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ORIGINAL ARTICLE

The Role Functionalist Theory of Absences

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Abstract Functionalist theories have been proposed for just about everything: mental states, dispositions, moral properties, truth, causation, and much else. The time has come for a functionalist theory of nothing. Or, more accurately, a role functionalist theory of those absences (omissions, negative events) that are causes and effects.

1 Motivations

The stock example of supposed causation by omission is that the gardener's failing to water the plant causes it to die. What the role functionalist theory of absences says is that omissions, like the gardener's failing to water the plant, are the exemplifications of second-order functional properties that are defined by their causal roles. Before we begin developing the theory, what are its motivations?

First, I assume an ontological outlook that is permissive about what exists but restrictive about what is fundamental. I am thus happy to say that there exist such things as absences, but then demand an account of how absences are grounded in more fundamental features of reality—in "presences." Role functionalism is our leading philosophical theory of the non-fundamental. Consider: it is increasingly common to formulate physicalism as the doctrine that everything is either a physical entity in some narrow sense (e.g., described as such by fundamental physics) or else a functional entity realized by the narrowly physical.[1] Regardless of whether we

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[1] See especially Melnyk (2003). Other authors who explicate physicalism in terms of the notion of realization taken from functionalism include Kim (1998) and Wilson (1999, 2005).

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accept physicalism, this formulation of the doctrine seems to do justice to the core physicalist thought, that the fundamental is wholly physical while all else depends on and is determined by the physical. Given then that the non-fundamental generally is best understood in role functionalist terms, we should expect the same to be true of absences.

Second, I claim that several (although not all) of the most serious problems facing the view that absences can be causes are merely special instances of general problems facing role functionalist views across various domains. Furthermore, I claim that the most promising account of how causation by functional states works applies to causation by omission as a special case. Much of the burden of the paper is to establish this point.

Third, I assume some version of the *causal theory of properties*, the view that for every genuine property there is some set of causal powers such that a metaphysically necessary and sufficient condition for an entity to exemplify the property is for the entity to possess all the causal powers in the set.[2] Let me acknowledge in advance that the causal theory of properties is controversial. It is denied by those philosophers who take the relation between properties and their causal powers to be contingent, by those who take the laws of nature to be less than metaphysically necessary. Still, the view is familiar enough that I presume that here it is permissible for me to treat it as a (more or less) unargued assumption in order to work out its implications.

One such implication is this: when the causal theory of properties is conjoined with the view that absences can be causes and effects, something close to the role functionalist theory of absences almost inevitably follows. For if absence tokens (e.g., the gardener's failing to water the plant) can be causes, I assume that absence types (e.g., failing to water a plant) must be genuine properties (as opposed to "gruesome" properties). But then, given the causal theory of properties it follows that for every absence type there must be some set of causal powers such that a metaphysically necessary and sufficient condition for tokening that type is possessing those powers. And this is exactly what the role functionalist theory of absences aims to provide: a causal role (i.e., a set of causal powers) that defines (i.e., provides metaphysically necessary and sufficient conditions for) each absence type. Below, we will return to the connection between the causal theory of properties and the role functionalist theory of absences.

2 The Identity Theory of Absences

With these motivations in place, we turn to developing the theory.

A number of philosophers deny that absences can be causes or effects.[3] One argument they put forward goes roughly as follows. Causation, we will assume

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[2] Versions of the causal theory are defended by Shoemaker (1980, 1998), Martin (1997)), Molnar (2003), Heil (2003), and Bird (2007). There are significant differences between these authors' views, but we can gloss over these differences here.

[3] For instance Dowe (2000, Ch. 6, 2004), Armstrong (2004), Beebee (2004), and Kim (2007).

throughout the paper, is a relation between actual events.[4] Actual events are things that happen. But absences, it would seem, are things that *don't* happen—the gardener didn't water the plant. Therefore, absences aren't actual events. Therefore, absences can't be causes. Call this the *ontological problem* for the view that absences can be causes and effects. According to the objection, absences don't belong to the right ontological category to enter into causal relations.

