the definition of $\mathcal{W}_{\mathcal{T}}$ above that the following holds, where \mathcal{T}_1 and \mathcal{T}_2 are the respective typographies of two impossible types T_1 and T_2 .

- (a) No world allows tokens of T_1 to exist, for every typographical type T_1 of \mathcal{T}_1 , and allows tokens of T_2 to exist, for every typographical type T_2 of \mathcal{T}_2 .

However, as an anonymous referee noted, (a) is on the face of it *consistent* with the following.

- (b) Some world allows tokens of T_1 to exist, for *some* typographical type T_1 of \mathcal{T}_1 , and allows tokens of T_2 to exist, for *some* typographical type T_2 of \mathcal{T}_2

There thus seems to be a problem: any two typographies satisfying (b) are not plausibly impossible and so our definition of impossibility in terms of $\mathcal{W}_{\mathcal{T}}$ is too weak if it cannot rule out (b). Now, the crucial point to note is that worlds, as I emphasised above, 'allow' tokens of typographical types T in \mathcal{T} to exist if their general metaphysical and ontological features do not rule out the realisation of \mathcal{T} , i.e., the general features of w do not *clash* with what is required for \mathcal{T} to be realised. As such, then, if (b) holds and some w allows for both some tokens of T_1 to exist and some token of T_2 to exist, then some w allows tokens of *all* types in \mathcal{T}_1 and *all* types in \mathcal{T}_2 to exist. Thus, (a) and (b) are not in fact consistent, despite first appearances.

4.2 Impossible Typographies and the Swap Strategy

Intuitively, the problem is that any pair of tokens of impossible typographical types will make the kinds of conditionals the Swap Strategy rests upon simply trivially true: it is impossible for pairs of such tokens to both exist. In such cases, then, swapping out non-conditional, for conditional, claims means we can't make the right distinctions between some pairs of tokens in which one token *does* necessitate the truth of the other and pairs of tokens in which one token *does not* necessitate the truth of the other. All pairs of sentence tokens of impossible typographical types make the conditional property-talk trivially true.

To make this problem stark, consider two impossible typographies \mathcal{T} and \mathcal{T}' and two typographical types T and T' associated with those typographies, respectively. Let t_3 and t_4 be two *particular* tokens of two impossible typographical types— t_3 is what we would write in the typography of this paper as 'The cat sat on the mat' and the token t_4 is what we would write as 'It is not the case that the cat sat on the mat'.^{16,17} Since there is no $w \in \mathcal{W}_{\mathcal{T}} \cap \mathcal{W}_{\mathcal{T}'}$:

It is not possible that both t_3 and t_4 exist (10)

By some simple modal reasoning, (10) gets us:

Necessarily, if t_3 and t_4 both exist, then if t_3 is true, t_4 is true (11)

Now, (11) spells trouble for the serious actualist who takes the Swap Strategy. At the heart of the Swap Strategy is the idea that we trade out claims like (1) for claims like (1*). The latter sort of claim was taken to be both more mindful of the constraints imposed by a commitment to serious actualism but also allowed us to get at the kind of modal claims about properties, and make the kinds of distinctions, we ordinarily make. Thus, we take (11) to be a safer way of stating:

Necessarily, if t_3 is true, then t_4 is true (12)

Importantly, (12) is false: t_4 is the *negation* of t_3 , only in a distinct typography. At the very least, then, we distinguish in our ordinary property-talk (12) and—

Necessarily, if t_3 is true, then t_3 is true (13)

¹⁶ I assume here that we can at least name entities in our world which do not exist in our world. One may of course deny this, e.g., if one accepts a meta-semantic picture which tied reference to some chain of causal access as articulated in Donnellan (1970) and Kripke (1980). Indeed, one may worry that the case against naming entities which do not exist in our world is particularly acute for the serious actualist. However, I bracket off such concerns. As a helpful anonymous reviewer noted, even if the serious actualist were to deny this, we could simply replace the names ' t_3 ' and ' t_4 ' in (10)–(12) with homonymous variables, prefixing each of these claims with 'possibly there is a token t_3 of type T such that it is possible that there is a token t_4 of type T such that...'.
¹⁷ The cumbersome wording of tokens 'which we would write in the typography of this paper' is required because the two tokens are impossible and so at least one such token does not actually exist and so literally cannot be written out on the page.

