Being Somehow Without (Possibly) Being Something

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Contingentists—who hold that it is contingent what there is—are divided on the claim that having a property or standing in a relation requires being something. This claim can be formulated as a natural schematic principle of higher-order modal logic. On this formulation, I argue that contingentists who are also higher-order contingentists—and so hold that it is contingent what propositions, properties and relations there are—should reject the claim. Moreover, I argue that given higher-order contingentism, having a property or standing in a relation does not even require *possibly* being something.

1. Introduction

I will argue that there are, in ways to be made precise below, cases of *mere possibilia* having properties and standing in relations. Indeed, I will argue that there are cases of *impossibilia* having properties and standing in relations. In brief, the examples will be propositions, along the following lines: for any proposition p, even if there had not been p, it would still be the case that $p \to p$, and so the case that p stands in the relation of material implication to itself. The same holds for $p \vee q$: necessarily, $p \vee q \to p \vee q$, whence $p \vee q$ stands in the relation of material implication to itself. But in certain cases, in which it is impossible for there to be both p and q, it is also impossible for there to be $p \vee q$. In these cases, there could not be $p \vee q$, yet $p \vee q$ still stands in the relation of material implication to itself. This paper presents this basic argument in more detail, as well as a number of refinements of it in response to a range of objections.

The following terminology and notation will be useful. Following Williamson (2013), let *contingentism* be the view that it is contingent what there is. In first-order logic, x's being something can be formalized as $\exists y(y = x)$. Abbreviate this as $\mathsf{E}x$. With this, Williamson's statement of contingentism in first-order modal logic can be written as follows:

$$\Diamond\exists x\Diamond\neg\mathsf{E}x$$

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Williamson calls the negation of contingentism *necessitism*. This is the view that it is necessary what there is:

$$\Box\forall x\Box \mathsf{E}x$$

While Williamson argues for necessitism, contingentism is widely endorsed. For example, consider a knife *k* made of a handle *h* and blade *b*. According to the origin essentialism of Kripke ([1972] 1980), *k* could not have been made out of parts other than *h* and *b*. Had *h* and *b* not been joined, there would thus not have been any such thing as *k*. Many contingentists, including Stalnaker (2012), additionally hold that in this case, *k* would not have had any properties or stood in any relations. This follows from the general idea that to have properties or stand in relations, it is required to be something. Williamson (2013, pp. 148–58) notes that in the language of first-order modal logic, this idea can regimented as the following schematic principle, which Williamson calls the *being constraint*:

$$\Box\forall x_1 \ldots \Box\forall x_n\Box\,(Rx_1 \ldots x_n \rightarrow \mathsf{E}x_i)$$

It is worth pausing briefly to explain why Williamson includes necessity operators before, after, and in between the universal quantifiers here. If no necessity operators were included, the principle would merely say that any things related by *R* are something; this is trivial, as everything is something. Indeed, necessarily, everything is something, so the following schema is similarly trivial:

$$\Box\forall x_1 \ldots \forall x_n\,(Rx_1 \ldots x_n \rightarrow \mathsf{E}x_i)$$

In order to express the non-trivial requirement that any things could not possibly be related by *R* without being something, the necessity operator must be inserted *after* the quantifiers:

$$\forall x_1 \ldots \forall x_n\Box\,(Rx_1 \ldots x_n \rightarrow \mathsf{E}x_i)$$

The relevant principle must thus be a modal claim *de re*, rather than merely *de dicto*. However, the principle just stated is still limited, since it only imposes the existential dependence on what there is, whereas Williamson intends his principle to apply to what there could be as well. Therefore, a necessity operator is also required before the quantifiers:

$$\Box\forall x_1 \ldots \forall x_n\Box\,(Rx_1 \ldots x_n \rightarrow \mathsf{E}x_i)$$

Finally, this principle does not yet cover the case in which possibilia $x_1, \ldots, x_n$ are incompossible. Williamson also intends his principle to require that such $x_1, \ldots, x_n$ could not be related by *R* without being something. This is captured by separating any two universal quantifiers by a necessity operator, as in Williamson's formulation.

Many contingentists have not just endorsed contingency in what things there are, but also claim that this leads to contingency in what propositions, properties and relations there are. For example, for any given electron e, it is plausible that there might not have been e, and that in this case, there would not have been various propositions, properties and relations, such as the proposition that e is part of a hydrogen atom, or the property of being e. Williamson calls this *higher-order contingentism*, and the view that it is necessary what propositions, properties and relations there are *higher-order necessitism*. Regimenting such views formally requires a formal framework for theorizing about propositions, properties and relations. Like Fine (1977), Williamson (2013), and Fritz and Goodman (2016), I will use higher-order modal logic for this purpose.

In higher-order logic, variables and constants are divided into types, depending on the syntactic position they can occupy. Expressions of type e are singular terms. For any types $t_1, \ldots, t_n$, there is a type $\langle t_1, \ldots, t_n \rangle$ of relational expressions which taken n arguments, of types $t_1, \ldots, t_n$, respectively, to form a sentential expression (that is, a formula). Sentential expressions are considered to be of type $\langle \rangle$, the limiting case of $\langle t_1, \ldots, t_n \rangle$ for $n = 0$. These types can be assigned not just to variables and non-logical constants, but to logical constants as well. A treatment of logical constants along these lines can be found in Church (1940). To illustrate this, consider the material conditional $\rightarrow$. This logical connective can be assigned the type $\langle \langle \rangle, \langle \rangle \rangle$, as it takes two formulae as arguments, and formulae are expressions of type $\langle \rangle$. The fact that $\rightarrow$ is usually used infix rather than prefix is then taken to be a mere stylistic convention. In higher-order logic, logical constants are therefore often treated as (higher-order) predicates.