Various responses to the problem are available. One initially attractive option is the *absence identity theory*, which identifies token absences with corresponding positive events. So for instance, the gardener's failing to water the plant might be identified with whatever positive thing he was doing instead at the time—taking a nap, say.[5] Now, in stating the theory I have spoken of "positive events," which are to be distinguished from absences or "negative events." And in what follows, it will be convenient to continue using this terminology, at least for awhile. Really, though, the better thing to say is that on the absence identity theory, no event is inherently positive or negative. Events are unpolarized; the proper positive/negative distinction to draw in the vicinity is not a metaphysical distinction between two sorts of events, but a representational distinction between two ways of denoting events. "The gardener's napping" is a positive nominal denoting a certain event, an event that also is denoted by the negative nominal "the gardener's not watering the plant." This idea that the positive/negative distinction should be viewed as merely representational is something we will try to incorporate within the role functionalist theory of absences below.

The absence identity theory has its attractions, but it also faces serious difficulties. One observed by David Lewis is that absences and their corresponding positive events seem to enter into different counterfactual dependence relations.[6] Suppose that had the gardener not been napping, he might have been watching the news instead, and so still not watering the plant. Then, while the plant's death counterfactually depends on the gardener's not watering it—had he watered it, it wouldn't have died—it does not counterfactually depend on his napping—had he not napped, the plant still might have died since the gardener might have watched the news. This tells against the proposed event identity.[7]

Lewis didn't frame matters in these terms, but it is natural to think of his point as a kind of multiple realizability objection, of the sort familiar from the philosophy of mind.[8] There are multiple ways you can fail to water a plant. You can nap, yes. But

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[4] I am content to beg the question against opposing views, on which causation is a relation between facts, for example, or on which causation is not always (or not in the first place) a relation. Defenders of such views include Mellor (1995) and Lewis (2000: 100).

[5] Defenders of the absence identity theory include Hart and Honoree (1985: 38), Hunt (2005), and Schaffer (2005).

[6] Lewis (1986a: 192–3).

[7] Schaffer (2005) responds to this difficulty by combining his acceptance of the absence identity theory with a contrastivist account of causation—indeed, he motivates his contrastivism partly on the basis that it allows one to reconcile the view that absences can be causes with the view that causal relata are actual events. Here I note that the role functionalist theory of absences provides an alternative way to reconcile these two views, and one that is compatible with the orthodox view that causation is a binary relation rather than a quaternary, contrastive relation as Schaffer maintains.

[8] The classic sources for such objections are Putnam (1967) and Fodor (1974).

you also can watch the news, work on your novel, twiddle your thumbs, or engage in endless other positive activities. The plant's death did not depend on just how the gardener failed to water it; as long as he failed one way or another, the plant was going to die.[9] On analogy with the familiar role functionalist view that the mental is multiply realized by the physical, I propose that absence types (e.g., the property of failing to water a plant) are multiply realizable by positive properties (e.g., the property of napping). By extension, I propose that absence tokens (e.g., the gardener's watering the plant) are realized by rather than identical with their corresponding positive events (e.g., the gardener's napping).[10]

3 Functional Definitions

The details of the theory are filled in by proceeding along familiar functionalist lines. Gather together some body of causal claims about absences. Maybe these are all the folk causal platitudes about absences, like: failing to water a plant causes it to die. Or maybe they are all the scientific causal claims about absences, like: low blood pressure causes a lack (absence) of oxygen in the brain. Or maybe they are some mix of both. For our purposes, we can leave it open just which causal claims are to be included.[11]

Some of these causal claims will state that absences cause certain positive events, like: failing to floss causes gingivitis. Others will state that certain positive events cause absences, like: an organism's possessing a certain recessive allele causes an absence of skin pigmentation. And yet others will state that absences cause other absences, like: the lack of parathyroid hormone in the body causes a lack of calcium in the blood. Gather all three types of causal clauses together and call the resulting collection the *defining theory of absences*.

Now, Ramsify the theory. Conjoin its clauses and replace each of its names for an absence type with an existentially bound variable.[12] The names for positive properties need not be similarly replaced; they serve as the primitive vocabulary used to define absence types, just as functionalist theories in the philosophy of mind treat physical terms as undefined primitives. The resulting Ramsey-sentence then implicitly defines absence types in terms of their causal roles, as specified by the defining theory.[13]

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[9] Within limits. The gardener could have failed to water the plant because he was busy creating and administering to the plant a wonder drug that made it no longer need water to survive. I will ignore such complications here, while acknowledging that they will need to be handled eventually.