Thus, if the Swap Strategy is to do justice to our ordinary talk of sentence token truth in modal contexts, it should respect the difference between (12) and (13). Yet, it cannot: (11) is no viable replacement for (12), since, as shown, (11) is *also true*—trivially so. The Swap Strategy cannot distinguish (12) and (13). Of course, (11) is not some aberrant case: *any* claim like (12) involving tokens of impossible typographical types cannot be captured by the Swap Strategy. If there are impossible typographies and types, then the Swap Strategy cannot do justice to our ordinary property-talk: such sentence types and tokens clearly trivialise the conditionals at the heart of the Swap Strategy.

One may worry that the argument from impossible types is *circular*. I've argued that any tokens of two impossible typographical types trivialise the conditional claims at the heart of this defence of serious actualism. Later, I will argue that such sentence *types* exist, but we can already note that for any two *tokens* of two impossible typographical types, at least *one* token must not actually exist. So, according to the serious actualist, such tokens cannot exemplify properties. Yet, the serious actualist could perhaps claim that, insofar as I claim that (12) is false, I smuggle in the idea that such non-existent tokens have a complex property like the following, where t is some existent token:

$$\text{being an } x \text{ such that } \neg\Box(Tt \rightarrow Tx) \quad (14)$$

This indeed seems to follow from the fact that there are relations between existent, and nonexistent, tokens insofar as one fails to necessitate the truth of the other. Similarly, my argument involves claiming that (13) is true. However, this may be seen to imply that t_3 necessarily exemplifies the property:

$$\text{being an } x \text{ such that } (Tx \rightarrow Tx) \quad (15)$$

However, t_3 cannot exemplify (15) necessarily, assuming serious actualism, if we also assume that t_3 as a sentence *token*, only contingently exists.

Here's the problem with both worries. This response from the serious actualist presupposes claims about properties, predication and open-sentences which the serious actualist cannot in principle accept without also accepting principles about properties, predication and open-sentences which are well-understood to be highly problematic for the serious actualist. That is, for the serious actualist to claim, for instance, that rejecting (12) smuggles in an illicit claim about non-existent entities exemplifying properties, they must first claim that the open-sentence ' $\neg\Box(Tt \rightarrow Tx)$ ' picks out a property, i.e., (14), and second that we should generally understand ' $\neg\Box(Tt \rightarrow Tt')$ ' as a predication on the name ' t' ', i.e., ' $\neg\Box(Tt \rightarrow Tt')$ ' implies that t' is an x such that $\neg\Box(Tt \rightarrow Tx)$. However, it has long been noted that serious actualism, combined with contingentism, requires us either to restrict comprehension principles for properties and deny that all open-sentences pick out properties or deny that every open-sentence can be understood as a predication. This is the moral of problems raised by properties like being an x such that x doesn't exist or disjunctive properties like being an x such that x is wise or it is not the case that

x is wise.¹⁸ Now, here is not the place to discuss such arguments at length. What is important is that one cannot outline a principled reason for deny the existence of, say, disjunctive properties whilst accepting the existence of properties like (14) or (15). Ruling out disjunctive properties rules out properties of a certain logical complexity—a complexity which properties like (14) or (15) also display. One also cannot plausibly deny that a sentence like ‘ t' is wise or it is not the case that t' is wise’ should not be understood as a predication whilst understanding (13) or the negation of (12) as a predication on the name ‘ t_3 ’. Thus, since the serious actualist must either rule out such disjunctive properties or deny that such sentences are understood to imply a corresponding predication, they must likewise deny that (14) or (15) pick out a property, or deny that (13) or the negation of (12) should be understood as a predication on the name ‘ t_3 ’. Thus, they cannot maintain that the argument presented here involves any such illicit circular claims.

5 There are Impossible Typographies

I’ve argued that the Swap Strategy fails, if there are any impossible typographies. Of course, I have yet to argue that there are any impossible typographies. In this section, I argue that there are such typographies.