In this framework, higher-order necessitism can be regimented using the following schema:

$$\Box \forall X \Box \mathsf{E} X$$

Here, X may be a variable of any type other than e. Similarly to the above use, $\mathsf{E}X$ abbreviates $\exists Y(Y = X)$, where Y is a variable of the same type t as X, and $=$ is a relation symbol of type $\langle t, t \rangle$ expressing identity. (Those who find the appeal to such a notion of higher-order identity concerning may want to define it using higher-order quantifiers. But without the assumption of necessitism, the details of such a definition are delicate. For now, it is best to take identity as given; §4 returns to this issue of how it might be defined.) Higher-order contingentists, who reject at least one instance of the schema just mentioned, face the question of whether to endorse the higher-order analogue of the being constraint. As before, this principle roughly says that a predication is true only if there are its arguments, but its formulation requires some care.

A natural first pass at generalizing Williamson's first-order formulation of the being constraint simply allows the bound variables $x_1, \ldots, x_n$ to be variables of arbitrary type, with R being a predicate of corresponding type. There is, however, a way in which the resulting principle is insufficiently general. In higher-order logic, both the predicate and the arguments of a predication may themselves be complex. In this case, the intuitive idea behind the being constraint still requires that what is said to have a property must be something for it to have that property. To illustrate this, recall that formulae are here treated as expressions of type $\langle\,\rangle$, and unary sentential operators consequently as predicates of type $\langle\langle\,\rangle\rangle$. Let O be a sentential operator, expressing some property of propositions, and p a sentential variable. Then according to the being constraint, p can have property O only if there is the proposition p. But similarly, the intuitive idea behind the being constraint also suggests that $\neg p$ can have property O only if there is the proposition $\neg p$. Thus a suitably general formulation should provide the following instance:

$$\Box\forall p\Box\,(O\neg p \rightarrow \mathsf{E}\neg p)$$

Thus a suitably general form of the being constraint should provide an instance for any predication $\varepsilon\eta_1 \ldots \eta_n$ and argument η_i, involving the conditional $\varepsilon\eta_1 \ldots \eta_n \rightarrow \mathsf{E}\eta_i$, where $\eta_1, \ldots, \eta_n$ are expressions (simple or complex) of any types, and ε is an n-ary relational expression (again simple or complex) of corresponding type. As before, this conditional will be prefixed with interleaved universal quantifiers and necessity operators. In case the predicate or one of the arguments is a variable, one of the quantifiers must bind it. But if the predicate or one of the arguments is a complex expression, then each of its free variables must be bound by a universal quantifier. The intended generalization is therefore the schema whose instances have the following form:

$$\text{(BC)}\quad *\,(\varepsilon\eta_1 \ldots \eta_n \rightarrow \mathsf{E}\eta_i)$$

where ε is an expression of some relational type $\langle t_1, \ldots, t_n\rangle$, the arguments $\eta_1, \ldots, \eta_n$ are of types $t_1, \ldots, t_n$ respectively, and $*$ is a sequence of necessity operators and universal quantifiers binding the variables free in $\varepsilon\eta_1 \ldots \eta_n$. Since Williamson sometimes refers to the first-order instances of (BC) as the *first-order being constraint* (2013, p. 232), I will call the full higher-order schema (BC) stated here simply the *being constraint*.

In this paper, I will argue that the being constraint should be rejected. In doing so, I will assume that higher-order necessitism is false. Specifically, I will assume that it is contingent what things there are, and that this gives rise to contingency in what propositions there are. This view is called *propositional contingentism* in Fritz (2016). Taking p to be a variable of type $\langle\,\rangle$, it can be formalized as follows:

$$\Diamond\exists p\Diamond\neg \mathsf{E}p$$

Analogously, let *propositional necessitism* be the view that it is necessary what propositions there are:

$$\Box\forall p\Box \mathsf{E}p$$

The arguments against the being constraint are given in §2. §3 extends these arguments to the weaker view that to have properties and to stand in relations, it suffices to *possibly* be something; I call this the *modalized being constraint*.

Before turning to these arguments, it is worth noting a caveat concerning the use of higher-order quantifiers in regimenting talk of propositions, properties and relations. English quantificational phrases like 'there is some proposition' are arguably most faithfully regimented using first-order quantifiers restricted to things which are propositions, rather than quantifiers binding variables like p which take sentential position. As in Williamson (2013), higher-order quantifiers are used here in order to overcome the defects of natural language, rather than to capture its peculiarities in all details. Consequently, it is not necessarily entirely correct to say that a predication $\varepsilon\eta_1 \ldots \eta_n$ ascribes having a property or standing a relation to η_i. Following a suggestion by Prior (1971), it may be more appropriate to say that it ascribes to η_i being *somehow*. Along these lines, the rejection of the being constraint advocated here can be summarized as the view that being somehow does not require being something, and the rejection of the modalized being constraint as the view that being somehow does not even require possibly being something.

2. Against the being constraint

There has been a substantial amount of discussion of the being constraint and closely related principles in modal metaphysics under various labels, including *predicate actualism*, *serious actualism*, the *ontological* *principle*, the *falsehood principle*, and *negative free logic*. Such principles have been endorsed by Stalnaker (1977, 2012), Plantinga (1983), Stephanou (2007), Williamson (2013), and Jacinto (2019), and rejected by Kripke (1963), Fine ([1985] 2005), Salmon (1987), Dorr (2016), and Goodman (2016).

These discussions in the literature often do not employ the resources of higher-order modal logic, and may, in various ways, be concerned with principles which are subtly different from the being constraint, that is, the schema (BC) as stated above. Here, I will only be concerned with arguing against the being constraint, along with a modalized weakening to be stated below. My aim is not to argue that this is the only interesting principle in the vicinity, nor that the English formulations I use to summarize my arguments informally express exactly the same as the corresponding sentences of higher-order logic. This limits the ambitions of this paper, but it does not trivialize them: even if there are substantially different ways of sharpening the informal question of whether having a property or standing in a relation requires being something, (BC) is surely among the most natural ways of doing so. And, independently of any informal questions, (BC) is clearly a highly natural and central principle of higher-order modal logic, and it is worth investigating whether it should be accepted or rejected.

