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Beyond Deep Disagreement: Paralysis as a Kind of Argument Failure in Medicine

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Abstract Deep disagreements are disagreements arising from incommensurable foundational premises. In ethics, moral values or principles constitute the foundational premises, and disagreements about them are a recognized cause of argument failure. This article proposes an additional cause of argument failure that I call paralysis. Paralysis takes place in decision-making contexts when interlocutors may agree about foundational moral values and principles, but cannot formulate arguments for decisions that are satisfactory even by their own lights. Thus, paralysis is a cause of argument failure distinct from deep disagreement. I first describe a biomedical case manifesting paralysis, where interlocutors attempted to construct arguments for the use of genetically-modified mosquitoes to address the problem of malaria in Africa. Using this scenario as an example, I identify the phenomenon of paralysis, articulate some of the causes of paralysis, and suggest the possibility of making rational progress when confronted with paralysis.

Keywords: Deep disagreement, argument failure, medicine, bioethics, paralysis

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0. Introduction

Some arguments are used to establish the truth of propositions[1]. Others aim to guide decision-making[2]. Either way, we need to know when arguments are successful and when they fail. One prominent source of argument failure is the presence of "deep disagreement" (Fogelin 1985). Deep disagreement differs from "normal" disagreements because deep disagreements can be traced to incommensurable foundational premises[3]. It is easy to see why incommensurability would be a source of argument failure. If arguments are used to establish the truth of a proposition by preserving truth from

[1] "Establishing" a claim may often refer to something beyond what formal deductive logic tells us establishes the truth of propositions. It may also include, for example, a lawyer "establishing" her claim to a jury or judge. In this way, the establishment of the truth of propositions is not wholly divorced from the guidance of decisions. This is a central concern of the pragma-dialectical approach. See, for example, Eemeren & Grootendorst (1984 and 2004).

[2] There may of course be other uses of argument. See Toulmin (1958).

[3] For an illustration of this approach see Lynch (forthcoming).

premises to a conclusion, then arguments cannot succeed when foundational premises are rejected and no further evidence can be marshalled to prompt their acceptance.
In this paper I will argue that, while incommensurability may cause argument failure, it may not be the most important cause of argument failure in many decision-making contexts. Rather, argument failure in many decision-making contexts often results from what I will call *paralysis*. An agent experiences paralysis when she sees no satisfactory way of constructing an argument for a decision, despite her belief that action requires justification in the form of an argument. Importantly, agents may experience paralysis whether or not there is also deep disagreement. That is, argument failure can happen even when interlocutors *agree* with each other about i) the relevant moral principles or values *and* ii) the relevant empirical facts of the situation. In this paper I sketch a framework for thinking about the phenomenon of paralysis that reveals some of its causes and also suggests the possibility of making rational progress to overcome it[4].
Although argument failure from paralysis affects many domains, I'll use a scenario from medicine to help illustrate what paralysis is and what causes it. Medicine is particularly useful for this purpose because there is broad consensus around a small number of foundational principles, namely i) respect for persons ii) non-maleficence iii) beneficence and iv) justice (Beauchamp 2013). Most western practitioners and medical ethicists accept all of these principles as legitimate and as properly governing medical practice and research. Thus, they share the same foundational framework. Yet, many times this shared framework is insufficient for avoiding paralysis in decision-making contexts. This is sometimes true even when there is no dispute about the relative weighting of the foundational principles or the relevant empirical facts.

1. The case of genetically modified mosquitoes

By 2006, many scientists were confident that breakthroughs in the genetic modification of mosquitoes could turn the tide in Africa's fight against a disease that was killing nearly a million people every year, most of whom were children under the age of five. These genetic modifications took several forms (WHO 2014). In Mali, for example, subsequent research focused on gene drives that would render mosquitoes unable to