I think there are many examples of impossible typographies. However, I omit extensive discussion of most of these. Some interesting examples would include typographies which exploit the specific global curvature of space in which they are realised. For instance, a typography like ‘the $c\Delta t$ s Δt on the $m\Delta t$ ’ but which involves triangles the interior angles of which add up to *less* than, and another involving triangles the interior angles of which add up to *more* than, 180° , i.e., hyperbolic or elliptic triangles, respectively. This is a vivid example, but it would only work for our purposes if we could argue that no metaphysically possible spaces contain distinct regions with radically different global curvature.¹⁹

A simpler example exploits the idea that one way in which two tokens may differ in how they appear concerns their *size*. After all, two 10pt tokens of ‘Harry is tall’

¹⁸ For more, see Fine (1985: 163–171) and Williamson (2013: Chp. 6). Here’s the worry if we understand every open-sentence to imply a corresponding predication and unrestricted comprehension for properties from open-sentences. Let’s focus on the property of nonexistence since the problem raised by this is simpler to outline, see Fine (1985: 165–6) and Pollock (1985: 126). Regimenting in a first-order language with property abstraction, the property of nonexistence is $\lambda x. \neg \exists y(y = x)$. If every open-sentence implies a corresponding predication and we have unrestricted comprehension for properties from open-sentences, then, for any object o , necessarily, o exemplifies $\lambda x. \neg \exists y(y = x)$ if and only if $\neg \exists y(y = o)$. Thus, if o possibly doesn’t exist, i.e., $\Diamond \neg \exists y(y = o)$, then, o possibly exemplifies $\lambda x. \neg \exists y(y = x)$ and does not exist. Assuming, from contingentism that there is some such o , we derive a counterexample to serious actualism. A similar problem arises with disjunctive properties, assuming contingentism.

¹⁹ Another potential example not explored in detail here would involve abandoning more standard natural, or formal, languages and adopting a Lagadonian language in which every object named itself, as discussed in Lewis (1986b) and Kment (2014: Chps. 4–5). A sentence featuring a term referring to a , then, is a construct which includes a itself. Thus, any two sentence tokens t_a and t_b about two impossibles a and b would be themselves impossibles.

are the same as each other in a way which contrasts with a 14pt token of the same sentence type. The example of impossible typographies I wish to consider takes this to the extreme: typographies which are so big as to exclude the existence of tokens of other distinct types. Here's an example.

\mathcal{T}_s : this requires that *all* individuals be arranged in a *straight line*, differences between sentences being given by the order of things aligned.

\mathcal{T}_c : this requires that *all* individuals be arranged in a *curved line*, differences between sentences being given by the order of things aligned.

As discussed earlier, a typography is fundamentally the ways certain objects are and are related to each other in forming a sentence. It has to allow us to form the syntactic structure of that sentence. In the case of \mathcal{T}_s and \mathcal{T}_c , the syntax is formed via some coding from the order of the individuals arranged. In principle, this is no different to how Morse code works.

Now, if \mathcal{T}_s and \mathcal{T}_c are *bona fide* typographies at all, then \mathcal{T}_s and \mathcal{T}_c are impossible typographies. Any token of some typographical type in \mathcal{T}_s requires, for its existence, the totality of individuals to be arranged some way and *a fortiori* a token in \mathcal{T}_c cannot exist and *vice versa*. So, the argument at the end of the last section was not done in vain. However, here are two objections to this claim. First, one might argue that, whilst typographies can be distinguished due to their size, it doesn't make sense to think that a typography is distinct from others *only because* it requires all the individuals in the world to be involved. Contrast \mathcal{T}_s with the following which is the same as \mathcal{T}_s except:

\mathcal{T}_n : this requires that n individuals be arranged in a straight line.

Suppose w is a world with precisely n individuals. It is implausible that a sentence written in \mathcal{T}_s appears different from \mathcal{T}_n at w . Thus, the argument goes, requiring that specifically the totality of individuals being involved is not sufficient to carve out a space for a distinct typography.

