

# Bioethical Boundaries, Critiques of Current Paradigms, and the Importance of Transparency

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*This issue of *The Journal of Medicine and Philosophy* is dedicated to topics in clinical ethics with essays addressing clinician participation in state sponsored execution, duties to decrease ecological footprints in medicine, the concept of caring and its relationship to conscientious refusal, the dilemmas involved in dual use research, a philosophical and practical critique of principlism, conundrums that arise when applying surrogate decision-making models to patients with moderate intellectual disabilities, the phenomenology of chronic disease, and ethical concerns surrounding the use of artificial intelligence in medicine. Throughout the issue, the themes of conceptual and moral boundaries in bioethics, critiques of current clinical ethics paradigms, and the importance of transparency are prominent.*

**Keywords:** *artificial intelligence, ecological footprint, environmental ethics, execution, intellectual disability, phenomenology of chronic disease, principlism, professional obligation*

## I. INTRODUCTION

In this annual issue of *The Journal of Medicine and Philosophy* dedicated to clinical ethics, authors address such diverse topics as clinician participation in state sponsored execution, duties to decrease ecological footprints in medicine, the concept of caring and its relationship to conscientious refusal, the dilemmas involved in dual use research, a philosophical and practical critique of principlism, conundrums that arise when applying surrogate

decision-making models to patients with moderate intellectual disabilities, the phenomenology of chronic disease, and ethical concerns surrounding the use of artificial intelligence in medicine.

While each of the articles stands uniquely on its own, several themes run throughout the issue. First, in several of the articles the authors' arguments press the reader toward conceptual and moral boundaries in medicine as well as call into question dominant paradigms currently in use to determine professional obligations. What counts as medicine in particular contexts can be contested and the boundaries between professional obligation and general moral considerations can sometimes collide. In two articles, dominant paradigms in clinical ethics are challenged. Daniel C. O'Brien (2022) argues that principlism, the dominant moral decision-making methodology being taught to healthcare students, is woefully inadequate and possibly harmful. In another essay Abraham Graber and Andy Kreusel (2022) argue that the current dominant paradigm used in surrogate decision-making encounters serious conceptual challenges from cases involving patients with intellectual disabilities and is in need of refinement.

Another theme that one encounters in several articles is the importance of transparency. As pointed out in Drew Leder's (2022) essay, using a phenomenological approach to understand the experience of chronic disease can enable the creation of a conceptual geography of healing strategies that makes the complicated relationship between body and self in these conditions more transparent. Transparency is also an important theme when considering the ethical concerns created by artificial intelligence systems that can process seemingly infinite amounts of data and come to conclusions and recommendations that may be epistemically opaque to rational agents.

Each of the essays is an excellent example of how the practice of medicine and clinical ethics can benefit from thoughtful philosophical analysis and reflection. In what follows, I briefly engage with some of the key arguments in these essays and offer critical reflections.

## II. HEALTH CARE PROFESSIONALS AND LETHAL INJECTION: AN ETHICAL INQUIRY

The issue of physician participation in executions is hotly contested.<sup>1</sup> In a carefully argued piece, Sarah Sawicki offers a penetrating critique of three commonly offered arguments against physician participation in executions. First, Sawicki evaluates the claim that participation "violates the physician's duty to heal" (2022, 20). Sawicki notes that while physicians have a duty to heal, they also have a duty to relieve suffering and several commonly accepted medical practices such as palliative care and certain

cosmetic surgeries do not involve physical healing. Sawicki goes on to note that if the concept of healing is expanded to include “emotional and spiritual” healing, a case can be made that competency and compassion from a medical professional during an execution could also be seen as healing. Second, Sawicki evaluates the claim that physician participation in execution may undermine the community’s trust in the medical profession. Sawicki rightly points out that the empirical evidence of such distrust is lacking despite physician involvement in executions for many years. Finally, Sawicki evaluates the argument that since lethal injection is harmful and “physicians are prohibited from deliberately harming patients” (2022, 22), they are prohibited from participating in lethal injections. In response, Sawicki claims that physicians may cause more harm by non-participation in executions because competently completed executions decrease distress for those being executed.

Sawicki’s contribution is a tightly argued critique of commonly accepted arguments against physician participation in executions. However, lurking in the background are deep, fundamental issues about medicine itself. How do we define the boundaries of what is part of the medical profession and what is not? One could argue that physician involvement in executions is not medicine at all. The ends aimed at by the state in carrying out an execution are radically different than what physicians aim at when practicing medicine. As such, when a person who is a physician participates in executions, they are not participating *as a physician*, but as one using skills used in the practice of medicine for radically different ends. Likewise, the person who is executed is not a patient, but a person who is killed by the state. Doing things that one sometimes does professionally does not necessarily mean one is practicing one’s profession. The ends aimed at matter.