Many of the arguments for and against the being constraint and related principles which have been given in the literature bring out intuitively plausible aspects of the relevant view, and defuse various confusions which may be thought to motivate the opposing view. It will be useful to recall the main intuitive motivations for and against the being constraint. Consider again the case of the knife *k*, which—it will be assumed here—would not have been had handle *h* and blade *b* not been joined. Intuitively, it seems plausible that in this case, *k* would not have been a knife; nor would it have had any other property or stood in any other relation. Williamson uses such judgements to motivate the being constraint:

> How could a thing be propertied were there no such thing to be propertied? How could one thing be related to another were there no such things to be related? (Williamson 2013, p. 148)

However, a similar case can be made against the being constraint. Consider the property of non-being—the property of not being anything. It also seems intuitively plausible that, had there not been *k*, then *k* would have had the property of non-being. Salmon uses such judgements to motivate rejecting the being constraint:

> [N]onexistent possible individuals have properties—for example, the property of non-existence and its entailments. These entailments include such negative properties as that of not being a philosopher. (Salmon 1987, p. 90)

Given these competing intuitive judgements, more systematic arguments are required to decide the matter.

2.1. The basic argument

I will first present a basic version of the argument against the being constraint. This argument will be seen to allow for two plausible responses, but these responses lead to more convincing refinements of the initial argument. The basic argument can be summed up as follows. In higher-order logic, the tautology $p \rightarrow p$ is standardly treated as a predication in which $\rightarrow$ serves as the predicate. So, by the being constraint, $p \rightarrow p$ only if there is p. Since tautologies like $p \rightarrow p$ are necessary, it follows that it is necessary that there is p. Thus the being constraint is incompatible with propositional contingentism. To assess this argument, it is useful to regiment it and its assumptions more explicitly.

Aside from the being constraint, the argument relies on the necessity of $p \rightarrow p$, for any p. This is motivated by the fact that $p \rightarrow p$ is a tautology. The premiss is therefore an instance of the following schematic principle of *generalized tautologies*:

(GT) $* \varphi$

where φ is any substitution instance of a tautology, and $*$ is any string of necessity operators and universal quantifiers. Call such a string of necessity operators and universal quantifiers a *generality prefix*. The conclusion of the argument can be obtained by *modus ponens* under the scope of a generality prefix, a rule which will be called *generalized modus ponens*:

(GMP) $* \varphi, * (\varphi \rightarrow \psi) \, / \, * \psi$

where φ and ψ are formulae, and $*$ is a generality prefix. This is a standard rule of inference derivable in many quantified modal logics.

The argument can now be stated as follows:

(A1)	$\Box\forall p\Box(p \rightarrow p)$	GT
(A2)	$\Box\forall p\Box((p \rightarrow p) \rightarrow \mathsf{E}p)$	BC
(A3)	$\Box\forall p\Box\mathsf{E}p$	A1, A2, GMP

Call this argument A. Its conclusion is propositional necessitism. So someone defending propositional contingentism has three options: deny (A1), deny (A2), or deny that the inference from (A1) and (A2) to (A3) is truth-preserving. I won't consider the third option in the following; in general, I will assume that (GMP) is truth-preserving. It is hard to see how one could carry out any useful argumentation without an inference rule like (GMP), and I see no reason why a propositional contingentist should reject (GMP) in particular. This leaves the two premisses, which I will consider in turn.

Before doing so, I will make one clarification. Although (BC) takes the form of a schema in higher-order *logic*, and my arguments have the form of *deductions*, I am not concerned with establishing that (BC) is *inconsistent*, or that propositional necessitism is a *logical consequence* of (BC). Following Williamson (2013), I assume that the higher-order modal language used here has an intended interpretation, on which a closed formula such as $\Box\forall x\Box \mathsf{E}x$ is simply true or false, and that it is the business of modal metaphysics to determine whether it is true or false. Consequently, in an argument like argument A just given, I am merely concerned with arguing that the premisses are *true*, and that the mode of inference employed preserves *truth*. I see no reason for it to matter for present purposes whether they are *logically* true and preserve *logical* truth, or whether there even is a clear conception of *logical truth*. I will therefore set such questions aside.

2.2. Rejecting generalized tautologies

The first response to argument A, of denying (A1), may initially seem to require a rejection of classical propositional logic, and so appear very costly. But this is too quick: rejecting (A1) does not commit one to rejecting $\forall p\,(p \to p)$. Classical propositional logic may therefore still hold in generality; it is only certain iterated modalized and quantified claims that need to be rejected. Claims such as (A1) are not plausibly considered part of classical propositional logic, so rejecting them does not plausibly require rejecting classical propositional logic. Moreover, the propositional contingentist defender of the being constraint has a good reason to reject (A1): according to them, had there not been p, p couldn't have stood in the material implication relation to itself, and so $p \to p$ couldn't have been true.

It may be useful to compare this response with the extent to which contingentists can endorse classical predicate logic. Standard axiom systems for classical predicate logic contain an axiom schema of universal instantiation, instances of which are of the form $\forall y\varphi \to \varphi[x/y]$.

Contingentists can endorse that this holds for all x, although they cannot endorse it for all *x necessarily*:

$$\forall x \Box (\forall y \varphi \rightarrow \varphi [x/y])$$

For, let φ be $\mathsf{E}y$; this instance entails that everything is necessarily something, which contingentists (typically) reject. It is no compelling criticism of contingentism to point out that they can can only accept that universal instantiation holds universally, and not that its necessitation holds universally. Analogously, it would not be that worrying if contingentists could only endorse that the principles of classical propositional logic hold universally, but not that their necessitations hold universally.