[10] It used to be common for role functionalists in the philosophy of mind to combine their multiple realizability objection against the psychophysical type identity theory with an acceptance of psychophysical token identities—see Fodor (1974) for instance. However, it is now widely held that multiple realizability considerations tell equally against such token identities, and the token identity theory is often replaced with a token realization theory. See for instance Yablo (1992), Pereboom (2002), and Shoemaker (2007).

[11] The parallel is to the familiar distinction between common sense functionalism and psychofunctionalism.

[12] Lewis (1972).

[13] In Ramsifying the defining theory we assume that its names for absence types are "purely referential, open to existential generalization and to substitution by Leibniz's law" (Lewis (1972: 80)). This is not to assume at this point that absences exist—we will defend this conclusion below, but it's not an assumption that needs to be made prior to setting out the role functionalist theory. Rather, it's to assume that the

At this point we identify each absence type with a second-order property of having some first order positive property or other that occupies the causal role associated with that absence type by the defining theory. An absence—that is, a particular event—is a token of such a type, or in other words the exemplification of such a second-order property. Operating with the familiar property exemplification model of events,[14] it follows that absences are not identical with positive events but instead are realized by them. This is the desired result.

In formulating the theory I have spoken of absence types as *properties*. This needs to be understood in an expansive sense that covers relations as well as monadic properties. Indeed, our stock example of an omission involves an apparent relation: the gardener stands in the *failing to water* relation with the plant; derivatively, he exemplifies the relational (but monadic) property of *failing to water a plant*.

There is a question of how to extend the theory to absences that seemingly involve nonexistent objects as constituents. Take Santa Claus. He too failed to water the plant. The gardener's omission was analyzed as his exemplification of a certain second-order functional property. But, it may seem, we cannot similarly analyze Santa's failing to water the plant as his exemplification of that property—since Santa does not exist, he exemplifies no properties. What should the role functionalist say here?

There are options. First, one could posit a realm of existing *fictional entities* and propose that Santa, an existing but fictional entity, stands in the *failing to water* relation with the plant. I assume fictional entities are not fundamental, and so this proposal would need to be augmented with an account of how fictional entities are realized by nonfictional entities, but perhaps this can be done.[15] Second, one could propose that the world (or some more limited spacetime region, like the backward light cone of the plant's death) exemplifies the property of *not containing a plant-watering Santa*, and then add that it is this exemplification that is denoted by "Santa's failing to water the plant." Metaphysically speaking, the omission is not Santa's—there is no Santa—but the world's. Third, one could deny that absences involving nonexistent objects can be causes at all, and deny even that they exist, while still defending the existence and causal efficacy of absences involving existent objects, like the gardener's omission. There are other options yet. It would distract from the primary ambitions of the paper to pursue the matter further here, and so I leave open the question of the best way to proceed.

Footnote 13 continued

clauses of the defining theory can be construed as talking about absences and absence types *as if* they existed, and so our terms for absences are open to existential generalization and so on. In principle a philosopher who denies the existence of absences could accept our functional definitions of absence terms while maintaining that such terms are denotationless.

[14] Kim (1976).

[15] Consider the views of fictional entities defended by Van Inwagen (1977) and Salmon (1998).

4 Objection and Reply

It is fairly common to hold that absences must be grounded in more fundamental features of reality in some way or another, although there is no widely accepted view of exactly how this is supposed to go. The distinctive and controversial claim of the theory defended in this paper is that this grounding relation can be understood using the familiar resources of role functionalism: functional definitions, causal roles, second-order properties, and so on. There are different lines of attack one might try to pursue against the role functionalist theory. In this section I will focus on what I regard as the most serious objection to the theory.

Many philosophers hold that the relation between a property and its *causal profile*—the set of causal powers the property bestows on its instances—is metaphysically contingent. Suppose this is correct. Next, notice that there is a metaphysically necessary relation between an absence type and its "opposing" positive property (the property it is an absence of). Namely: as a matter of metaphysical necessity, an entity's exemplification of one property precludes its exemplification of the other. The objection I want to consider draws on this difference in modal strength.