A possible objection might be that even if a physician is not “technically” practicing medicine, physicians should not be involved in killing. Putting aside contested issues like abortion, active euthanasia, and physician assisted suicide, it is not at all clear why physicians would be particularly prohibited from killing. Suppose, for example, that a physician is attacked by someone who is intent on killing him and the physician defends himself by using lethal force. Is the physician *professionally* prohibited from killing in this circumstance? If one is inclined to say that killing in self-defense is not professionally prohibited in this circumstance, then that seems to imply that physicians are professionally permitted to kill others when not practicing medicine if there are morally weighty enough reasons for doing so. If, when participating in an execution, the physician is not practicing medicine, and it is sometimes morally permissible for a physician not practicing medicine to kill others, then the question for the physician becomes whether it is *morally*—not *professionally*—permissible (or perhaps required) to participate.

### III. THE ETHICAL DUTY TO REDUCE THE ECOLOGICAL FOOTPRINT OF INDUSTRIALIZED HEALTHCARE SERVICES AND FACILITIES

Corey Katz argues that a principlist framework can be used to justify the claim that “healthcare providers and facilities have an ethical duty to reduce the ecological footprint of the services they provide” (2022, 33).<sup>2,3</sup> Katz first considers whether the principle of nonmalificence can ground such a duty and ultimately concludes that arguments invoking the harm caused by enlarged ecological footprints of practitioners and/or healthcare facilities encounter difficulties. Katz goes on to argue that the principles of beneficence and distributive justice are better suited for grounding such a duty and then considers the question of whether this purported duty would entail denying patients potentially beneficial treatments because of their negative ecological impact. Katz argues that ecological footprint reductions need not be “patient-facing nor affect patient treatment options or outcomes” and presents multiple reasons why “ecological rationing” at an institutional and provider level would be ethically problematic (2022, 39).

One of the interesting questions Katz’ article raises is whether the duty to reduce one’s ecological footprint is itself a professional obligation or a general moral obligation. The duty seems to be primarily directed toward non-patients (i.e., society as a whole or future generations) rather than patients, so this seems to be an example of a general moral obligation that any moral agent or institution might have. If this is a general moral obligation, however, then, as Katz notes, this obligation could come into conflict with obligations that physicians and healthcare institutions have to patients. Katz makes a strong argument that much can and should be done to decrease the ecological footprint of healthcare institutions without rationing healthcare and creating conflicts with duties to promote patient specific ends. However, if one does think that patient specific duties come into conflict with a duty to reduce one’s ecological footprint and, at least in some cases, rationing is required, then this dilemma seems to take the same general form as other commonly encountered conscience-based claims: a purported professional obligation to promote patient’s individual ends comes into conflict with a general moral obligation. In cases of such conflict, how does one decide? Must the physician give professional obligations lexical priority over competing moral obligations or should both obligations be treated as *pro tanto* moral considerations necessitating an all-things-considered judgement which might result in non-professional moral considerations overriding a purported professional obligation? If the former, then the duty to reduce ecological footprints must always be constrained by the good of patients (however, we define this). However, if the latter, then purported professional obligations, conceptualized as context specific *pro tanto* moral obligations, can come into conflict with competing non-professional moral obligations and

sometimes be superseded by those moral obligations. This question also arises in our next essay.

#### IV. ACCESS TO CARE AND CONSCIENCE: CONFLICTING OR COHERENT?

In an insightful article, [Gamble and Gamble \(2022\)](#) explore the idea of access to care and how it relates to conscience-based refusals. They begin by discussing the legal right of “access to medical care.” For an individual to have a legal right to a specific medical intervention, the intervention must be both legally permissible and technically feasible ([Gamble and Gamble, 2022](#)). In addition, the intervention must be “conducive to the good of a particular patient” and must be “congruent with the purposes of medicine” ([Gamble and Gamble, 2022](#), 56). These latter criteria are determined jointly by patient and physician. Neither physician nor patient can impose their particular views on each other.

Gamble and Gamble go on to claim that “the physician cannot genuinely *care* for the patient without *believing* that her recommended course of action is conducive to the patient’s good” ([2022](#), 57, first italics in the original, second italics added). Conscience is that part of agents through which they make judgements regarding what actions are conducive to the patient’s good. They then go on to assert, citing the oaths of various medical associations, that for physicians acting as physicians, the patient’s medical good should be a primary consideration. They write,

The physician must seek first the good of the patient before her. Dispense with this principle and the integrity of the medical profession collapses. Another physician’s judgment and corresponding action may differ from hers; but, so long as the physician is not convinced by evidence and reason that an intervention is likely to be healthful for the patient before her, she cannot undertake it, without eschewing her primary professional obligation . . . Different physicians may arrive at different judgments. Yet within a given patient-physician relationship, the physician violates her role *qua physician* when she acts in ways that she considers counter to the patient’s good. ([Gamble and Gamble, 2022](#), 58)

Thus, on this view, a patient’s right to access *medical care* presupposes that the requested intervention, as judged by the physician, is conducive to the patient’s good and congruent with the purposes of medicine, otherwise the intervention would not be *medical care*.