However, it turns out that the first premiss of argument A can be dispensed with, as it can effectively be replaced by an instance of (BC) itself. To see why, note that in higher-order logic, $\neg p$ can be understood as a predication in which $\neg$ serves as the predicate, and p as the argument. Thus, according to (BC), $\neg p$ can be true only if there is p. This statement is a conditional, and so a higher-order predication in which $\neg p$ is an argument. According to (BC), this conditional can be true only if there is $\neg p$. While applying (GMP) does not establish propositional necessitism, it establishes a conclusion which I will argue to be just as problematic for the propositional contingentist. Formally, the argument is as follows:

(B1)	$\Box \forall p \Box (\neg p \rightarrow \mathsf{E}p)$	BC
(B2)	$\Box \forall p \Box ((\neg p \rightarrow \mathsf{E}p) \rightarrow \mathsf{E}\neg p)$	BC
(B3)	$\Box \forall p \Box \mathsf{E}\neg p$	B1, B2, GMP

Note that in the informal sketch of this argument, I ascribed truth to propositions like $\neg p$. This is merely an artefact of the limits in rendering higher-order formulae in English. As is easily seen, argument B itself does not employ any kind of truth predicate.

According to the conclusion of argument B, necessarily, for any proposition p, it is necessary that there is $\neg p$. To see why this is unacceptable for the propositional contingentist, consider again the intuitive motivations for propositional contingentism. Let e be an electron, and let p be the proposition that it is part of a hydrogen atom. The intuitive motivation for propositional contingentism is that without e, there would not have been p. Why not? Two different lines of argument can be discerned in the literature. They are not obviously incompatible, although there are difficulties with the combination, as discussed by

Fine (1977). For present purposes, this question of compatibility is fortunately unimportant; it will suffice to argue that the claims to be made are plausible on both options.

On the first way of motivating propositional contingentism, propositions are singularly about individuals, in the sense that there is a relation of aboutness which relates p to e and to no other electron. The aboutness relation entails an existential dependence. Call this the *aboutness view*; it is discussed by, for example, Plantinga (1983). Where exactly the existential dependence comes from on this view is an interesting question, and different versions of the aboutness view will give different answers. For example, on a structured proposition view, the individuals a proposition is about might be constitutive of the proposition in a sense akin to the parthood relation of physical composition. But it won't be necessary to settle what aboutness amounts to in such detail, since on any reasonable conception of aboutness, a proposition being about a certain individual is plausibly preserved under negation. For example, since the proposition that e is part of a hydrogen atom is about e, so is the proposition that e is not part of a hydrogen atom. Thus, since p is about e, so is $\neg p$, and so $\neg p$ depends existentially on e as well.

On the second way of motivating propositional contingentism, propositions serve to draw distinctions in modal space. In terms of possible worlds, a proposition like p serves to distinguish those worlds in which p is true from those worlds in which p is false. Call this the *distinction view*; it is endorsed by, for example, Stalnaker (2012). The proposition p that e is part of a hydrogen atom is judged to draw a distinction in modal space which cannot be drawn without appeal to e. To illustrate this, note that p distinguishes a world w from a world w' which is exactly the same as w except that e is replaced by a different electron e': e is part of a hydrogen atom in the former but not the latter. The judgement is that one needs either e or e' to draw the distinction between these worlds. Had there been neither e nor e', there would not have been the required materials to draw such a distinction, and so in particular not the distinction between the worlds in which p is true and those in which p is false. Again, it is an interesting question how exactly this existential dependence arises. But for present purposes, it does not matter: if there isn't p because one cannot distinguish between the p-worlds and the $\neg p$ -worlds, then there also isn't $\neg p$. Again, $\neg p$ turns out to depend existentially on e just as much as p does.

Thus, on both ways of motivating propositional contingentism, the conclusion (B3) is just as objectionable as propositional necessitism.

This leaves only the second avenue in reply to argument A, which is to reject instances of (BC) such as (A2) and (at least one of) (B1) and (B2). This is the one I favour: I claim that many instances of (BC) are false, and so the being constraint should be rejected.

One may be tempted to respond to the arguments presented so far by saying that they only show that (BC) is not the correct way of stating the idea that having a property or standing in a relation requires being something. Illustrating this reply using the case of (B1), one might say that precisely because having a property requires being something, the possibility of there not being the proposition $\neg p$ means that $\neg p \rightarrow \mathsf{E}p$ fails to be necessary. Instead, one may distinguish a proposition being necessary from its negation being impossible, as Prior (1957) does in his system Q, and propose to endorse that it is impossible for p to have property $\neg$ without there being p. According to this reply, the contingentist should endorse the following instead of (B1) :

(B1Q) $\Box\forall p\neg\Diamond(\neg p \wedge \neg\mathsf{E}p)$

This response does not contradict anything I wish to argue for here: it accepts the conclusion I aim to establish, which is that (BC) should be rejected. As stated above, I do not mean to argue that (BC) is the uniquely correct way of capturing the intuitive idea that having a property or standing in a relation requires being something. Clearly, this intuitive thought needs to be sharpened before its truth can be evaluated. This seems especially hard to deny on the proposed response, since there is no intuitive difference between the claims made by (B1) and (B1Q). If (B1Q) can really be endorsed, as the response suggests, then this only strengthens my position, as it provides a way of accounting for the intuitions in favour of the idea that having a property or standing in a relation requires being something without having to accept (BC). I don't myself have a lot of hope that the apparently conflicting intuitions can be reconciled in this way. Like Fine ([1977] 2005, p. 159), I find Prior's system Q unnatural, but there is neither need nor space to argue the point here.

There is, however, a second response to the arguments presented so far which does aim to defend (BC). Note that arguments A and B essentially rely on a *categorematic* treatment of logical constants, on which negated and materially conditional formulae are treated as predications in which $\neg$ and $\rightarrow$ serve as constants of suitable higher-order types. In defence of the being constraint, one might reject this assumption. I consider this response in the next section.