Consider the positive property of watering a plant. Here in the actual world this property has a certain causal profile, bestowing on its instances the power to keep a thirsty plant alive (*ceteris paribus*), among other powers. But given the assumption that a property's causal profile is contingent, it follows there are worlds with different causal laws where the property of watering a plant has a different causal profile. For example, there are worlds where watering a plant is causally irrelevant to its survival, one way or another. Assuming causal profiles are thoroughly contingent, there will even be worlds where the positive property of watering a plant occupies just the causal role that is used by the defining theory of absences to define the absence type of failing to water a plant. At these worlds, watering a plant kills it in just the way that failing to water a plant kills it here in the actual world, for example.

This sets up a purported *reductio* of the role functionalist theory. For, the role functionalist theory entails that at such worlds, a gardener who waters a plant *thereby fails to water it*. More precisely, what it entails is that at such worlds, an instance of watering a plant realizes an instance of failing to water it, since at these worlds (with their different laws) the positive property of watering a plant occupies just the causal role that, according to the role functionalist theory, defines what it is to fail to water a plant. And this is absurd. No matter how the causal laws differ from the actual world, it is metaphysically impossible for watering a plant to be a way of failing to water it.

My response is to deny the objection's initial premise, that properties possess their causal profiles contingently, in favor of the causal theory of properties, which again states that for every property there is a set of causal powers such that possessing those powers is metaphysically necessary and sufficient for exemplifying the property. If the causal theory of properties is correct, there is no genuine metaphysical possibility that a positive property could possess a causal profile other than its actual causal profile, in which case the objection gets no grip—it appeals to

a metaphysical impossibility, and philosophical theories generally cannot be refuted through metaphysically impossible counterexamples.

Above (§1), I claimed that the causal theory of properties helps motivate the role functionalist theory of absences. Here, we see a further, deeper connection between the two: the causal theory of properties figures as a required assumption for the role functionalist theory, since without it, the role functionalist theory is subject to this section's devastating objection. Now, there is no getting around the point that this limits the potential market for the role functionalist theory of absences to those philosophers who embrace the causal theory of properties. And perhaps this is why the role functionalist theory has not been much explored in the literature.

But here is how I prefer to cast things. The causal theory of properties is still a relative newcomer to the contemporary metaphysical scene, and its implications have not yet been fully worked out—its defenders have been kept fairly busy simply articulating the theory and tracing some of its primary points of conflict with opposing views. One interesting, less obvious implication I claim for the causal theory is that it can be combined with an attractive account of absences: the role functionalist theory.

5 Disjunctiveness

We can further illuminate the role functionalist theory by connecting it to an account of absences already on the scene. Lewis at one point entertains the view that absences are *disjunctive events*.[16] The role functionalist theory entails as much if we suppose, following the recent lead of several role functionalists in the philosophy of mind, that second-order functional properties can be identified with disjunctive properties whose disjuncts are the various first-order properties that realize the causal role defining that functional property.[17] Adopting this assumption, the role functionalist theory entails that an absence type, like the property of failing to water a plant, can be identified with some second-order functional property, which in turn can be identified with some disjunctive property, like that of napping or watching the news or writing a novel or twiddling one's thumbs or…, where the ellipsis is filled in with the remaining first-order properties that occupy the causal role that defines failing to water a plant. An absence token, like the gardener's failing to water the plant, is then the exemplification of such a disjunctive property, making it a disjunctive event in Lewis's sense.

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[16] Lewis (1986a: 190).

[17] See for instance Clapp (2001), Antony (2003), and Shoemaker (2007: 17–18); in contrast, Fodor (1974) famously denies that multiply realizable properties are disjunctive. This identification of functional properties with disjunctive properties would seem to require the causal theory of properties, since otherwise for any given disjunct property there will be metaphysically possible but nomologically impossible worlds where that disjunct fails to occupy the causal role that defines the functional property in question. At such worlds, when the disjunct property is exemplified the given disjunctive property will be exemplified too, but the given functional property will not, since there is no property occupying its causal role. But so be it: we have already accepted the causal theory of properties anyway, and so there is no harm in relying on it here to identify functional properties with disjunctive properties.