There are two natural replies to this. First, insofar as \mathcal{T}_n cannot be realised in worlds which have $n - 1$ individuals, it is distinct from \mathcal{T}_s —the two diverge in how they behave across worlds. Second, we should note that, although we get a handle on the idea of a typographical type by thinking about sentence tokens which look the same *for us*, once we consider more exotic notions of typography, the requirement that *we* are able to distinguish them merely by appearance is far too strict. For instance, it is implausible that we are able to distinguish two distinct typographies which require minute differences in size, or make distinctions between typographies which are either extraordinarily large or small, e.g., multiple-solar-system-sized typographies. What is true, however, is that we can distinguish sentences in \mathcal{T}_n from those in \mathcal{T}_s , not because they look different to us, but because they are different insofar as the latter requires all individuals to be involved in the token and the former requires only n individuals.

A second worry might be that it is not in fact metaphysically possible to arrange all the individuals in some world in a straight, or a curved, line. I'm sympathetic to

this objection; but we can modify our example accordingly, since \mathcal{T}_s and \mathcal{T}_c are part of a wider class of typographies which involve organising the entirety of the world in a certain way. Fundamentally, two typographies \mathcal{T} and \mathcal{T}' are impossible, provided for any world w :

- (i) \mathcal{T} requires arranging all individuals in way W and \mathcal{T}' in way W'
- (ii) All the individuals of w cannot be arranged both as W and W'
- (iii) \mathcal{T} and \mathcal{T}' allow us to extract the syntax of the particular sentence

When presented like this, a very natural typography suggests itself: the world itself; or at least the way the world is in its totality. The difficulty is making sure that (iii) is satisfied; but this can be fixed quite straightforwardly. First, suppose I write a sentence token s on some paper on my desk. Then, we let $W_{@}$ be the way individuals are actually arranged now and $W_{@-t}$ be the way all individuals were arranged, say, a month ago with the most minimal adjustments made to accommodate for the existence of s on that paper. That is $W_{@}$ and $W_{@-t}$ are themselves just total (possible) states of the actual world. Then:

$\mathcal{T}_{@}$: Sentence s in $\mathcal{T}_{@}$ involves s on that paper on my desk with the world arranged as $W_{@}$ around it.

$\mathcal{T}_{@-t}$: Sentence s in $\mathcal{T}_{@-t}$ involves s on that paper on my desk with the world arranged as $W_{@-t}$ around it.

$\mathcal{T}_{@}$ and $\mathcal{T}_{@-t}$ satisfy (i) and (ii). (iii) is satisfied in both cases, since the trick is that $\mathcal{T}_{@}$ and $\mathcal{T}_{@-t}$ form the syntax of token s by *including* s —we just to read s off the paper with the world as $W_{@}$ or $W_{@-t}$ around it.

Of course, it goes without saying that these examples are extreme and push at the limits of the notion of a typography and sentence. At the very least, it is not natural to think of the way the world is as a typography. However, both of these notions are flexible and have been defined only in an abstract way. Naturally, we ought to be uninterested in such sentence tokens for any of the purposes for which we typically require sentence tokens, or typographies. However, they *are* sentences: concrete realisations of a syntactic structure in a particular typography. Importantly, they pose a serious problem for the serious actualist: such sentence types and sentence tokens cannot be understood as the Swap Strategy implores us to understand ordinary property-talk. The Swap Strategy represented the best response for the serious actualist to the simple puzzle in §2. Thus, I suggest that the simple puzzle should be taken at face value. Serious actualism is false.

6 Concluding Remarks

In this paper, I presented a simple puzzle about sentence tokens and sentence token truth which seemed to show that serious actualism is false. I discussed some initial ways of responding to the puzzle and argued that the best solution—the Swap

Strategy—involves understanding ordinary property-talk as containing a built-in existential presupposition. I then argued that ultimately such a response will not work by motivating the existence of a previously undiscussed class of fine-grained sentence types and showed that some such sentence types and tokens trivialise the conditional claims at the heart of the Swap Strategy. Thus, the best response fails and the simple puzzle remains.

Funding Open access funding provided by University of Oslo (incl Oslo University Hospital).