2.3. *Treating logical constants syncategorematically*

In higher-order logic, it is natural to adopt a *categorematic* treatment of Boolean connectives like $\neg$ and $\rightarrow$, in which they are treated as higher-order predicates. But this is not the only option. The alternative is a *syncategorematic* treatment, which does not countenance logical constants as independently meaningful expressions of any type. Rather, on this treatment, connectives like $\neg$ and $\wedge$ serve as mere notational devices used to form complex expressions out of simpler expressions. On this alternative treatment, logical connectives function more like punctuation marks such as parentheses and quotation marks, and less like non-logical constants. Working in such a language, sentences like (A2) simply are not instances of (BC), so arguments A and B do not get off the ground. A worked-out example of such a version of higher-order contingentism can be found in Fritz and Goodman (2016).

I will now propose two arguments to show that (BC) is also not viable on such a syncategorematic treatment of logical constants. The first of these two arguments proceeds by considering a principle which is a natural companion to (BC). Recall Williamson's intuitive motivation of the being constraint: how could a thing have a property or stand in a relation without being something? With equal rhetorical force, one may ask: how could a thing have a property or stand in a relation without there being that property or relation? This motivates what I will call the *applicative being constraint*. In higher-order logic, it can be stated as the following schema:[1]

(ABC) $* (\varepsilon\eta_1 \ \ldots \ \eta_n \rightarrow \mathsf{E}\varepsilon)$

with $*$, ε, and so on as above. Whatever intuitive motivation (BC) has, (ABC) has as well. The main arguments in favour of (BC) are such appeals to intuition. So the intuitive support of (BC) may be undercut by showing (ABC) to be untenable. As will be noted below, there are significant theoretical advantages to rejecting (BC). Together, these suggest that (BC) should be rejected: it has no stable intuitive support, and there are theoretical reasons to reject it.

The argument against (ABC) to be given considers instances in which $n = 0$. Recall that formulae are here considered to be nullary relation expressions, that is, expressions of type $\langle\,\rangle$. Any sentence of the following form is thus an instance of (ABC):

[1] To my knowledge, the applicative being constraint has not previously been discussed in print. However, a version for second-order modal logic was mentioned at one point in a draft of Williamson (2013), where I first encountered such a principle.

$*(\varphi \to \mathsf{E}\varphi)$

where $*$ is, as usual, a generality prefix, and φ is a formula. This principle might initially strike one as surprising, but note that it follows from (BC) and the assumption that propositional truth T satisfies the following natural principle:

$*(\varphi \to T\varphi)$

For endorsements of principles governing truth along these lines, see Jacinto (2016, §3.4.2]); for endorsements of informal principles akin to nullary instances of (ABC), see Plantinga (1983) and Williamson (2002); see also Fine ([1985] 2005) and Plantinga (1985) for further relevant discussion.

Consider the nullary instances of (ABC) for p and $\neg p$. With (GT), it follows that necessarily, there is either p or $\neg p$:

(C1)	$\Box\forall p\Box(p \to \mathsf{E}p)$	ABC
(C2)	$\Box\forall p\Box(\neg p \to \mathsf{E}\neg p)$	ABC
(C3)	$\Box\forall p\Box(\mathsf{E}p \lor \mathsf{E}\neg p)$	C1, C2, GT, GMP

The appeal to (GT) in this argument is unproblematic: on the proposed syncategorematic treatment of logical constants, (BC) cannot be instantiated using logical constants in the position of the predicate, and so there is no reason to think that propositional tautologies could be false.

The conclusion of this argument is weaker than (A3) (propositional necessitism), and also weaker than (B3). But the same reasoning that showed (B3) to be just as objectionable as (A3) shows (C3) to be just as objectionable as (A3): as argued, the standard arguments against propositional necessitism motivate not just that without electron e, there would not have been the proposition p that e is part of a hydrogen atom, but also that there would not have been the proposition $\neg p$ that e is not part of a hydrogen atom. Thus it should not be necessary that there is either p or $\neg p$, as entailed by (C3). (ABC) is therefore untenable on a syncategorematic treatment of logical constants.

I therefore conclude that propositional contingentists should reject (ABC), and therefore reject (BC) as well. Note that I did not claim that a propositional contingentist couldn't possibly reject (ABC) while retaining (BC). Rather, I have argued that such a split position would deprive (BC) of much of its intuitive support, as the intuitions supporting (BC) support (ABC) with equal force. If these intuitions are conceded to be misleading in the case of (ABC), they must be discounted in the case of (BC) as well. Since rejecting (BC) has various theoretical advantages, some of which will be discussed below, this option is preferred.

Some propositional contingentists may not share my judgement that the intuitions supporting (BC) support (ABC) as well. I will therefore present a second argument against (BC) on the assumption of a syncategorematic treatment of logical constants. In this argument I assume, as argued in argument C, that some nullary instances of (ABC) must be rejected. Even those propositional contingentists who deny that argument C is probative with respect to (BC) will presumably agree that it at least succeeds in showing (ABC) to be untenable, so this appeal to argument C is unproblematic. The argument to be given can be seen as a refinement of brief remarks in Fritz and Goodman (2016, p. 655 n. 14) and Fritz and Goodman (2017, p. 1087 n. 38); see also Dorr (2016, p. 57).

The argument proceeds in two steps. In the first step, I will argue that if (BC) is upheld, then there is not even a property of propositions P necessarily coextensive with being possible. Indeed, there is no property of propositions P satisfying the instances of the following schema:

($\Diamond P$) $*(\Diamond\varphi \rightarrow P\varphi)$

As usual, $*$ is a generality prefix and φ is a formula; P can be considered a non-logical constant. (Alternatively, the following argument could be rewritten so that P is a variable bound by a universal quantifier. The substance remains the same, but the presentation is somewhat simpler when P is considered a constant.)

