Episteme (2020), **17**, 384–401
doi:10.1017/epi.2019.55

ARTICLE

Explanatory Obligations

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Abstract

In this paper, we argue that a person is obligated to explain why *p* just in case she has a role-responsibility to answer the question "Why *p*?". This entails that the normative force of explanatory obligations is fundamentally social. We contrast our view with other accounts of explanatory obligations or the so-called "need for explanation," in which the aforementioned normative force is epistemic, determined by an inquirer's interests, or a combination thereof. We argue that our account outperforms these alternatives.

Keywords: Explanation; need for explanation; why-questions; role-responsibilities; social norms

1. Introduction

Phenomena often "demand," "call," or even "cry out" for explanation. But this is a suggestive metaphor at best and confused talk at worst. How can empirical regularities – such as the ideal gas law or the US's gross domestic product from 2000–2010 – make demands? Presumably, it is *people* that project these demands onto the phenomena. So a less metaphorical formulation of these claims would be that, in certain contexts, someone *ought* to explain a phenomenon. But what exactly is the basis of this "explanatory ought"?[1] In this paper, we shall argue that demands for explanation are fundamentally grounded in inquirers' social roles. After presenting the current state of play regarding demands for explanation (section 2), we present our own account (section 3). In sections 4 through 6, we argue that our "role-responsibility" model of explanatory obligations outperforms all extant accounts (Bromberger 1965; van Fraassen 1980; Achinstein 1983; Risjord 2000*b*; Grimm 2008; Khalifa 2011; Wong and Yudell 2015). Section 7 concludes by sketching our account's implications for other philosophical debates as areas of future research.

2. Background

High-school textbooks tell us that planetary orbits are elliptical. However, since the 1850s, it was known that there are slight perturbations in these orbits. Most infamously, Mercury's elliptical path around the Sun changes slightly with each orbit, such that its closest point to the Sun (or "perihelion") shifts with each pass ("precesses"). In the heyday of Newtonian mechanics, this prompted speculation about unobserved planets in between Mercury and the Sun – "Vulcan" being the most notorious. However, it was

[1]Except where noted, we will use the following phrases and their cognates interchangeably: "explanatory ought," "explanatory obligation," "demand for explanation," and "need for explanation."

not until the advent of Einstein's theory of relativity that the precession of Mercury's perihelion was adequately explained.

What should be clear is that physicists are *obligated to explain* why Mercury's perihelion precesses. Now, of course, this does not mean that every physicist, everywhere, and on every occasion should drop what she's doing and attend to this question. Scientists, no matter how narrow their field of research, face a vast (perhaps infinite) array of explanatory demands. Some of these are central to their research agenda, others peripheral; some are easy to meet, others hard, even intractable; some require extensive coordination with fellow scientists, others are solo projects; some can be handled with existing technology and social organization, others must await the Almighty Technocratic Utopia. The point is that scientists can be obligated to explain something that they are never in a position to actually explain, without thereby being derelict in their duties. The obligation ascribed to someone who we say "is obligated to explain why *p*" is thus a *prima facie* or *ceteris paribus* obligation – i.e. it can be legitimately overridden or neglected. In what follows, we suppress the "*prima facie*" and "*ceteris paribus*" prefixes, but the reader should take them to apply to all of our claims regarding what individuals are obligated to explain.

This paper seeks to explicate such explanatory obligations. At first blush, then, our goal consists of filling out the following schema:

The Schema: An agent *A* is obligated to explain why *p* iff …

While we take this as our central task, it is in the service of a larger question: what *kind* of obligations are explanatory obligations? In other words, what kind of *normative force* or modality do demands for explanation express? We shall argue that this normative force is fundamentally social in character. To our knowledge, none of the extant views regards the normative force of explanatory obligations as social.[2] Rather the literature suggests three alternative conceptions of explanatory demands' normative force: epistemic, psychological, and hybrid. Let us examine each in turn.

First, some authors prefer to speak of the "need" for explanation (Grimm 2008; Wong and Yudell 2015). As they note, such terminology potentially equivocates between *normative* and *psychological* needs for explanation. The chief purveyors of this language think of needs for explanation in normative terms, which accords more comfortably with the language of explanatory obligations. Importantly, they also regard the normative force of explanatory obligations to be of the epistemic variety. For instance, Wong and Yudell write (2015: 2866):

> if someone agrees that a phenomenon needs an explanation but fails to look for one … we may [in some cases] say she has violated an epistemic obligation. In these cases, the relation between '*S* has a good reason to ask for an explanation of *P*' and '*S* ought to look for an explanation of *P*' is analogous to that between '*S* has sufficient evidence for *P*' and '*S* ought to believe that *P*'.

For this reason, we call these positions *epistemic* views. More precisely, we will say that an approach to explanatory obligations is *epistemic* if it takes some configuration of epistemic considerations – which we will restrict to the various configurations of beliefs, presuppositions, truths, and knowledge presented in section 5 – to provide necessary and sufficient conditions for when an agent is obligated to explain a phenomenon. This way of delimiting epistemic considerations remains faithful to the extant positions

[2]One exception: our view has some affinities with the spirit, but not the letter of Khalifa's (2011).

https://doi.org/10.1017/epi.2019.55 Published online by Cambridge University Press

about explanatory obligations. Constructing novel epistemic approaches to explanatory obligations by countenancing further kinds of epistemic considerations exceeds this paper's scope.

However, as suggested above, needs for explanation can also be interpreted in psychological terms. While the preceding authors take these views to be non-normative, that move is optional. For instance, such views can be reinterpreted so that the normative force expressed by needs for explanation is practical, i.e. it consists of individuals' desires or interests to have certain things explained. On one view, explanatory obligations are *nothing but* interests to explain. Call these *purely psychological* views about explanatory obligations. To our knowledge, no philosopher has adopted this view. Consequently, we will say little about purely psychological views in what follows.