[4] The cause of paralysis I describe in this article is related to, but distinct from, the obstacles to decision-making articulated in theories of organizational decision-making. Simon's theory of organizational decision-making, for example, takes as a starting point the fact of bounded rationality in analyzing the efficiency and correctness of decisions in complex, multi-criteria organizational contexts. See Simon & Newell (1958). The phenomenon of paralysis I describe here likewise takes place in these contexts, and interlocutors are also concerned about the correctness of decisions. However, theories of organizational decision-making set out to articulate norms of *rationality* in such contexts rather than norms of *morality*. The phenomenon of paralysis I describe here, however, has as its proper target morality rather than rationality. It belongs to ethics and political philosophy more than it does to decision theory or economics. The cause of paralysis I describe here is also related to, but distinct from, the obstacles to agreement articulated in pragma-dialectics. See Eemeren & Grootendorst (2004). The pragma-dialectical approach goes beyond theories of organizational decision-making in providing more robust normative resources by which to evaluate the arguments of interlocutors. Pragma-dialectics therefore goes beyond the normative scope of theories of organizational decision-making. For example, a pragma-dialectic analysis may provide the normative resources to evaluate specific institutional regulations pursuant to the ideal of informed consent in medicine. See Goodnight 2008. However, pragma-dialectics provides these norms against the crucial background of a given realm of practice. The phenomenon of paralysis I describe here happens when crucial pieces of this realm of practice are missing due to, among other things, a situation's novelty. Moreover, the filling-in of these missing pieces of a realm of practice is partly a matter of moral or political philosophy.

carry the malaria parasite (Alphey 2002), while in Burkina Faso research focused on gene drives that would cause local mosquito population collapse. In either case, there was general agreement that the release of GM mosquitoes would likely achieve at least local and short-term reductions in morbidity and mortality in the areas in which they would be released.

Nonetheless it was difficult for those involved with research and oversight to figure out how to proceed with implementing the technology or even whether they should proceed at all. Some of the discussions among researchers and medical ethicists involved in GM mosquito research in Mali at these early stages revealed the following characteristics: i) general agreement about the nature and seriousness of the ethical issues involved, ii) general agreement about relative risks and benefits of GM mosquito release, iii) general agreement about the relative weighting of applicable principles, and iv) *lack* of agreement about how or whether to proceed. Let's take a more detailed look at just one aspect (among many) of the difficulty with GM mosquitoes to see how these four characteristics manifested in this particular case.

While there was agreement that releasing GM mosquitoes would likely result in at least short term and local reduction of malarial infection, there was also agreement about the difficulties of obtaining informed consent. Because GM mosquitoes would be released in order to prevent disease, it would normally qualify as research on human subjects and therefore would require the informed consent of those subjects. Yet obtaining informed consent in such a case is not straightforward. For example, researchers' early engagement with rural communities revealed varying levels of acceptance of western theories of malarial infection – including whether or not the spread of the disease was limited to natural means or also included magical means as well (Marshall 2010). Furthermore, early engagement revealed widely varying levels of understanding of the process of genetic modification.

There was also uncertainty regarding who counted as a subject for the purposes of obtaining consent. While gene drive mechanisms affect mosquito populations across community boundaries, changes to mosquito populations could affect different communities differently (Roberts 2017). Such differential impacts are less predictable with time. This is especially true for malarial infection, where immunity could decrease in human populations not exposed to malaria-carrying mosquitoes. Should malaria-carrying mosquito populations recover in those areas later on, there may be an *increase* in morbidity and mortality subsequent to reintroduction. Additionally, there was a question about whether consent would need to be obtained for everyone and, if not, whose consent would suffice. Of particular concern was the fact that early engagement revealed very low levels of community trust in Malian political structures (Marshall 2010).