The argument against ($\Diamond P$) will show that from any one of its instances, the corresponding instance of nullary (ABC) can be derived using (BC); as shown in argument C, this is untenable. The argument relies on the following generalization of the standard principle according to which what is the case is possible:

($T_\Diamond$) $*(\varphi \rightarrow \Diamond\varphi)$

As in the case of (GT), since $\rightarrow$ and $\Diamond$ are now treated syncategorematically, there is no reason to doubt the truth of the instances of this principle. The argument simply chains the implications of ($T_\Diamond$), ($\Diamond P$) and (BC):

(D1)	$*(\varphi \rightarrow \Diamond\varphi)$	$T_\Diamond$
(D2)	$*(\Diamond\varphi \rightarrow P\varphi)$	$\Diamond P$
(D3)	$*(P\varphi \rightarrow \mathsf{E}\varphi)$	BC
(D4)	$*(\varphi \rightarrow \mathsf{E}\varphi)$	D1–D3, GT, GMP

(D4) is just the schema of nullary instances of (ABC), which argument C shows to be untenable.

In response to this argument against ($\Diamond P$), one might be tempted to treat modal operators—but not Boolean connectives—categorematically. Such a split treatment could be used to motivate the rejection of ($T_\Diamond$). However, this proposal quickly leads to serious difficulties. For example, consider again the case of an electron *e*, and the assumption that without *e*, there would not have been the proposition *p* that *e* is part of a hydrogen atom. Had there not been *e*, it would still have been possible for there to be *e*, and for *e* to be part of a hydrogen atom. But this is ruled out by the proposed view, since according to it, $\Box(\Diamond p \rightarrow \mathsf{E}p)$ follows by (BC). Just as it was seen above that the higher-order contingentist who wants to endorse (BC) cannot treat Boolean connectives categorematically, this shows that they cannot treat modal operators categorematically.

To summarize the conclusion of the first step of the present argument against (BC): higher-order contingentists who aim to uphold the being constraint by treating logical constants syncategorematically have to hold that there is no property of propositions which is necessarily equivalent to being possible, in the sense of (a biconditional strengthening of) ($\Diamond P$). In the second step, I will argue that this conclusion should be rejected.

The problem with rejecting (a biconditional strengthening of) ($\Diamond P$) is that if there is no property of propositions which is necessarily equivalent to being possible, then this radically curtails higher-order quantificational reasoning about modality. To illustrate the issue, consider the question what $\Box$ and $\Diamond$ amount to. Given the context-sensitivity of modal expressions in English, it is a pressing question for anyone engaged in modal metaphysics how the interpretation of modal terms is meant to be narrowed down in this context to avoid the danger of equivocation. One of the most promising lines of reply is that $\Box$ is the broadest necessity, and $\Diamond$ its dual, which is suggested in Kripke ([1972] 1980). That there is such a broadest necessity is a substantial claim; see Rayo (2020) for an alternative view. Bacon (2018) argues that from the assumption of a certain coarse-grained individuation of propositions, properties and relations, it can be proven that there is a modality which is broadest among the necessities, which can thus be used to settle the interpretation of $\Box$.

For present purposes, it is not important what position on these controversial matters one adopts. What matters is that they illustrate the need to reason quantificationally about modalities in higher-order modal metaphysics. For example, it is essential to be able to instantiate a universal claim about different kinds of possibility using $\Diamond$. This is easiest if logical connectives are treated categorematically, and $\Diamond$ is taken to be a constant for a property of propositions. If logical connectives are treated syncategorematically, then there at least has to be the option of letting a constant (or variable) P stand for a property of propositions which is necessarily equivalent to being possible, so that the relevant reasoning can be effected by using P as a proxy for $\Diamond$. But that requires the (biconditional strengthening of) principle ($\Diamond P$).

Let us put together the two steps of this last argument against (BC). In the first step, I argued that from (BC) and ($\Diamond P$), one obtains ABC. But as argument C shows, the conclusion (ABC) should be rejected. In order to retain (BC), propositional contingentists therefore have to reject ($\Diamond P$). But this means that higher-order reasoning is problematically curtailed, as argued in the second step. The most plausible response to the argument is therefore to reject (BC).

The two arguments given here show that also those higher-order contingentists who prefer to treat logical constants syncategorematically have strong reasons to reject the being constraint. Argument B shows the same for those who prefer a categorematic treatment of logical constants. Together, these three arguments suggest that any higher-order contingentist should reject the being constraint. The next section shows that these considerations apply with equal force to the modalized weakening of the being constraint.

3. Against the modalized being constraint

A higher-order contingentist view which rejects the being constraint is developed in detail by Fine (1977), and further elaborated by Fritz and Goodman (2016) and Fritz (2018a, b). Without providing much by way of motivation for this, the model theories of Fine as well as those of Fritz and Goodman validate a modal weakening of the being constraint, according to which— loosely speaking—having a property or standing in a relation requires possibly being something. Call this the *modalized being constraint*. With the language and conventions used here to formalize the being constraint, this can be formalized as the following schema:

(MBC) $* \, (\varepsilon\eta_1 \, \ldots \, \eta_n \rightarrow \Diamond \mathsf{E}\eta_i)$

Fritz and Goodman (2017) note that giving up the modalized being constraint allows the higher-order contingentist to address a range of problems for the view. It is therefore important to assess whether the arguments against the being constraint given above extend to the modalized being constraint.

One might initially think that the modalized being constraint is unproblematic, at least assuming the strong modal logic S5: iterating necessity operators and universal quantifiers may allow one to consider *mere* possibilia, but they never require one to think about the truth of a formula in which a free variable is interpreted as an *im*possibilium. However, as Fine (1980, p. 190) and Salmon (1987, p. 96) have observed, this does not mean that impossibilia need not be considered at all. To illustrate the issue informally, consider propositions p and q which are incompossible in the sense that it is impossible for there to be both of them. In this case, it may well be impossible for there to be the disjunction $p \vee q$. Naturally, *there are* no propositions p and q which are incompossible in the sense stated, nor *could there be* any such propositions. But it may be that there could be a proposition p such that there could be a proposition q such that there could not be both p and q, and furthermore such that there could not be the disjunction $p \vee q$. Therefore, although it may not be possible to specify any particular examples of such disjunctive impossibilia, there are ways of talking about them in generality, using interleaved modal operators and quantifiers.