By contrast, a third approach, which does have some philosophical adherents (van Fraassen 1980; Risjord 2000*b*), strikes a middle path between epistemic and purely psychological views. On this view, interests to explain are necessary but not sufficient for explanatory obligations; ditto for epistemic considerations. Moreover, some combination of interests and epistemic considerations is sufficient for grounding explanatory obligations. We will call these *hybrid* views. Proponents of hybrid views are not always explicit as to whether they are providing normative accounts of explanatory obligations or something else. However, in what follows, we shall evaluate them as if they are providing normative accounts.

Our account differs from all three views. In contrast to epistemic views, we shall argue that failing to live up to one's explanatory obligations is not, at root, a breach of an epistemic obligation. Rather, it amounts to violating an obligation that is rooted in one's social role. Thus, unlike Wong and Yudell, we see the relation between '*S* has a good reason to ask for an explanation of *P*' and '*S* ought to look for an explanation of *P*' to be less like the normative relationship between evidence and belief, and more akin to the normative relationship between '*S* is a high-school French teacher' and '*S* ought to teach high-school students how to conjugate French verbs.'

Lest we be misunderstood or accused of sensationalism, let us describe the relation between epistemic views and our own precisely, if pedantically. We hold that there are instances in which an agent, *A*, has an obligation to explain some phenomenon, *p*, despite *A* satisfying *none* of the extant epistemic views and yet has, as part of her social role, a responsibility to answer the question, "Why *p*?" We deny, however, that there are instances in which the converse holds. Of course, this position does not rule out the existence of some hitherto unacknowledged epistemic considerations on which an alternative account of explanatory obligations might be built. But we take the burden of proof to fall upon the purveyor of such a (revised) epistemic view to identify and defend this missing epistemic ingredient.

We will support our position by providing scientific examples in which a very basic epistemic obligation concerning explanation – that we are only obligated to explain truths – can be relaxed for people occupying certain social roles. Since all extant epistemic and hybrid views take this epistemic obligation to be a *sine qua non* on explanatory obligations, they are at a loss to account for these interesting examples in which people are obligated to explain falsehoods. Nevertheless, our view is consistent with social roles *typically* being in the business of fulfilling many obligations characteristic of epistemic and hybrid views.

Given this skepticism about the "inherently epistemic character" of explanatory obligations, it is natural to wonder whether our view is akin to purely psychological approaches. However, there is no intuitive sense of "interest" that figures in our explication of explanatory demands. Rather, our master concept is *social role*. As we argue below, privileging social roles over interests has several theoretical advantages when

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accounting for explanatory obligations. For parallel reasons, we enjoy these same advantages over hybrid views.

To summarize, our goal is to fill out the aforementioned schema for explanatory obligations, and, in so doing, to characterize the kind of normative force that animates explanatory obligations. We claim that this normative force is fundamentally rooted in social roles. Some of these social roles engender explanatory obligations that depart from even the most basic epistemic requirements thought to bear on explanatory obligations. Moreover, we shall argue that social roles are more fruitful than interests in characterizing the non-epistemic normative force characteristic of explanatory obligations.

3. Role-responsibilities and explanatory obligations

Having presented the basic lay of the land when it comes to explanatory obligations, we now present our own *role-responsibility* model:

RR An agent A is obligated to explain why p iff answering the question "Why p?" is one of A's role-responsibilities.

As a simple illustration, you would be within your rights to ask your mechanic why your car screeches when you make left turns before signing off on a repair. Furthermore, mechanics who refused to explain this to you would be failing to fulfill their professional responsibilities. On our view, they would be failing to live to up their explanatory obligations.

Before showing how RR outperforms other accounts of explanatory obligations, let's clarify RR's two key terms: why-questions and role-responsibilities. First, RR holds that one is obligated to explain just in case one's role-responsibilities include answering the pertinent why-question. What exactly is a why-question? Here, we largely follow van Fraassen's (1980) account. According to van Fraassen, a why-question Q is an ordered triple $\langle P_k, X, R\rangle$, where P_k is the *topic*, the main proposition to be explained, X is the *contrast class*, i.e. a set of propositions consisting of the topic and the alternatives to which it is contrasted, and R is the relevance relation, which specifies the way in which a correct answer must differentiate between the topic and the contrast class.

For instance, if we ask "Why did France (rather than Croatia) win the 2018 World Cup?," we are presumably seeking an answer that cites something causally relevant to the World Cup Finals' outcome. By comparison, if we ask "Why did France (rather than England) win the 2018 World Cup?," answers can cite causes that made a difference either to the World Cup Finals or Semifinals, where England lost to Croatia.[3]

For van Fraassen, the demand to answer a why-question is only legitimate if its presuppositions are true. Its presuppositions are that:

VF1 the topic, P_k, is true;

VF2 every other member of the contrast class, X, is false; and

VF3 there is at least one true proposition that stands in the relevance relation R to the contrast class.

[3]Van Fraassen is notoriously open-ended about constraints on relevance relations, which leads to various problems that are not our concern here (Kitcher and Salmon 1987). As we discuss below, *demands* for explanation may presuppose outlandish relevance relations, but this does not mean that fulfilling those demands results in a *correct* explanation.

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We differ from van Fraassen in not requiring these presuppositions to be true.[4] Rather, it suffices if one's social role commits one to presupposing these claims in a conversational context.[5] As we shall argue below, some false but "role-appropriate" presuppositions beget genuine explanatory obligations.

This, of course, raises the question of what a role is. By 'social role,' we mean the position that one occupies in a profession, organization, or institution in virtue of which others are entitled to treat her as having certain rights and responsibilities. We'll call these rights and responsibilities *normative statuses*. Examples of social roles include: doctor, lawyer, employee, parent, student, colleague, friend, and pet-owner. But this list belies just how fine-grained such roles and the corresponding normative statuses can be. For instance, a judge's authority to sentence a particular criminal is not simply a status she has in virtue of being a *judge*. More precisely, her authority to sentence this particular criminal of this particular crime at this particular time and location is a function of her being the judge in this particular criminal's *case* – not just any judge can sentence this criminal. Statuses can be as fine-grained as their attendant social roles.[6]

In particular, we are interested in the normative statuses that Hart (1968: 212) dubs "role-responsibilities":

> whenever a person occupies a distinctive place or office in a social organization, to which specific duties are attached to provide for the welfare of others or to advance in some specific way the aims or purposes of the organization, he is properly said to be responsible for the performance of these duties, or for performing what is necessary to fulfill them.