In that case, does the absence token qualify as a negative event, since it is denoted by the negative nominal "the gardener's not watering the plant," or does it count as a positive event, since it is identical with the gardener's exemplification of a certain disjunctive property, all of whose disjuncts are denoted by positive terms? Bad question. Events are unpolarized, they are neither positive nor negative. The proper positive/negative distinction to draw in the vicinity is a representational distinction regarding how we denote events (or properties). On this point, the role functionalist theory agrees with the absence identity theory (§2).[18] I thus claim that the role functionalist theory of absences, like the absence identity theory, solves the ontological problem facing the view that absences can be causes and effects (§2). It solves it by construing absences as ordinary unpolarized (albeit disjunctive) events, thus placing them in the right ontological category for entering into causal relations.

You may have initially regarded absences as creatures of darkness, bogus entities that fail to exist but somehow still manage to have effects. The role functionalist theory, like the identity theory, tries to domesticate absences, metaphysically taming them into existents of a familiar sort. An absence enthusiast of a certain sort may be inclined to regard this as a kind of cheat. What is distinctive about absences is precisely that they don't exist, she may insist. The proper role functionalist response to this line is that given that the disjunctive events in question behave just as absences are supposed to behave, having all the same causes and effects—as is guaranteed by the fact that these disjunctive events occupy the causal roles assigned to absences by the defining theory—it becomes hard to see how these disjunctive events could be something other than those absences.

Still, not everyone will be happy with the role functionalist solution to the ontological problem facing absences. For instance, upon entertaining it Lewis rejects the view that absences are disjunctive events on the grounds that there are no disjunctive events.[19] He writes that the decisive reason to reject disjunctive events is that, were they to exist, disjunctive events would enter into noncausal counterfactual dependence relations in ways that would violate Lewis's own counterfactual analysis of causation.[20] To illustrate, suppose Fred talks, causing Ted to laugh. Now suppose that in addition to Fred's talking there is a distinct disjunctive event, Fred's walking-or-talking. Ted's laughing counterfactually depends on Fred's walking-or-talking: had Fred not walked-or-talked, Ted wouldn't have laughed (since if Fred had not walked-or-talked he wouldn't have talked). But intuitively, Fred's walking-or-talking does not cause Ted's laughing. We thus have an apparent counterexample to Lewis's theory of causation, and more specifically to his claim that counterfactual

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[18] You might also plausibly hold that the disjunctive/non-disjunctive distinction is best viewed as a representational distinction rather than a metaphysical distinction between two sorts of properties or events—see Clapp (2001). Fair enough. But the role functionalist theory does require some sort of genuine metaphysical distinction in the neighborhood, namely a distinction between fundamental properties (and their exemplifications) as opposed to non-fundamental properties (and their exemplifications). It is central to the role functionalist theory that absence types and tokens are non-fundamental.

[19] Lewis (1986a: 190). More specifically, he denies that there are *overly* disjunctive events. Absences, as they are conceived by the role functionalist theory, would count as overly disjunctive, since the given disjunct properties are wildly heterogeneous.

[20] Lewis (1986b: 266). Lewis's original counterfactual theory of causation is set out in his (1973).

dependence is sufficient for causation. The way Lewis saves his theory from counterexample is by denying that there is such an event as Fred's walking-or-talking, and more generally by denying the existence of disjunctive events.

The role functionalist's embrace of disjunctive events is controversial, then. But don't let the controversy obscure the philosophical progress that has been made in this section. The ontological problem that we started with back in §2 seemed to be a *special* problem about absences. Absences, because of their supposed negative nature, seemed especially disqualified to be causes. By identifying absences with the exemplifications of disjunctions of "positive" properties, we have traded that original, special problem for a far more general problem that confronts role functionalists across various domains. Role functionalists about mental states, for instance, require disjunctive events just as much as role functionalists about absences do. Indeed, Lewis rejects role functionalism in the philosophy of mind on precisely this basis.[21]