2. Argument failure: paralysis vs. deep disagreement

The phenomenology of argument failure in the case described will be familiar to those experienced with decision-making in situations that are i) highly complex ii) highly novel, and iii) morally serious. What does argument failure look like in many of these situations? People involved in the decision-making process may agree that decisions must be rationally defensible, may agree about values and facts, and still disagree about how to proceed. In this particular case, some interlocutors had "gut" feelings or intuitions about what to do, felt strongly attached to those gut feelings, and yet freely admitted their inability to construct an argument that even *they themselves* found persuasive (though sometimes they could persuade others). Nevertheless, they acknowledged the need to justify their preferred course of action with some form of

reasoned argument. Other interlocutors did not even know where to start in formulating or defending a course of action. Such interlocutors were easily swayed by any coherent attempt. They were quick to glom onto a line of reasoning, only to change their minds, again and again, despite a lack of new information. Still others did not know where to start but remained stably agnostic despite acknowledging the desperate need to make decisions one way or another. All of these interlocutors experienced argument failure from paralysis rather than deep disagreement. The phenomenon described constitutes a kind of argument failure because they failed to agree despite running out of complaints with each other's arguments or set of facts.

While paralysis is a kind of argument failure, it is very different than deep disagreement. Deep disagreements are traditionally thought to reveal differences in underlying "framework" propositions. In ethics, these underlying framework propositions usually articulate a fundamental moral commitment such as a fundamental moral value or principle. Deep disagreements happen when i) interlocutors don't share the same commitments, ii) interlocutors don't share the weighting of the commitments, or iii) interlocutors don't agree about what actions fall under the purview of the commitments. Paralysis reveals a very different problem that may have nothing to do with fundamental moral commitments at all. This is because, as normally construed, fundamental moral commitments are *substantive* claims about what actions or states of affairs are right or wrong, good or bad. The root cause of paralysis, on the other hand, is often *procedural* rather than substantive[5]. Interlocutors don't agree about how to decide not because they disagree about substantive claims about what decisions are right or wrong, but because they have not yet settled fundamental procedural questions about *how decisions should be made*. The failure to settle moral questions of procedure 'gums up the works' so to speak, preventing both progress and agreement.

3. The procedural roots of paralysis

The speed at which new medical technologies are being developed all but guarantee a steady supply of decision contexts that are highly complex, highly novel, and morally serious. So it's worth thinking about what unique challenges result from this combination of features. In such situations there are often an intractable number of different ways in which to proceed, involving an indeterminate number of individuals that would need to coordinate around whatever decision is made. Many paths of action may involve grave risks, even while there may be uncertainty about how to assign such risks. Moreover, as in the case of GM mosquitoes described above, there may also be what is known as "deep uncertainty," or the "unknown unknowns" that make simulation models unsuitable (Lempert 2013). But in medical contexts, it is their novelty that makes these situations most difficult. Novel situations are ones in which decision-makers cannot avail themselves of procedural norms that have sprung up in more quotidian situations to guide decisions.

The procedural norms that guide decision-making and action in complex, morally serious situations function to narrow the *scope* of acceptable action, thus making decisions more tractable. Procedural norms therefore work alongside substantive norms to guide decisions in an ethical and rational way. Paralysis often results when these norms are either missing or not agreed upon by interlocutors, whether or not there is also deep disagreement about substantive norms. Unlike substantive norms that are the bread and butter of theoretical ethics, however, procedural norms haven't gotten much

[5] The procedural elements discussed here are very different than those discussed in Philips (2008).

systematic attention in their own right. This is unfortunate, because they are indispensable in avoiding argument failure in complex, morally serious situations.

Procedural norms do this in part by specifying *deliberative parameters*. These are the different dimensions along which decisions can be narrowed. Deliberative parameters are answers to procedural questions about *how* decisions ought to be made rather than *what* decisions should be made. They do not directly reference the rightness or wrongness of the content of particular decisions or the goodness or badness of outcomes. Nevertheless, they are both moral in content and also susceptible to rational evaluation. Thus, there is hope for making rational progress in at least some cases of argument failure. In the following section, I'll provide a brief, non-exhaustive sketch of some important deliberative parameters. Then, I will suggest how difficulties with specifying some of these parameters cause paralysis in cases like that of GM mosquitoes described above.

4. Some important deliberative parameters

While the following are not meant to be exhaustive, let's consider some of the deliberative parameters whose specification helps us avoid paralysis in real-world situations like the one described above.