These considerations suggest a natural variant of argument A in which p is replaced by a disjunction $p \vee q$, where p and q are bound by quantifiers separated by a necessity operator. This argument goes as follows:

(E1)	$\Box\forall p\Box\forall q\,(p \vee q \rightarrow p \vee q)$	GT
(E2)	$\Box\forall p\Box\forall q\,((p \vee q \rightarrow p \vee q) \rightarrow \Diamond \mathsf{E}\,(p \vee q))$	MBC
(E3)	$\Box\forall p\Box\forall q\Diamond \mathsf{E}\,(p \vee q)$	E1, E2, GMP

Informally, the conclusion can be summed up as saying that for any propositions p and q there could have been, it is possible for there to be their disjunction. I will argue that this conclusion is also problematic for the propositional contingentist, although the reasons for this will depend on the particular reasons for endorsing propositional contingentism.

Consider first the aboutness view of propositional contingency. Plausibly, if p is about one individual a and q is about another individual b, then $p \vee q$ is about both a and b. On the aboutness view, aboutness leads to existential dependence. So it is only possible for there to be $p \vee q$ if it is possible for there to be both a and b. Thus, as long as there are cases of incompossible individuals a and b—individuals a and b such that there could not be both a and b—(E3) must be rejected on the aboutness view. And it is plausible that there are such cases. For a simple example, recall the knife k made out of handle h and blade b. According to origin essentialism, had handle h been joined with another blade b', the resulting knife k' would have been distinct from k. More generally, it is on this view impossible for there to be both knives k and k', since this requires joining handle h with both blades b and b'. On the aboutness view, such a case of incompossible individuals leads to a disjunctive proposition there could not have been, such as the proposition that k is sharp or k' is sharp.

This example does not work for the distinction view of propositional contingency, for reasons which are essentially pointed out by Fine ([1977] 2005, p. 143): the distinction between k being sharp and k not being sharp can plausibly be drawn in the absence of k, as long as there are the parts h and b, since one may distinguish between the knife which would have been formed had h and b been joined being sharp and it not being sharp. The same line of reasoning applies for k', so the distinction between k or k' being sharp and neither k nor k' being sharp can be drawn as long as there are the parts h, b and b', and no reason has been given to think that this is impossible.

But as Fritz and Goodman (2017, pp. 1081–2) argue, there are cases of incompossible individuals which cannot be identified using the materials from which they arise. One example is based on origin essentialism applied to humans, according to which no human could have been born from a sperm and egg other than the ones they were in fact born from. This leads to human incompossibility: person x born from egg g and sperm s and person x' born from g and a different sperm s' are such that there could not be both. But in contrast to the case involving knives, x cannot be identified using g and s, for x might have a monozygotic twin, and so share their biological origin with a different person. Thus the distinction between x being a philosopher and x not being a philosopher cannot be drawn in terms of g and s. More generally, it is plausible that on the distinction view of propositional contingency, it could not have been drawn without x, since without x there would be no way to distinguish between worlds which are qualitatively the same but differ in whether x or their twin is a philosopher. Consider now the disjunctive proposition that x is a philosopher or x' is a philosopher, with x and x' as stipulated above. If both x and x' are monozygotic twins (not of each other, of course), then this draws a distinction which depends on both x and x'. Since x

and x' are incompossible, it follows that it is impossible for there to be this disjunctive proposition.

Argument A can therefore be adapted to an argument against (MBC). But, like argument A, the resulting argument E relies on both (GT) and the categorematic treatment of logical connectives. It is worth making sure that arguments B–D can be adapted similarly.

First consider argument B. A straightforward replacement of p by $p \vee q$ in this argument yields an argument for the possibility of $\mathsf{E}\neg(p \vee q)$. But in this case, the argument can be simplified by dispensing with negation, as $p \vee q$ is already a complex predication:

(F1)	$\Box\forall p\Box\forall q\,(p \vee q \rightarrow \Diamond\mathsf{E}p)$	MBC
(F2)	$\Box\forall p\Box\forall q\,((p \vee q \rightarrow \Diamond\mathsf{E}p) \rightarrow \Diamond\mathsf{E}\,(p \vee q))$	MBC
(F3)	$\Box\forall p\Box\forall q\Diamond\mathsf{E}\,(p \vee q)$	F1, F2, GMP

Like argument B, argument F does not rely on (GT), which may be rejected by those who treat logical connectives categorematically. In this case, the conclusion (F3) is exactly the same as (E3), and so objectionable for the same reasons.

Now consider argument C, involving the applicative being constraint. Modalizing the applicative being constraint produces a principle according to which having a property or standing in a relation requires at least the possibility of there being that property or relation. With the usual notation and conventions, this is captured by the following schema:

(MABC) $*\,(\varepsilon\eta_1 \ldots \eta_n \rightarrow \Diamond\mathsf{E}\varepsilon)$

Again, any intuitive support enjoyed by (MBC) applies with equal force to (MABC). But the following argument shows (the nullary instances of) the latter to be untenable:

(G1)	$\Box\forall p\Box\forall q\,(p \vee q \rightarrow \Diamond\mathsf{E}\,(p \vee q))$	MABC
(G2)	$\Box\forall p\Box\forall q\,(\neg\,(p \vee q) \rightarrow \Diamond\mathsf{E}\neg\,(p \vee q))$	MABC
(G3)	$\Box\forall p\Box\forall q\,(\Diamond\mathsf{E}\,(p \vee q) \vee \Diamond\mathsf{E}\neg\,(p \vee q))$	G1, G2, GT, GMP

As above, the conclusion (G3) is weaker than (E3) and (F3). But again, it is just as objectionable, since in the kinds of examples mentioned, existential dependence is—as discussed above—plausibly preserved under negation. The cases of disjunctions $p \vee q$ which there could not be are therefore also cases in which it is impossible for there to be $p \vee q$ or $\neg(p \vee q)$. Argument G also does not rely on any instance involving a logical constant as the predicate, so it undercuts the motivations of the modalized (applicative) being constraint for those who treat logical connectives syncategorematically. It does rely on (GT), but as in the case of argument C, on a syncategorematic treatment of logical connectives, there is no reason to reject any instance of (GT).