The role functionalist theory promises to shed new light on absence causation here by dividing the space of possible views in a novel way. In typical discussions of whether absences can be causes and effects, the crucial division is understood to obtain between counterfactual theories of causation, like Lewis's, which allow that they can be (since absences enter into counterfactual dependence relations), and various non-counterfactual theories of causation, like for instance Phil Dowe's conserved quantity theory, which deny this (since for instance absences do not transfer conserved physical quantities like energy or momentum).[22]

From the role functionalist perspective, however, the more important division is between those views of causation that allow the exemplifications of non-fundamental (functional, second-order, disjunctive) properties to be causes and effects, and those views of causation that deny this. On this alternative way of carving things up, Lewis turns out to be on the side of those who deny that absences can be causes and effects—at least as absences are conceived on the role functionalist theory. A defender of the role functionalist theory will thus need to deny some element of Lewis's view of causation, although perhaps while sticking with some sort of broadly counterfactual approach.

In the remaining sections of this paper I want to sketch how this might go. Let us turn to the leading views of role functionalist causation, that is, causation by functional states. Because these views have been developed at most length in the philosophy of mind literature, this will involve looking at a leading account of mental causation, and then trying to extend that account to cover causation by omission.

6 Proportionality and Determinate Causation

No single account of role functionalist mental causation has gained universal acceptance. That being said, a certain family of views has risen to prominence, so

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[21] Lewis (1994).

[22] See Dowe (2000).

much so that they perhaps can be regarded as the leading views in the field. Steven Yablo's theory is perhaps the best known member of this family.[23] Because it is well known, and because there has already been some discussion in the literature of how Yablo's theory might bear on causation by omission,[24] I will start off here by making it my focus.

Yablo takes the realization relation that holds between functional states and their first-order realizers to be the same as the *determination* relation that holds between determinables and their determinates. On the role functionalist theory of absences this would mean that absences (both tokens and types) are determinables, analogous to being red, while the realizers of absences (both tokens and types) are determinates, analogous to being scarlet. To connect this portion of Yablo's view as clearly as possible to last section's discussion of disjunctiveness, we can suppose that determinable properties are disjunctive properties whose disjuncts are their determinates. Being red is the disjunctive property of being scarlet or crimson or…, where the ellipsis covers all remaining determinate shades of red.

Yablo proposes that causes must be *proportional* to their effects, meaning roughly that causes must incorporate the right amount of detail for bringing their effects about. A cause should be neither too detailed nor not detailed enough. Yablo cashes out this notion of proportionality in terms of counterfactuals of the form,

$$[\text{Proportionality}] : \ (C \& \sim D) \ \square \rightarrow E$$

here, C is a variable ranging over determinables, D over determinates, and E over effects. When a proportionality counterfactual of this form is true the given determinable screens off its determinate, meaning that the determinate does not cause the effect in question. When a proportionality counterfactual of this form is false the determinate screens off its determinable. An event causes an effect only when it isn't screened off by any of its determinates or determinables. In the remainder of this section I will focus on cases in which determinates screen off their determinables; next section I will shift the focus to cases in which determinables screen off their determinates.

Suppose that Emma the pigeon has been trained to peck just when she sees scarlet, and so not when she sees any other shade, including other determinate shades of red. When presented with a scarlet triangle, Emma pecks. What causes her pecking? To answer this we must consider the relevant proportionality counterfactual: If the triangle had been red but not scarlet (e.g., crimson), Emma would have pecked. This counterfactual is false, and so the triangle's being scarlet screens off its being red. Thus, the triangle's being scarlet causes Emma's pecking while its being red does not. The intuitive idea is that the triangle's being red is not specific enough to bring about the pecking—for Emma to peck, it wasn't enough that the triangle be red of some determinate shade or another, it had to be scarlet specifically.

A point of special interest about the example is that although Yablo operates with a broadly counterfactual approach to causation, in the present case his theory allows for counterfactual dependence without causation. Emma's pecking is not caused by

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[23] Yablo (1992).

[24] See Sartorio (2010) and Dowe (2010).

the triangle's being red even though it counterfactually depends on it: If the triangle had not been red, Emma wouldn't have pecked (since if the triangle had not been red it wouldn't have been scarlet). This provides us with resources to respond to Lewis's objection to disjunctive events. Recall: Ted's laughing counterfactually depends on, but is not caused by, Fred's walking-or-talking. Yablo's theory can allow this without denying the existence of disjunctive events generally.