Authority. This deliberative parameter limits acceptable decisions to those supplied by certain persons or entities. In complex, morally serious situations that are nevertheless quotidian, the recognition of authority plays a prominent role in settling disagreement. This deliberative parameter has been extensively theorized in political science, political philosophy, and jurisprudence, where authority is variously granted to voters, parliaments, ministers, judges, and juries to make specific decisions. But authority is an important parameter in almost any sphere of human endeavor, granting decision-making power variously to patients, doctors, IRB's, umpires, tribal leaders, customers, bureaucrats, etc. In complex, morally serious situations that are also novel, interlocutors may be paralyzed because this deliberative parameter may be unspecified. Alternatively, interlocutors in novel decision-making contexts may rescind their recognition of traditional authority.

Consensus. This deliberative parameter narrows the scope of acceptable decisions by specifying whether, and to what extent, decisions must be agreed upon by those involved in the decision-making process. The more restrictive the parameter of consensus is, the narrower the scope of acceptable decisions. Like authority, the parameter of consensus has been extensively theorized in political science, political philosophy, and jurisprudence. And like authority, specifying the parameter of consensus plays an important role in settling disagreement in many other domains, too. Consensus is crucially at work in narrowing the scope of acceptable decisions between physicians and their patients, teams of physicians, regulatory or oversight committees, and stakeholders. Interlocutors may be paralyzed in novel situations that are complex and morally serious if they do not agree about the nature and extent of consensus that is required.

Tolerability. This deliberative parameter limits decisions to those that are tolerable to other individuals, groups, or subcommittees. Tolerability refers to the acceptability of decisions, and may be gauged in part by how individuals are disposed to react to decisions. Tolerability differs importantly from consensus in two ways. First, it is operative even where consensus is either absent or not required. Among decisions that do not enjoy consensus, the scope of those decisions may include dramatic variation in tolerability and it may be important to avoid intolerable decisions. Second, tolerability need not be limited to the point of view of those with authority or even to those

involved in the decision-making process. Thus, it may be important to make sure that decisions are tolerable to those whose consent is not required and who have no authority to make decisions. This parameter is less systematically theorized than either authority or consent. Nevertheless, it plays an important role in arguments about issues such as civil disobedience, the public funding of artworks, and the regulation of controversial public policies such as the licensing of pre-implantation genetic screening or the proliferation of GMO's, among other things.

Normative Filtering. This deliberative parameter limits decisions to those that *could be* justified by a particular norm or set of norms, whether or not decision-makers are *actually* motivated by that norm or set of norms in deciding in the way they do. Normative filtering has been theorized in political philosophy, jurisprudence, and medical ethics, among other areas, and particular ways of specifying this parameter often constitute foundational claims in particular disciplines. Theories within jurisprudence, for example, will often specify this parameter to guide judicial decisions to invalidate a statute just in case it cannot be justified under a finite set of constitutional principles. In medical practice and research, institutional and regulatory oversight often limits decisions to those that can be justified by the principles of medical ethics noted in the introduction. In certain kinds of complex, novel, and morally serious cases it is difficult to specify this parameter and this difficulty may lead to paralysis. The specification of this parameter may be disputed in the context of medical research, where overall progress often depends upon complex interactions between two or more institutions whose decisions are not filtered by the same norms. For example, pharmaceutical companies may be publicly traded entities responsible for returning a profit to shareholders, but may depend on not-for-profit hospitals and universities to get a drug to market. The difficulty with specifying normative filters in this context increase with the novelty and moral seriousness of the decisions that must be made.

Authenticity. This deliberative parameter limits decisions to those that are *actually motivated* by a particular norm or set of norms. Authenticity is therefore similar to, but more demanding than, normative filtering. Although this deliberative parameter has been less systematically theorized than either authority or consensus, it nonetheless plays an intuitively crucial role in a diverse array of human activities. (We often think, for example, that it's important that the decision to marry is *actually* motivated by love, not just that it *could* be.) In medicine this parameter is crucial. For example, in the physician-patient relationship it is important that particular therapeutic decisions are *actually* motivated by a concern for the patient's health, not just that they *could* be justified by that concern. On the other hand, sometimes this parameter is difficult to specify, as in the case of medical researchers. For certain types of researchers and certain types of research, it is often unclear to what extent decisions must conform to authenticity. While the research itself may have to satisfy certain normative filters, it may be permissible for individual researchers to be motivated to engage in the research for any number of reasons including personal benefit.