Thus, the role-responsibility model holds that explanatory demands' normative force bottoms out in the institutional arrangements that beget certain role-responsibilities.

One may worry that tying explanatory obligations to forms of social organization overpopulates the class of legitimate demands. According to this objection, some social roles involve ludicrous demands for explanation – demands that the role-responsibility account will wrongly deem *legitimate*. To illustrate, consider the following:

ASTROLOGER: Adam is a practicing astrologer, and is asked to explain why John is so loving and warm. Given Adam's social role, the answer ought to appeal to John's zodiac sign.

Assume the following are all role-appropriate presuppositions, but only the first two are true:

A1 the topic, that John is warm and loving, is true;

A2 every other member of the contrast class, say that John is curmudgeonly, is false; and

[4]In the case of VF2, the true presuppositions are the negations of each member of X aside from P_k.

[5]As this intimates, we treat these as *pragmatic* presuppositions in the sense given by Stalnaker (1973), rather than as *semantic* presuppositions, which seems to be how Van Fraassen viewed them.

[6]It is tempting to treat normative statuses as *constitutive* of social roles; having the authority to sentence is part of what it *means* to occupy the social role of *judge*. We won't take a firm stand on these social-ontological questions.

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A3 there is at least one true proposition that describes the astrological cause of John's warm and loving personality and that would not have been an astrological cause of John's curmudgeonly character, had the latter been the case.

Since A3 is false, proponents of epistemic or hybrid views might reason that there can be no legitimate causal-astrological demands. In other words, they hold that Adam is not obligated to explain why John is so loving and warm. By contrast, since we only require presuppositions to be role-appropriate, we claim that Adam is so obligated.

We think that these differing verdicts rest on two different ways in which one might interpret the expression, "*A* is obligated to explain why *p*." Consider one reading:

1. *Adam* (rather than some non-astrologer, e.g. a psychologist) ought to explain why John is so warm and loving.

Here, it would be intuitive to follow epistemic and hybrid views in denying this. Astrologers offer terrible explanations, so they ought not explain anything! However, our basic task is not one of offering criteria for identifying *who* ought to explain. Rather it is to determine what explanatory obligations are.

This suggests a second reading, which, to our eye, reads more naturally if we use different deontic locutions and contrastive foci:

2. Adam is *obligated* (rather than prohibited or merely permitted) to explain why John is so warm and loving.

Here, we think that the role-responsibility model gets it right, because only it provides an adequate account of explanatory *failure*, which should be a consideration when adjudicating between different accounts of the normative force underlying explanatory demands.

The role-responsibility account carves a wide chasm between a legitimate *explanatory obligation* and a legitimate or correct *explanation*. It is precisely the gap between these two concepts that generates the possibility of explanatory failure, i.e. failure to provide a correct explanation when one has an explanatory obligation. Thus, on our view, Adam *does* face a legitimate demand for explanation. Indeed, what could be more fundamental to an astrologer's social role than to explain why birth under certain star signs produces certain personality traits? Because the role-responsibility model doesn't entail anything about the *correctness* of Adam's explanations, one should plug in the best analysis of explanation from the philosophy of science and behold the spectacular failure of our dear astrologer. Thus, by separating the legitimacy of an *explanatory demand* from the correctness of the *explanation demanded*, the role-responsibility view preserves astrology's explanatory failings as a jewel in its crown as queen of the pseudosciences.

By contrast, views that appeal to epistemic considerations such as truth or knowledge will find it more difficult to account for the normatively significant difference between *failing to explain* and *not having to explain*. For instance, suppose epistemic and hybrid theorists insist that even on this second reading Adam has no explanatory obligation. Then, quite clearly, he cannot fail to live up to this obligation. Yet, intuitively, such explanatory failure is one of astrology's most damning shortcomings. More generally, epistemic and hybrid theorists yoke explanatory demands' legitimacy to the veracity of why-questions' presuppositions. This means that anyone confronted with a why-question with false presuppositions is not obligated to answer it. Yet a signature failure of some explanatory inquiries is precisely this deficiency. Hence, epistemic and hybrid

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theorists deprive themselves of an important resource for criticizing the explanatory practices of, for example, astrology. Thus, all told, the role-responsibility model's capacious notion of explanatory demands is not a bug, as was originally feared. It's a feature.

4. Against interests

Having presented the role-responsibility model's core ideas, let's now compare it to other views. We begin with a commitment shared by purely psychological and hybrid views:

INTEREST: An agent A is obligated to explain why p only if A is interested in having the correct answer to why p.

INTEREST admits of clear counterexamples. For instance, in some cases, people are obligated to explain but have an interest in not having the correct answer to a why-question:

HOSTILE WITNESS: Mike is a dedicated fan of the actor Ms. Big. But, alas, he is also the star witness in her murder trial. While he has overwhelming evidence that the blood on Ms. Big's shirt is because of a Saturday night bludgeoning, he has a vested interest in keeping her out of jail, no matter what. The prosecutor asks, "Why was there blood on Ms. Big's shirt on that fateful Saturday night?"

In other cases, people are obligated to explain but have no interest in having the correct explanation:

INDIFFERENT DOCTOR: Natalie, a physician, prescribes a new treatment to a patient with a rare disease. The treatment produces no noticeable effect. However, Natalie is somewhat bored of treating this patient, and is not interested in finding out why the treatment did not work.

Thus, it appears that interests are not necessary for explanatory obligations. Indeed, when one is merely interested in knowing why something is the case, it would appear that one is only *entitled* but not *obligated* to explain. After all, many of our interests are personal whims and idiosyncrasies.

By contrast, the role-responsibility model makes quick work of both examples. Mike's role-responsibility as a witness in a criminal trial puts him on the hook for answering the why-question about the blood on Ms. Big's shirt. Natalie's role-responsibility as a doctor trumps her fleeting interest in her patient. Since INTEREST is common to both purely psychological and hybrid views, we have grounds for rejecting both in favor of either the role-responsibility approach or some epistemic view. We now turn to the latter's shortcomings.