To illustrate, suppose Fred's walking-or-talking is such a disjunctive event.[25] Ted's laughing counterfactually depends on this disjunctive event, but the disjunctive event is not proportional to Ted's laughing, since the following counterfactual is false: If Fred had walked-or-talked but not talked (i.e., if he had walked), Ted would have laughed. Fred's talking thus screens off his walking-or-talking, and so Fred's walking-or-talking does not cause Ted's laughing, on Yablo's theory. We have arrived at the correct result without denying the existence of disjunctive events.

To set up a structurally similar case involving absences, let me mention yet another problem that has been posed for absence causation. Several authors have argued that the view that absences can be causes, when conjoined with Lewis's counterfactual theory of causation, over-generates causes.[26] Carolina Sartorio describes a case of the following sort.[27] Suppose that yesterday I ate a plate full of stale biscuits, giving me a stomachache. While eating the biscuits, one of the (endless) things I was failing to do was ride on a spaceship to the moon. My stomachache counterfactually depends on this particular omission: If I had been riding a spaceship to the moon, I wouldn't have gotten a stomachache (since I wouldn't have been eating the stale biscuits). But intuitively, my stomachache is not caused by my failing to ride on a spaceship to the moon.

Sartorio points out that the Yablo account can be used to block this unwanted result. First, take my failing to ride on a spaceship to the moon to be a functional property exemplification that is realized by my eating the stale biscuits. Then the proportionality counterfactual to consider is: If I had failed to ride on a spaceship to the moon but not eaten the plate full of biscuits (e.g., if I had watched the news instead of eating the biscuits), I would have gotten a stomachache. This counterfactual is false, and so on Yablo's theory my stomachache is caused by my eating the plate full of biscuits, *not* by my failing to take a spaceship to the moon. This is intuitively the right result.[28] What the role functionalist theory of

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[25] A defender of the role functionalist theory of absences could maintain an "inegalitarian" view of disjunctive events: some exist, while others (perhaps including Fred's walking-or-talking) don't. This is probably the best line to take, but I won't try to develop it here.

[26] See for instance Menzies (2004), Beebee (2004), Dowe (2004), and Kim (2007).

[27] Sartorio (2010).

[28] This does not provide a general solution to the problem of over-generating causes. The Queen of England failed to water the plant. There was no reason to expect she would, unlike the case with the gardener, but still the fact is she didn't. The plant's death counterfactually depends on this omission by the Queen: if the Queen had watered it, the plant wouldn't have died. But intuitively, the Queen's omission does not cause the plant's death. This case cannot be handled in the same way the stale biscuit case is handled, since it is also intuitively wrong to cite whatever positive activity the Queen was participating in instead of watering the plant—hosting a royal gala, say—as the cause of the plant's death instead. Dowe (2010) describes a way in which Yablo's theory might be used to block the result that the

absences adds is an explanation of *why* Yablo's account would apply in this case, something that might otherwise seem puzzling. Yablo's account applies because the same role functionalist framework that is used to make sense of mental states, and that Yablo accepts (at least more or less), also applies to absences.

7 Proportionality and Determinable Causation

Next, consider cases in which a determinable screens off its determinate. Sophie the pigeon (Emma's cousin) has been trained to peck when she sees any shade of red—scarlet, crimson, whatever. When Sophie is presented with the same scarlet triangle Emma just saw, Sophie also pecks. The proportionality counterfactual to consider is: If the triangle had been red but not scarlet (e.g., crimson), Sophie would have pecked. This time the counterfactual is true and so the triangle's being red screens off its being scarlet, according to Yablo's account. The intuitive idea is that the triangle's being scarlet is too specific to be properly regarded as causing Sophie's pecking. The triangle's being red causes the pecking instead, since Sophie would have pecked no matter which particular shade of red the triangle happened to be.