Exclusion. This deliberative parameter affects the scope of acceptable decisions by excluding certain particular reasons or motivations as the basis for decision-making. In medicine the exclusion parameter is often a difficult one to navigate. For example, justice may require excluding race, gender, or ethnicity as the basis of many kinds of decisions. But not always. A reasonable basis for relaxing these kinds of exclusions would be that individual patient care requires it. Furthermore, exclusions may not be evenly distributed among decision-makers. For example, proceeding with research on human subjects requires consensus between subjects and researchers. This requires both parties to agree on a decision to proceed with a protocol. Yet it may be entirely appropriate to exclude some reasons from the deliberative process of researchers that

do not apply to the deliberative process of subjects. For example, researchers may not include remuneration for participation in research as a basis for determining the ratio of risks to benefits. Yet this exclusion does not apply to the research subjects, who are free to base their decision to participate in part on the level of payment offered.

Transparency. This deliberative parameter limits decisions to those whose rationales are, or can be, promulgated. This parameter goes by different names in different areas or disciplines. In computer programming, especially with respect to machine learning algorithms, it is sometimes called *interpretability*. In theoretical ethics it is sometimes called *publicity*. In political philosophy it is sometimes called *accessibility*. This parameter is especially important to people in the context of medicine and medical research when decisions are high-impact, and are handed down by those without a personal connection to the individuals affected. For example, UNOS, the institution in the United States that governs the allocation of human organs for transplantation, stresses the importance of transparency in devising its allocation rules. Particular decisions about who has priority to receive an organ must be transparent because otherwise people would lose confidence in the fairness of the system, and that would in turn suppress donors' willingness to donate to the scheme. On the other hand, increased transparency is not desirable in every kind of context. Ceteris paribus, the more transparent the decision-making process, the more chance there is to "game" that process. The likelihood that decision-making processes will be gamed depends on the details of context. For UNOS organ allocation rules, the threat of gaming is minimized because priority rankings are determined by objective and verifiable proxy measures, such as the level of bilirubin in the blood. It is hard to game the process because the proxies so tightly correspond to medical need. Where proxy measures aren't as "tight," the appropriate level of transparency may not be so obvious.

Generality. This deliberative parameter limits how sensitive decisions can be to particular empirical or ethical features of a situation. The generality parameter is particularly important when decisions are made in accordance with institutional rules that require high levels of coordination among many different actors or institutions. Thus, higher levels of generality may be required for decisions flowing from bureaucratic institutions. While generality helps bureaucratic institutions function smoothly, it comes at a price. The less sensitive decisions are to particular features of a situation, the greater the likelihood that the outcome of those decisions contradicts the values justifying institutional rules. Therefore this parameter is difficult to specify in novel, high-impact situations.

Stability. This deliberative parameter limits decisions to those most likely to resist revision or change over time. Like the generality parameter, the stability parameter is particularly important when decisions provide the basis for institutional or bureaucratic structures that depend on high levels of coordination among many different actors. And like generality, considerations of stability may be in tension with substantive norms governing particular decisions. Thus, in novel cases that are also morally serious, interlocutors may have difficulty specifying this parameter.

Exigency. This deliberative parameter determines how many deliberative resources must be brought to bear on decision-making. Ceteris paribus, the more exigent the circumstances, the less deliberative resources are required in the process of decision-making. This affects the scope of acceptable decisions in at least two ways. First, the more deliberative resources are brought to bear on decision-making, the greater the likelihood that decision-makers will hit upon creative, non-obvious solutions to problematic situations. Second, the more deliberative resources are brought to bear on decision-making, the greater the likelihood that decision-makers avoid mistakes in estimating the relative risks and benefits of those decisions. In either case, requiring less

deliberative resources may widen the scope of acceptable decisions compared to non-exigent circumstances.