5. Against epistemic views

As we see it, three different epistemic views have been proffered. Sections 5.1 through 5.3 argue that all of these epistemic views fail to provide sufficient conditions for explanatory obligations – and thus face what we call the *undemanding phenomenon problem*. Along the way, we'll also argue that the role-responsibility model does not succumb to this problem. Section 5.4 provides a general challenge to the necessity of all epistemic views by examining economists' use of so-called stylized facts.

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5.1. Ignorance and explanatory obligations

Provisionally suppose that VF1–VF3 are necessary conditions on explanatory obligations. What else might we need to round out this picture? One prominent proposal is that askers of why-questions must not know the answers that they seek.[7] Intuitively, one does not need to ask a why-question if one already knows the answer to it. So, this seems to capture something important about explanatory demands. Let us consider two candidates for this "ignorance condition:"

Opaque First-Order Ignorance: *A* does not know whether she knows the correct answer to *Q*.

Transparent First-Order Ignorance: *A* knows that she does not know the correct answer to *Q*.

Both candidates concern first-order ignorance in the sense that the agent has no knowledge of the correct answer to the relevant why-question. But they differ with respect to whether the agent has (second-order) knowledge of this ignorance (Transparent) or not (Opaque).

Ignorance-based accounts face the undemanding phenomenon problem. To illustrate this problem, consider the demand for explanation posed by the question "Why did France (rather than Croatia) win the 2018 World Cup?" Note that it satisfies all three of van Fraassen's requirements on why-questions and does so without invoking any deviant contrast classes or relevance relations. But surely it's not the case that *everyone* must explain why France rather than Croatia won the 2018 World Cup. Strengthen the modifiers on van Fraassen's requirements all you like, for example insist that they must not only be true but *known*; there will still be *someone* who legitimately evades a demand, for example the person who cares nothing about soccer, has no role in the profession or no stake in the outcome of the World Cup. Furthermore, many people don't know whether they know why France won the World Cup, but this doesn't mean that they have some need to explain it. Thus, Opaque clearly admits of undemanding phenomena.

Transparent might appear to do better on this front. If one is aware of what one doesn't know, then perhaps one needs to fill this knowledge-gap. However, it is not clear that this solves the undemanding phenomenon problem, either. Consider a person who knows that France (rather than Croatia) won the 2018 World Cup, but who has not followed a second of soccer. Barring something out of the ordinary, he will have transparent ignorance; he will know that he does not know why France won. However, it does not seem that he must all of a sudden become curious about soccer; he could just as well move on with his life in ignorance of the events leading to France's soccer ascendancy.

The role-responsibility model outperforms its ignorance-based rivals by readily accommodating this example. Presumably the only people who are obligated to explain why France won the 2018 World Cup are those who have social roles that bear on soccer – coaches, players, sports analysts, and perhaps an enthusiastic fan engaged in a spirited debate at a pub. Others, such as the casual browser of the sports page, are exempt from this explanatory demand.

[7]Bromberger (1965) fits this mold. While they do not discuss why-questions per se, contemporary authors working on questions also fit this mold (Friedman 2013, 2017; Whitcomb 2017).

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5.2. Modal knowledge and explanatory obligations

Others propose that explanatory obligations arise whenever it is clear that the phenomenon could (easily) have been otherwise (Grimm 2008).[8] On this account, an agent A is obligated to explain why p just in case VF1–VF3 are true, plus:

POSSIBLE: There is some P_i in the contrast class X such that A knows that it could (easily) have been the case that P_i (rather than P_k).

As with ignorance-based approaches, POSSIBLE does not accommodate undemanding phenomena. Let us turn to a different soccer match: Croatia's victory over England in the World Cup Semifinals, in which Croatia won 2-1 in extra time (the 109th minute). Even a person with rudimentary knowledge of soccer can appreciate that England could have easily won the match instead of Croatia. Does the person thereby need to find out how Croatia won? We don't see why that should be. Simply replying, "I don't really follow soccer, but that sounds exciting!" seems a perfectly apt response after this romp through modal space; no explanation is needed. As before, the role-responsibility account provides a plausible story about when this phenomenon ought to be explained.

Now, to be fair, Grimm distinguishes between *practical* and *epistemic* needs for explanation. With practical needs for explanation, the question is "whether you deem it worth the bother, in some all-things-considered sense" to explain the phenomenon (Grimm 2008: 483). By contrast, epistemic needs are supposed to be what we seek to explain because of epistemic considerations alone. As a result, we might think of his proposal as having an implicit *ceteris paribus* clause that brackets all non-epistemic considerations, such as one's social role. On such a view, once you abstract away the practical aspects that role-responsibilities bring to the explanatory party, there is still a pristine epistemic core that begets an explanatory obligation. We see three problems with this proposal.

First, if wielded incautiously, it would make virtually any view unfalsifiable, for any putative counterexample could be explained away by unspecified practical considerations. We, at least, see no obvious invocations of this distinction that avoid charges of ad hocness or question-begging. Nevertheless, we will not push this point much further, as it may merely reflect a failure of imagination on our part.

Second, even if we put this issue aside, we are skeptical about Grimm's way of cordoning off the epistemic from the practical. On his view, such purely epistemic needs for explanation are rooted in a kind of "sheer intellectual curiosity." We strongly suspect that this view collapses into a hybrid view, and thereby inherits the problems with INTEREST canvassed above. Having knowledge that things could have easily gone otherwise does not entail being curious about why the actual course of events that happened instead. Curiosity, it would seem, requires a further *interest* in knowing what made the difference between the actual and the possible.[9] Conversely, it appears that one could be curious about necessities (including impossibilities), remote possibilities, etc. and all other sorts of things that are incongruent with Grimm's account of the need for explanation. Consequently, curiosity appears to be nothing but an interest, which must be supplemented by the epistemic considerations enumerated in POSSIBLE. This, of course, would make it a hybrid view. As a result, Grimm will have difficulties accounting for counterexamples such as HOSTILE WITNESS and INDIFFERENT DOCTOR, since these only

[8]Grimm does not mention *easy* possibilities per se, but intuitively, these nearby possibilities demand explanation more acutely than more remote possibilities.