Turning to absences, the case of the gardener which we have been considering turns out to have a similar structure. Again, suppose that the gardener's failing to water the plant is realized by his taking a nap. The proportionality counterfactual to consider is: If the gardener had failed to water the plant but had not been taking a nap (e.g., if he had been watching the news), the plant would have died. The counterfactual is true, and so on Yablo's theory the plant's death is not caused by the gardener's napping but rather by his failing to water the plant. The gardener's napping is too specific to be properly regarded as causing the plant's death. As I said earlier, it doesn't matter to the dying plant exactly what the gardener did instead of watering it—whether he was napping or watching the news or working on his novel or twiddling his thumbs or whatever. As long as he failed to water the plant one way or another, the plant was doomed.

Up to this point we have engaged fairly closely with the details of Yablo's account. But it's also worth standing back to appreciate that a number of authors have defended broadly similar approaches that differ significantly on the details. For example, Timothy Williamson, in accounting for the causal efficacy of knowledge, defends a view that is explicitly inspired by Yablo's but that appeals to the notion of probability raising (roughly: causes raise the probability of their effects) where Yablo appeals to counterfactuals.[29] Sydney Shoemaker defends a view that is inspired by Yablo's but that cashes out the notion of proportionality in terms of causal powers and Shoemaker's subset account of realization without explicitly

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Footnote 28 continued

Queen's omission counts as causing the plant's death, but it involves denying that the gardener's omission counts as causing the death either. Another option open to defenders of the role functionalist theory of absences is to grant that the Queen's omission did cause the plant's death, and then explain away why it seems counterintuitive to say so in terms of the pragmatics of causal discourse—see for instance Lewis (2000: 101), Schaffer (2005: 302).

[29] Williamson (2000, 2005).

invoking counterfactuals.[30] James Woodward develops a Yablo-inspired view that is embedded within an interventionist approach to causation.[31] Ernest LePore and Barry Loewer's account of mental causation predates Yablo's by several years.[32] It assigns a central role to the sort of proportionality counterfactuals we have been considering, but then also takes nomic subsumption to mark another, distinct kind of causal relevance that is found only at the most fundamental (physical) level. Yet other authors have defended yet other similar views.

What all these accounts are trying to capture in different ways is a certain extremely familiar role functionalist line of thought. It's the thought that reality is divided into levels (a physical level, a psychological level, etc.), and that by focusing exclusively on its most fundamental level you miss out on higher level patterns of causal and explanatory significance. For instance, at the physical level, humans with their firing C-fibers and Martians with their inflating D-tubes share nothing much in common (nothing that they don't share with endless other physical entities, like tables and chairs). If you ascend to the higher psychological level, however, you find that humans and Martians are both in pain, a multiply realized functional property that enters into interesting patterns of causal and explanatory significance. Or so the role functionalist story goes.

Connecting this to our discussion of absences, there are two points to make. First, again, defenses of the view that absences can be causes and effects are often embedded within broader defenses of counterfactual theories of causation. But that is not my primary motivation in this paper. If there is a broader view I am interested in defending, it is role functionalism. Yablo provides an especially promising account of how to make sense of role functionalist causation, but defenders of the role functionalist theory of absences need not commit themselves to his account just as it is or embrace the central role it assigns to counterfactuals. What such defenders must hold is that *whatever* the correct account of role functionalist causation is, that account is bound to generalize to causation involving absences, for absences are just further functional states.

Second, the familiar role functionalist line of thought just rehearsed clearly does apply to absences. By focusing just on the most fundamental levels of reality, the levels of "presences," you miss out on higher level patterns of causal and explanatory significance. A gardener who naps and a gardener who watches the news have nothing much in common at the level of the positive activities in which they are engaged. However, ascend to a higher level, the level of absences, and you find that both gardeners are failing to water a plant, and this is why plant death results either way. This way of thinking about why we appeal to absences as causes emerges naturally once the role functionalist theory is adopted.

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[30] Shoemaker (2007).

[31] Woodward (2008).

[32] LePore and Loewer (1987); see also Loewer (2007).

8 Conclusion

Much more could be said about the role functionalist theory of absences. There are a number of important objections to the view that absences exist and can be causes and effects that I have not even attempted to address in this paper. What I have tried to do is sketch how the familiar role functionalist framework could be applied to absences, and provide several reasons for thinking that it might be promising to do so.

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