5. Paralysis and rational movement

Even when interlocutors become aware that they are stuck on procedural questions, they may have difficulty figuring out how to answer them. There are two reasons for this. First, the deliberative parameters are interconnected, so that how one of them is specified may affect how another should be specified. Second, particular combinations of deliberative parameters have their own set of moral costs and benefits. It is not always easy to see which combination of specifications is best suited to a novel situation, especially when that situation is also complex and morally serious. This can be the case even when people agree about discernable non-moral empirical facts and also embrace the same set of moral principles and values.

But while paralysis is daunting, its procedural roots nevertheless suggest the possibility of rational movement. The first thing we can do when confronted by paralysis is to determine which parameters are easy to specify and which are not. Second, we can seek a clearer picture of the moral costs and benefits of the different ways the parameters can be specified alone and in combination. This information can sometimes be revealed by procedural analogs across very divergent domains of human activity. And third, once we have a better view of the procedural difficulties, we can attempt to meet these difficulties either with creative solutions or compromises, or both. While a complete illustration of the above process is outside the scope of this paper, I offer a bare sketch below.

In order to see more clearly how deliberative parameters interact with each other, let's go back to the case of GM mosquitoes. The sheer scale of suffering and death from malarial infection suggests that decisions about how to implement research to combat the disease are *exigent*. Other things being equal, the more exigent the circumstances, the less appropriate it is to require high levels of *consensus*. This is because requiring high levels of consensus can impede decision-making. And impediments on decision-making are precisely what we don't want in emergency-like situations.

Of course, other things may not be equal. It may be entirely appropriate to require high levels of consensus in the context of high levels of uncertainty. This is especially true when the uncertainty is "deep" and/or morally serious. In such situations, requiring consensus across diverse areas of expertise may provide a hedge against uncertainty by increasing the deliberative resources that are brought to bear on the decision. In some cases, requiring consensus across a diverse range of individuals helps to ensure that important information or perspectives are not overlooked.

On the other hand, it is not always easy to see what counts as consensus. If consensus about how to make decisions depends first on how to describe the range of actions that are possible, then consensus may be especially difficult among those who do not share conceptual frameworks. Recall that this was one of the problems with obtaining informed consent for the release of GM mosquitoes. If an individual did not accept that mosquitoes were the vectors of disease, then how could they agree with researchers about what to do in order to combat it?

The difficulty with achieving high levels of consensus in exigent circumstances in turn may affect how we should specify the parameters of *tolerability, authority, generality,* and *stability*. The unlikelihood of achieving consensus in exigent circumstances may be a reason to require merely that decisions are *tolerable*. Or, alternatively, it might be a reason to shift decisional *authority* to experts. If the situation is novel enough, and if the stakes are high enough, the unlikelihood of achieving consensus may even be a reason to

depart from institutional rules that govern it. Perhaps research subjects in the case of GM mosquitoes do not need to have the same conceptual frameworks about the disease as the researchers in order to give informed consent, even if that departs from established guidelines. Or perhaps the fact that the release of GM mosquitoes directly impacts so many others means that decision-making should conform to the norms of political decision-making rather than those of medical research. If so, then acceptable decisions may not exhibit a high level of *generality* because the decisions would depart from established procedural norms. While these might be reasonable procedural responses to the exigency of the situation they, too, come at a cost. Specifying the deliberative parameters in the way I just described may mean they are less likely to be *stable*. And stability may not be an easy thing to give up, especially since implementing the technology requires long-term commitments across national borders and between many kinds of institutions at multiple levels.

Analyzing the decision context in the way described above does not itself solve the problem of what to do, nor does it guarantee that arguments won't eventually fail anyway. But it does provide interlocutors with more chances for productive and rational discussions. It helps interlocutors see what kinds of procedural norms they are most committed to, and which ones they are willing to compromise on. More importantly, the focus on procedural solutions may help interlocutors side-step the very kinds of deep disagreements that themselves cause argument failure. Indeed, one way of looking at deliberative parameters is to see them as the different ways in which people can agree to disagree in order to work together towards a common goal.

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