Finally, consider argument D, which shows that ($\Diamond P$) is in conflict with the being constraint. To show that ($\Diamond P$) is also in conflict with the modalized being constraint, we merely need to replace the being constraint with its modalized weakening:

(H1)	$*(\varphi \to \Diamond\varphi)$	$\mathrm{T}_\Diamond$
(H2)	$*(\Diamond\varphi \to P\varphi)$	$\Diamond P$
(H3)	$*(P\varphi \to \Diamond\mathsf{E}\varphi)$	MBC
(H4)	$*(\varphi \to \Diamond\mathsf{E}\varphi)$	H1–H3, GT, GMP

(H4) is the schema of nullary instances of (MABC), which argument G shows to be untenable. So those who endorse the modalized being constraint have to reject ($\Diamond P$), which means that their quantificational reasoning about modalities is problematically curtailed. Arguments A–D can therefore all be adapted from the being constraint to the modalized being constraint. The resulting arguments E–H suggest that higher-order contingentists should reject not just the being constraint but also its modalized weakening.

4. Conclusion

There are intuitive considerations both in favour of and against the being constraint. To decide between the options, more systematic reasons are required. Here, such reasons have been given in the form of simple deductive arguments against the being constraint and its modalized weakening.

Other things being equal, the considerations put forward here therefore favour rejecting the being constraint along with its modalized weakening. In addition, there are strong systematic reasons for this conclusion, as there are substantial difficulties in developing a coherent higher-order contingentist position which includes either the being constraint or its modalized weakening. One such difficulty concerns the formulation of a compositional semantics of quantified modal language. Discussing a proposal by Stalnaker (2012), Jacinto (2016, ch. 2) points out substantial problems in providing such a formulation on the assumption of the being constraint, and it is to be expected that much of this extends to its modalized weakening.

Another difficulty, discussed by Fritz and Goodman (2016, 2017), is concerned with limitations of expressibility on these views. In brief, the problem is that with the being constraint or its modalized weakening, higher-order contingentists are unable to adequately articulate their own position or to paraphrase intuitively coherent claims about possibilia. Fritz and Goodman (2017, pp. 1086–9) sketch how these problems can be overcome if even the modalized being constraint is rejected, although they note that their proposed solution also relies on a certain coarse-grained individuation of propositions, properties and relations.

Together, these considerations make a strong case that the most promising version of higher-order contingentism rejects both the being constraint and its modalized weakening. This conclusion is surprising, especially as the modalized being constraint is widely assumed, albeit often only implicitly. If it is rejected, higher-order contingentists must take seriously the metaphysics of impossibilia, which leads to a distinctive and unfamiliar form of contingentism. To date, such a view has not been explored in any detail. This is therefore a natural line of inquiry to pursue in further investigations of higher-order contingentism. The rejection of the modalized being constraint in particular poses many subtle challenges to the development of a systematic theory. I will therefore end by briefly illustrating these challenges, returning to the question of whether identity can be defined.

There is no reason to think that the notion of identity is in need of clarification, but for conceptual economy it is worth considering whether identity may be definable in terms of quantifiers and Boolean connectives. In higher-order logic, it is often assumed that ε being identical to η can be defined as follows:

$$\forall X\,(X\varepsilon \rightarrow X\eta)$$

In a higher-order contingentist setting, it becomes questionable whether this is adequate. Recall the standard reasons for thinking that this captures identity. If ε is η, then by Leibniz's Law, $X\varepsilon$ only if $X\eta$, whatever property X is. And if ε is not η, then there is the property of being ε (sometimes called ε's *haecceity*), which is had by ε but not η. However, given higher-order contingentism, ε and η may be mere possibilia. If there is not ε, then there may also not be the property of being ε, and more generally no property had by ε and lacked by η. One might propose solving the problem by modalizing the proposed definition as follows:

$$\Box\forall X\Box\,(X\varepsilon \rightarrow X\eta)$$

But because of the phenomenon of impossibilia, it is not clear that this solves the problem: if ε and η are impossibilia, then there might not possibly be any property which could possibly be had by ε but lacked by η.

Nevertheless, once even the modalized being constraint is rejected, ε being identical to η is plausibly definable in terms of quantification and Boolean connectives, using the following condition:

$$\forall Y(Y\varepsilon\varepsilon \rightarrow Y\varepsilon\eta)$$

This distinguishes even distinct impossibilia; for if ε is not η, consider the instance of Y being identity. Naturally, Y relates ε to itself, but not to η, since by assumption ε is not η. One might be concerned that the argument for the adequacy of this definition of identity appeals to identity itself. But the appeal is unproblematic, since the definition is only meant to show that there is a condition involving only quantifiers and Boolean connectives which expresses identity, and not to show that talk of identity is in good standing.

This simple example of defining identity indicates the kind of subtleties involved in articulating a higher-order contingentist position which rejects even the modalized being constraint.

Finally, it is worth noting that the present paper only considers views which treat first- and higher-order quantifiers alike. All of the arguments put forward here rely on *higher-order* contingentism and instances of the (modalized) being constraint involving *higher-order* predications. There are therefore two versions of contingentism which escape them. First, one might endorse a view on which it is contingent what individuals there are, but necessary what propositions, properties and relations there are. Such a combination of first-order contingentism with higher-order necessitism may well be able to accept all instances of (BC), since all the higher-order instances of this principle are rendered vacuously true by higher-order necessitism. Second, one might opt for a view which is first- and higher-order contingentist, but which endorses only first-order instances of (BC). Such split views may be what contingentists eventually have to settle for. But it is worth trying to develop an entirely uniform view, on which the being of propositions, properties and relations is just as contingent as the being of individuals, and the former being somehow incurs the same existential commitments as the latter being somehow. I have argued here that on the most promising version of such a uniformly contingentist view, being somehow does not require being something, nor even possibly being something.[2]

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