[9]It is somewhat revealing that, at one point, Grimm (2008: 483) describes curiosity as a "distinctively intellectual *desire*."

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hinge on lacking interests (or curiosity), but there is nothing that prevents the protagonists in these examples from having the kind of modal knowledge required by POSSIBLE.

Third, while the counterexamples to INTEREST show that interests aren't necessary for explanatory obligations, we also think that the combination of INTEREST and POSSIBLE fails to be sufficient for underwriting legitimate explanatory obligations independently of considerations of social roles. This can be seen most easily when someone is curious about why something happened, but that curiosity involves a kind of "prying" or "nosiness" that transgresses certain role-responsibilities. For instance, suppose that a neighbor asks the couple next door how they keep their sex life vibrant. He could readily imagine his neighbors being less passionate. His curiosity may be stripped free of as many practical concerns as one wants, but presumably this poses no obligation on his neighbors to reveal any homespun erotica. The role-responsibility model provides an obvious explanation of why this is so: in their capacities as neighbors, the couple has no responsibility to answer this explanation-seeking question. Similar points apply if we convert the other two epistemic views into hybrid views, by wedding them to INTEREST.

5.3. Cognitive maps and explanatory obligations

For a third epistemic alternative to the role-responsibility model, consider Wong and Yudell's (2015) account of the need for explanation:

A is obligated to explain *P* if and only if:

1. *P* is true;[10]
2. *A* is using map M; and
3. *P* does not fit *M*.

Here, a "map" is "a collection of interrelated concepts and beliefs that allows us to make sense of what has happened, predict what will happen, and decide what we should do" (Wong and Yudell 2015: 2873). Phenomena may fail to fit maps in three different ways:

(i) *P* is either incompatible with the rest of *M* or highly unlikely given the rest of *M* – if you are guided by *M*, then you expect to *not* see *P*;
(ii) *P* is different than what *M* indicates – if you are guided by *M*, you expect to see something like *P*, but not quite the way *P* actually is; or
(iii) *P* consists in the absence of something *X* that is supposed to be there according to *M* – if you are guided by *M*, you expect to see *X*, but you see *P* instead (Wong and Yudell 2015: 2877).[11]

It seems that the map account provides the correct verdict on our running example of an undemanding phenomenon. A person indifferent to soccer is unlikely to have a detailed enough map to render France's victory improbable, and hence in need of explanation. The map is simply silent on such matters.

[10]Wong and Yudell (2015) think of *P* as a phenomenon, which would be more naturally glossed as an extralinguistic entity (e.g. state of affairs) than as a proposition. For continuity with the other accounts, we have recast it as a proposition. This will not affect the discussion.

[11]NB: While it would not be faithful to the letter of Wong and Yudell's account, one could recast the map account as stating that *P* ought to be explained just in case *P* is the topic of a why-question ⟨*P*, *X*, *R*⟩ constrained by VF1 and VF2 where *X* is a consequence of a map *M* that the answerer of the why-question is using. It is unclear whether Wong and Yudell would endorse VF3 under such a reinterpretation.

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However, somewhat ironically, Wong and Yudell's preferred example of an undemanding phenomenon poses trouble for their account. Suppose that your friend, Winnie, wins the lottery. On virtually any of the three criteria, Winnie's lottery victory does not fit most of our maps. Guided by this map, you would not expect Winnie to win and you would have expected somebody other than Winnie to win. Yet Wong and Yudell rightly think that there is no need to explain Winnie's lottery win. Indeed, they go so far as to claim that people who think lottery wins need to be explained "are making a *mistake*" (Wong and Yudell 2015: 2873).[12] Yet, on their view, this would be a mistake that virtually anyone with a typical map of a lottery is destined to make.

Wong and Yudell (2015: 2879) attempt to address this problem:

> The fact that Winnie won the lottery does not need an explanation because the description "Winnie won the lottery" is not composed of the elements of any particular map by means of which we can understand why a particular person (rather than another person) won the lottery, by means of which we can predict who will win the lottery next time, and by means of which we can decide what we should do as far as playing the lottery is concerned.

But Wong and Yudell are baiting and switching with contrastive explananda. Consider two why-questions: (1) Why did Winnie win (rather than lose) the lottery? and (2) Why did Winnie (rather than Hazel, who also purchased a ticket) win the lottery? Wong and Yudell's rebuttal only pertains to the latter. For the first question, our objection stands, for most of us have a map of lotteries that makes it very easy to understand and predict how someone could *lose* a lottery and, depending on one's level of risk aversion, whether one should buy a lottery ticket. Winnie's victory doesn't fit with that map, so the map account entails that it ought to be explained. Thus, Wong and Yudell's rebuttal notwithstanding, the map account cannot avoid undemanding phenomena.

By contrast, the role-responsibility model makes handy sense of when Winnie's lottery win ought to be explained. Designers of the lottery might wish to know the randomization and selection mechanisms that characterize the lottery, which would be quite congenial to classic work on statistical explanation (Salmon *et al.* 1971). Most of us don't play this role, which is why lottery wins rarely need to be explained.

Moreover, Wong and Yudell's notion of *using* a map might (and indeed, ought to) be smuggling in a kind of role-responsibility. For Wong and Yudell, "having" a map simply means taking it to be accurate of its target domain. By contrast, using a map means not only having it, but also "being guided" by it. While not too much is said on this front, it is natural to interpret this guidance as a kind of practical commitment. For one, having a map seems to cover most of the epistemic or cognitive dimensions in Wong and Yudell's account. Furthermore, "use" is naturally regarded as a practical activity. Crucially, Wong and Yudell (2015: 2879) claim that the map one uses determines what one ought to explain: "a phenomenon requires explanation only under a certain description, and that description has to be in terms of the elements of the map being used which the phenomenon does not fit." Thus, if one does not undertake a practical commitment to using a particular map, the demand for explanation need not arise.