Declarations

Conflict of interest There are no financial or non-financial interests that are directly or indirectly related to the work submitted for publication.

Ethical Approval I confirm that there are no potential conflicts of interest, this research does not involve human participants or animals, and there are no issues about informed consent stemming from this research.

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References

- Adams, R. M. (1981). Actualism and thisness. *Synthese*, 49, 3–41.
- Berto, F. (2013). *Existence as a real property*. Springer.
- Caplan, B. (2007). A new defence of the modal existence requirement. *Synthese*, 154, 335–343.
- Donnellan, K. S. (1970). Proper names and identifying descriptions. *Synthese*, 21, 335–358.
- Fine, K. (1977a). Prior on the construction of possible worlds and instants. In K. Fine & A. Prior (Eds.), *Worlds, times and selves* (pp. 116–161).
- Fine, K. (1977b). Properties, propositions and sets. *Journal of Philosophical Logic*, 6, 135–191.
- Fine, K. (1985). Plantinga on the reduction of possibilist discourse. In H. Tomberlin & P. van Inwagen (Eds.), *Profiles: Alvin Plantinga* (pp. 145–186). Springer.
- Fritz, P., & Goodman, J. (2016). Higher-order contingentism, part 1: Closure and generation. *Journal of Philosophical Logic*, 45, 645–695.
- Horwich, P. (1998). *Truth* (2nd ed.). Oxford University Press.
- Jacinto, B. (2019). Serious actualism and higher-order predication. *Journal of Philosophical Logic*, 48, 471–499.
- Kaplan, D. (1990). Words. *Proceedings of the Aristotelian Society, Supplementary Volumes*, 64, 93–119.
- Kment, B. (2014). *Modality and explanatory reasoning*. Oxford University Press.
- Kripke, S. (1980). *Naming and necessity*. Harvard University Press.
- Künne, W. (2003). *Conceptions of truth*. Oxford University Press.
- Lewis, D. (1986). Against structural universals. *Australasian Journal of Philosophy*, 64, 25–46.
- Lewis, D. (1986). *On the plurality of worlds*. Blackwell.
- Parsons, T. (1980). *Nonexistent objects*. Yale University Press.
- Plantinga, A. (1974). *The nature of necessity*. Oxford University Press.

- Plantinga, A. (1983). On existentialism. *Philosophical Studies*, 44, 1–20.
- Plantinga, A. (1985). Reply to critics. In J.E. Tomberlin & P. Van Inwagen (Eds.), *Profiles: Alvin Plantinga* (pp. 313–396).
- Pollock, J. L. (1985). Plantinga on possible worlds. In J. E. Tomberlin & P. Van Inwagen (Eds.), *Alvin Plantinga* (pp. 121–144). Springer.
- Quine, W. V. O. (1986). *Philosophy of logic* (2nd ed.). Harvard University Press.
- Reicher, M. (2019). Nonexistent objects. In E. N. Zalta (Ed.), *The Stanford encyclopedia of philosophy* Winter 2019. Metaphysics Research Lab, Stanford University.
- Salmon, N. (1987). Existence. *Philosophical Perspectives*, 1, 49–108.
- Simons, P. M. (1982). Token resistance. *Analysis*, 42, 195–203.
- Stalnaker, R. (2012). *Mere possibilities: Metaphysical foundations of modal semantics*. Princeton University Press.
- Stephanou, Y. (2007). Serious actualism. *The Philosophical Review*, 116, 219–250.
- Stoljar, D., & Nic, D. (2014). The deflationary theory of truth. In E. N. Zalta (Ed.), *The Stanford encyclopedia of philosophy*. Fall 2014. Metaphysics Research Lab, Stanford University.
- Wetzel, L. (2009). *Types and tokens: On abstract objects*. MIT Press.
- Williamson, T. (2002). Necessary existents. In A. O’Hear (Ed.), *Logic, thought, and language* (pp. 233–251). Cambridge University Press.
- Williamson, T. (2013). *Modal logic as metaphysics*. Oxford University Press.
- Yagisawa, T. (2005). A new argument against the existence requirement. *Analysis*, 65, 39–42.

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