As we see it, this practical commitment can either be a role-responsibility or something akin to an individual preference or interest. In the first case, the view collapses into our role-responsibility view. In the second case, it collapses into a hybrid view, and is thereby subject to the aforementioned problems with Interest. Insofar as

[12]This strikes us as an overstatement: see below.

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Wong and Yudell tip their hand here, they appear more congenial to a role-responsibility account. In their only example of the contrast between having and using a map, they present the different concerns that arise for the same person walking through the same forest, first in her role as a *primatologist* and again in her capacity as an *amateur archaeologist*. Thus, all told, we think that Wong and Yudell would be well-served to align their view with the role-responsibility model.

5.4. Stylized facts: a general problem for epistemic (and hybrid) views

We round out our discussion of epistemic views with a general problem: even the most basic of epistemic considerations that could underwrite an explanatory obligation can sometimes be overturned because of one's social role. Looking back to our three epistemic approaches, the one invariant requirement that they share is:

True Explanandum: An agent A is obligated to explain why p only if p is true.

Indeed, it should be noted that any view that endorses van Fraassen's requirement that only truths ought to be explained (VF1) – including all current hybrid views, such as van Fraassen's (1980) and Risjord's (2000*b*) – will be committed to True Explanandum.

At first blush, such a constraint appears quite reasonable – how can one be obligated to explain something that is not the case? However, economics provides interesting counterexamples to this requirement. In a wide variety of economic theorizing, models' plausibility is checked by seeing if they explain so-called "stylized facts" (Arroyo Abad and Khalifa 2015). Unlike typical economic phenomena, there is usually not sufficient data to infer that a stylized fact is true, and quite frequently, they are strictly speaking, false. For instance, the most famous stylized facts come from growth economics, and include claims such as per capita output grows over time and the rate of return to capital is constant. The first is only true in developed countries; the latter only applies to the UK. Yet both are treated as universal phenomena that decades of growth theorists have sought to explain, with full awareness that these claims have far narrower scope than they profess.

Stylized facts serve several functions in economic thought. Their simplicity facilitates understanding of complex economic phenomena. They are also a useful tool in theory building. When they are deemed plausible by theorists with different orientations, they serve as a further constraint on theorizing in data-impoverished contexts. In growth economics, underconsidered theories that explained the stylized facts garnered greater attention. Insofar as economists deem the explanation of stylized facts the best way of realizing these functions and find the realization of these functions central to their enterprise, they are obligated to explain stylized facts.[13]

It follows that a question such as "Why p?" where p expresses a stylized fact will fail to meet VF1, i.e. its topic (P_k above) will not be true. Since the role-responsibility model does not impose this requirement, and since it allows a why-question's appropriateness to be fixed by an agent's social role, it can readily account for such explanatory demands. This view only requires that explaining some fact is an agent's role-responsibility – it makes no difference whether that "fact" is real or merely stylized.

The role-responsibility model's ability to cover stylized facts has two key consequences. First, it simply bolsters the mounting case for its superior extensional adequacy over its contenders. In addition to providing the intuitively correct judgments about Hostile Witness, Indifferent Doctor, various World Cup outcomes, creepy neighbors,

[13]Note that these various functions might be considered "epsitemic considerations" in a broader sense than our interlocutors countenance. See our earlier caveat about this point in section 2.

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Winnie's luck at the lottery, and so on, it also accords with economists' practice of explaining stylized facts.

Second, and more interestingly, it suggests that social roles determine whether an epistemic consideration – such as the requirement that an explanandum be true – figures in an explanatory obligation. As a result, to think that every demand for explanation can be neatly separated into epistemic dimensions that are distinct from one's role-responsibility is mistaken. Somewhat speculatively, we conjecture that this is also why positions such as Grimm's and Wong and Yudell's collapsed into hybrid views: the preceding suggests that epistemic considerations are not only *insufficient* to yield explanatory obligations, but also are not *inherent* to explanatory obligations. Rather, only those epistemic considerations that figure in the pertinent role-responsibilities are relevant to explanatory obligations.

6. Kicking the tires on the role-responsibility model

Thus, we have seen that the role-responsibility model outperforms the other extant accounts of explanatory obligations. Economists' use of stylized facts shows that there can be explanatory obligations that arise in the presence of role-responsibilities and the absence of epistemic considerations. Furthermore, in the absence of interests and role-responsibilities, all epistemic views face some version of the undemanding phenomenon problem. Finally, owing to the difficulties canvassed above, it's very unlikely that interests are the missing ingredient in epistemic views. Hence, all roads lead to the role-responsibility model.

However, this is cold comfort if the role-responsibility succumbs to counterexamples independently of its comparative merits. To that end, we consider potential challenges to its necessity (section 6.1) and its sufficiency (section 6.2). We argue that the counterexamples either rest on confusions, or can be explained away.

6.1. Are role-responsibilities necessary?

Consider challenges to the necessity of the role-responsibility model, i.e. putative cases in which one is obligated to explain something despite having no role-responsibility to answer a why-question. As we see it, there are two kinds of cases that might pump intuitions away from the role-responsibility model. We shall argue that closer scrutiny shows that neither of them succeeds.

First, as Grimm's view intimates, there are cases where our natural curiosity appears sufficient for generating some sort of need for explanation. For example, if there's a loud thud outside, it seems natural to wonder why, regardless of one's social role. However, as we see it, this is no counterexample at all. The key issue is whether somebody who is not curious about the cause of the thud has done anything wrong (even in a fairly broad sense of "wrong"). Absent a social role, we don't see why that should be. The person who shrugs and continues about their business after hearing a thud seems completely undeserving of any sanctions. This suggests that natural curiosity is an interest that (at best) entitles but does not obligate someone to explain. Of course, there will be certain role-responsibilities that induce genuine obligations to examine the cause of the thud, for example those of safety inspectors, duly protective family members, etc.

Second, one might worry that changes in role-responsibilities frequently do not affect what one ought to explain. Consider, for instance, one of the stiffest challenges facing Copernicus when he proposed the heliocentric theory: why do the stars appear fixed in the night sky rather than in parallax? As a course of fact, Copernicus provided the correct answer to this question, namely that the stars are so far away that we cannot

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detect their movement. However, imagine (contrary to fact, of course) that just before Copernicus had to answer this why-question, there was a change in 16th-century social arrangements such that astronomers no longer had to explain stellar motion in the night sky. The role-responsibility model implies that Copernicus no longer is obligated to explain the apparent fixity of the stars, since this is no longer included in his role-responsibilities. However, this seems counterintuitive. Indeed, this seems to vindicate some kind of epistemic view, for if Copernicus were simply not professionally responsible for explaining the apparent lack of parallax, it seems that he would still be doing something epistemically wrong – namely ignoring a phenomenon that threatened to undercut his theory.

We offer a dilemma. Either the change in Copernicus' role-responsibilities changes his social role or it does not. If it does, then there is no reason to think that he is obligated to explain apparent stellar fixity. If it does not, then the role-responsibility model entails that he is obligated to explain apparent stellar fixity. In either case, the counterexample fails.

Consider the first horn of this dilemma in which Copernicus' social role changes. Let "quasi-astronomer" denote the social role that results from excising the role-responsibility to explain stellar fixity from the more typical social role of astronomer. Then the counterexample assumes that Copernicus the quasi-astronomer is obligated to explain the same things as Copernicus the astronomer. As far as we can ascertain, the best reason for making this assumption is that Copernicus the quasi-astronomer is in the same epistemic situation as Copernicus the astronomer. However, there are plenty of people who are in the same epistemic situation as Copernicus, but who have no obligation to explain the apparent fixity of the stars. Many educated people in the 21st century know that heliocentrism is true and that the stars in the night sky do not appear to move, but only a much smaller subset need to explain why that is. Hence, similarity of epistemic situation does not entail similarity of explanatory obligations. As a result, this is no counterexample to the role-responsibility model.

Now, consider the second horn of the dilemma. On this view, social roles maintain some identity over time, despite shifting role-responsibilities. One might think, however, that certain facets of role-responsibilities cannot be relaxed without fundamentally changing the social role. Call these restrictions the *lower bounds* of a social role. For instance, think of how profoundly parental role-responsibilities have changed over several centuries. Yet, it would be reasonable to assume that if social arrangements were such that the word "parent" referred to a social role completely divorced from any role-responsibilities involving the care or conception of children, then that social role would be distinct from the social role denoted by the contemporary English word "parent." In short, caring for or conceiving children is a lower bound on the social role *parent*.

Apply this to the Copernicus example. If quasi-astronomers are still astronomers, then they ought to respect the lower bound of the social role *astronomer*. While this certainly deserves more discussion than we can offer here, it's often thought that merely saving the phenomena is too weak to be a lower bound for those occupying the role of *scientist*. Yet, even on this modest construal of astronomers' lower bounds, we can domesticate the counterexample, so that it poses no threat to the role-responsibility model. On such a view, the apparent or observed fixity of the stars is an empirical phenomenon and thus meets the lower bound on demands for scientific explanation.[14] Furthermore, if this demand were not met, Copernicus' theory would fall below the lower bound of permissible theory acceptance for a scientist, i.e. it would compromise the empirical

[14]Strictly speaking, Copernicus does not have an obligation to explain why the stars are fixed, but he does have a obligation 'in the neighborhood,' namely, to explain why the stars *appear* fixed.

https://doi.org/10.1017/epi.2019.55 Published online by Cambridge University Press

adequacy of the heliocentric theory. As a result, he would fail to live up to his explanatory obligations if, *qua* quasi-astronomer, he were still regarded as an astronomer.

To summarize, we have considered and met two challenges to the necessity of the role-responsibility model. The first challenge sought to find cases where natural curiosity triggered an explanatory obligation. As we saw, this lacks the normative force of an explanatory obligation. The second challenge tried to show that explanatory obligations persist despite the vicissitudes of social roles. This, too, posed no threat to the role-responsibility model.

6.2. Are role-responsibilities sufficient?

Consider now challenges to the sufficiency of the role-responsibility model, i.e. putative cases in which someone is not obligated to explain, despite having a role-responsibility to answer the relevant why-question. As before, we shall show that these examples do not embarrass our view.

To begin, return to the case of Astrologer, where Adam is asked to explain John's warm and loving character by appeal to his star sign. While section 3 presented the role-responsibility model's accommodation of this example as a virtue – it shows how we provide a superior account of explanatory failure – others may regard it as a vice. Once again, we assume that all of the presuppositions are role-appropriate, i.e. are taken for granted in the conversational context in which Adam is occupying the social role *astrologer*. Furthermore, we continue to assume that all of the presuppositions of the why-question are true, save the following:

A3 there is at least one true proposition that describes the astrological cause of John's warm and loving personality and that would not have been an astrological cause of John's curmudgeonly character, had the latter been the case.

According to the objection, since there are no explanations of this sort, Adam cannot satisfy this demand. Assuming that ought implies can, Adam is therefore not obligated to explain John's glowing character traits, despite having a role-responsibility to do so.

However, it's unclear that professional obligations accord with the Kantian dictum that ought implies can. To see this, consider a poorly trained mechanic, Charlie, who makes a mess of a car repair. Let's assume that Charlie is so poorly trained that he never could have fixed the car. Despite this lack of ability, Charlie failed to do what he ought to have done – namely fix the car. Similarly, if A3 is a fair characterization of astrological explanation, then even by astrologers' own lights, they are failing to explain what they are obligated to explain, as they are not providing astrological causes of anything. So, the objection is unsound because "ought" need not imply "can" when it comes to professional obligations. Indeed, such an assumption would once again preclude an adequate account of explanatory failure.

There is a second class of examples that challenge the sufficiency of the role-responsibility model. Here, the subject resists an explanatory demand that appears to be legitimate given her social role, e.g.

Principled Physician: Pat and Chris are reluctant to vaccinate their children. They ask their pediatrician, Natalie, how the measles, mumps, rubella (MMR) vaccine causes autism in children. She refuses to explain why, on the grounds that the MMR vaccine does not cause autism in children.

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Because doctors generally have duties to answer questions that are relevant to the care of their patients, one might think that Natalie has a role-responsibility to answer her patient's query. And, like Astrologer, there appears to be no correct answer to the why-question. However, unlike Astrologer, it does not even seem as if there is a role-appropriate answer to the why-question: any answer to how MMR vaccines cause childhood autism will flout the standards of biomedical research. So, here, it would seem, Natalie genuinely cannot – and hence ought not – answer the why-question.

However, unlike Astrologer, we think that Natalie does not face a legitimate demand for explanation, for the simple reason that her role-responsibility does not include the task of explaining how MMR vaccines cause autism. Unlike the previous case, this question has a *role-inappropriate* presupposition – namely the topic of the why-question is known to be false by competent medical practitioners. Importantly, this is no concession to epistemic views, for it is not the uniquely epistemic shortcomings of the question that make it illegitimate. Rather its illegitimacy follows from the fact that the presupposition of the patient's question fails to meet the criteria of acceptable medical judgment – criteria which just so happen to align with some of our highest epistemic standards in general.

Furthermore, although Natalie does not have an *explanatory* obligation, she is still obligated to *respond appropriately to her patient's why-question*. This simply requires distinguishing between answers to why-questions, i.e. explanations, from other sorts of non-explanatory responses to why-questions (Khalifa 2011). Generally, 'appropriately responding' means providing patients with the relevant information that meets the epistemic standards of the profession. Answers are just a limiting case of appropriate responses to questions, and, of course, why-questions are just one kind of question that can be asked of a person in a particular social role. It is the responsibility to provide a response – not an answer per se – that underlies any intuition we might have that Natalie faces a genuine demand.

Consequently, she should neither answer nor ignore the patient's question. Rather, she should provide a corrective reply, such as "I'm sorry, but you're mistaken. MMR vaccines do not cause autism." In other words, Natalie is not obligated to explain why MMR vaccines cause autism, but she does have a responsibility to provide Pat and Chris with the relevant, corrective information.

Thus, we have entertained several challenges to the necessity and sufficiency of the role-responsibility model. We have seen that the examples rest on several conflations: between explanatory obligations and interests (the thud example), different social roles (the Copernicus example), explanatory obligations and their more venerable Kantian counterparts (Astrologer), and explanations and appropriate responses to why-questions (Principled Physician). Thus, none of these challenges poses a genuine counterexample to our account of explanatory obligations.

7. Conclusion

We have claimed that explanatory obligations are role-responsibilities to answer why-questions. As a result, the normative force of explanatory obligations is fundamentally social or institutional in nature. This stands in sharp contrast to views that take this normative force to be fundamentally epistemic, fundamentally interest-driven, or some combination thereof. As we have seen, our role-responsibility model outperforms these alternatives in its coverage of our variegated explanatory practices.

As the preceding makes clear, explanatory obligations have garnered attention from only a small segment of philosophers, but if we are correct, this is a lost opportunity, for explanatory obligations have far-reaching implications for other philosophical debates.

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To conclude, we briefly highlight a few areas in which explanatory obligations could play a more pronounced role. Standing behind much of this is the following idea: precisely because explanatory obligations' normative force is social in nature, it's possible for them to be in tension with other kinds of obligations.

For instance, some of the examples above – most notably the one involving an astrologer – already show how fulfilling our *explanatory* obligations can sometimes conflict with our *epistemic* obligations. For defenders of Inference to the Best Explanation (IBE), this should be somewhat unsettling. If epistemic considerations alone do not settle whether something ought to be explained, then earlier suspicions that leaving something unexplained is not on a par with fundamental violations of epistemic rationality, such as believing inconsistencies or violating the probability calculus (van Fraassen 1980, 1989), gain some traction. However, a suitably tailored pragmatics-semantics distinction or a sufficiently enriched social epistemology might well dispel these suspicions.

However, it is not only epistemic obligations that can clash with explanatory obligations. As Philip Kitcher's (2001) work suggests, our explanatory obligations can also conflict with our *moral* obligations. If explanatory obligations are fundamentally rooted in our social arrangements, then we might think that the best social arrangements will not require anyone to answer certain "taboo" why-questions. For instance, Kitcher suggests that well-ordered science might not pursue certain lines of sociobiological and psychometric research into gendered and racial cognitive differences. What remains underdeveloped is how different kinds of responses to why-questions – especially corrective ones – ought to be a critical component of this nascent "ethics of explanation." Moreover, mechanisms of social change will be at least as important as the epistemology of belief revision in aligning our explanatory obligations with our other duties.[15]

Many of these threads can be intertwined by wedding our view to the burgeoning literature on epistemic injustice. Broadly speaking, epistemic injustice is any injustice that harms someone specifically in their capacity as a knower (Fricker 2007). Demands for explanation often enact such injustices. Consider the Black woman who's asked by her white companion to explain why she tells white women to stop touching her hair. Here, a privileged individual compels a marginalized one to explain the nature of the oppression she faces and to justify her response to it. This demand for "unrecognized, uncompensated, emotionally taxing, coerced epistemic labor" is what Berenstain (2016) calls epistemic exploitation. The Black woman faces a demand to educate and enlighten her privileged companion, which places her in a "double bind." She can either "engage in the coerced labor of explaining why the white woman's action was racist […], or she can risk being seen as confirming the misogynistic controlling image of the Angry Black Woman" (Berenstain 2016: 576). Undoubtedly, the power dynamics that institute and perpetuate various kinds of "explanatory injustice" are not limited to those displayed in this example.

Finally, we end with a bolder suggestion. Demands for explanation are just one of many kinds of demands for information. Perhaps all demands for information can be cashed out as role-responsibilities to answer different kinds of questions. We'd sure like to know if this view can be defended. Wouldn't you?

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[15]In this regard, Risjord's (2000*a*) discussion of Franz Boas' reforms to ethnographic explanation stands as an important precursor and exemplar.

https://doi.org/10.1017/epi.2019.55 Published online by Cambridge University Press

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Cite this article: Khalifa K, Millson J (2020). Explanatory Obligations. *Episteme* **17**, 384–401. https://doi.org/10.1017/epi.2019.55