Gamble and Gamble admit that notions like “being conducive to the patient’s good” and “congruent with the goals of medicine” are, in a pluralistic society, contested ([2022](#), 57). However, they also argue that such disagreements should not be settled by the simple fiat of central bodies. They write, “It is incompatible with the principles of a diverse and free society for a central body to compel people to affirm certain philosophical judgements”

(Gamble and Gamble, 2022, 61). Finally, they go on to argue that compelling physicians to make effective referrals to another physician “specifically for the latter to provide that intervention” (Gamble and Gamble, 2022, 65), are also problematic because they undermine an important safeguard against potentially immoral collectivist impulses.

Two important questions arise from Gamble and Gamble’s analysis. The first relates to the role physician *belief* plays in defining medical care. According to their analysis, for a physician’s act to count as caring for a patient, the physician must *believe* that his recommended course of action is conducive to the patient’s good. Thus, the physician’s belief state becomes a necessary condition for the action to be caring. It seems, however, that the physician’s *belief* that the course of action is conducive to the patient’s good is neither necessary nor sufficient for an act to count as *caring*. Consider two cases:

#### Case 1

A patient has a disease for which medical therapy offers incomplete relief and for which surgery offers a 20% chance of significant improvement in severe symptoms and an 80% chance of no improvement. The risks of the operation, however, are minimal. After explaining these facts to a patient, the patient insists on having surgery. The surgeon *believes* that the surgery is not likely to improve the patient’s condition (80% chance), but he agrees to perform it to give the patient the 20% chance of improving their condition. Let’s say that this patient is fortunate, the surgery is successful, and the patient’s symptoms are significantly improved. Would we say that the physician has *not cared* for the patient?

#### Case 2

A patient has a disease for which he seeks out the opinion of a surgeon. This surgeon reviews the patient’s case briefly and negligently forms the belief that an operation will help the patient’s symptoms. There is high-quality evidence in the literature, readily available to the surgeon, that the planned operation won’t work to ameliorate and will likely exacerbate the patient’s symptoms. The patient, trusting the surgeon’s recommendation, which is based on the surgeon’s negligently formed *belief* that the operation will be conducive to the patient’s good, undergoes the operation, has a predictable complication, and is worse off than before the operation. Would we say that the physician has *cared* for the patient?

In Case 1, it seems that the physician having a belief that the operation is conducive to the patient’s good is not a necessary condition for the act to count as *caring*. The physician does not believe that the operation will be conducive to the patient’s good. Rather, he believes that it *might* be conducive to the patient’s good even if it probably will not be conducive to the patient’s good, and he *hopes* that it will help the patient.<sup>4</sup>

In Case 2, it seems that the physician’s belief that the action is conducive to the patient’s good is not a sufficient condition for the act to be *caring*. The point here is that there must be something in addition to *merely* forming

a belief that an action is conducive to another person's good in order for that action to actually count as caring. If merely forming the belief that one's action is conducive to another person's good was sufficient for that act to be an act of caring, then the only thing necessary to determine whether an act was caring or not would be to know the mental state of the person performing the act, which seems implausible. The actual effects of the act seem pertinent here. Even if a person *sincerely* (but perversely) believed that it was conducive to another person's good to cause constant, excruciating pain for no reason except to have that person experience pain, their belief would be false and moreover their action would not be caring but the opposite of caring. To be fair Gamble and Gamble never make the claim that simply believing that an act is conducive to the patient's good is sufficient to make it an act of caring; they also assert that the act must be "congruent with the purposes of medicine" (2022, 56). However, it is not clear whether an act that harms a patient and is done with a negligently formed belief that it would be conducive to the patient's good would satisfy the congruence condition or not.

Gamble and Gamble also claim that "the physician violates her role *qua physician* when she acts in ways that she considers counter to the patient's good" (2022, 58). There is a deep and interesting question lurking in the background of this claim. Do physicians have competing moral obligations beyond their purported professional obligations to an individual patient that could override their purported professional obligations to an individual patient? If so, does a physician have a professional obligation, *qua physician*, to act immorally? If so, what does it even mean to have an *obligation* to act immorally? Consider two cases.

#### Case 3

Suppose there is a rare sea snake whose venom is 100% fatal for women and 20% fatal for men. However, if it is treated within 12 hours of the bite, the anti-venom is 100% successful in preventing death. Mr. Abbot was diving along a sea cave, bitten by this snake, and taken to the local emergency department where the anti-venom is being prepared by Dr. Baldree. However, just as Dr. Baldree is ready to administer the anti-venom, there is a call from another local emergency department 1 hour away regarding a female victim that was also bitten by the sea snake. There is only enough anti-venom available for one of the patients to receive it in the 12-hour window. Mr. Abbot and his family ask to be given the anti-venom since they arrived first; however, Dr. Baldree makes the decision to emergently ship the anti-venom to the other emergency department to give to the female victim since her predicted mortality is much greater than Mr. Abbot's.

#### Case 4

Dr. Cavanaugh is working as a volunteer physician in a medical clinic in a war-torn country. A group of soldiers aligned with one of the factions is terrorizing the nearby area, so all the clinic volunteers have left except one. The group of soldiers come to

the clinic and seriously injure the volunteer but do not attack Dr. Cavanaugh because he is a foreigner. As they leave the clinic, they inadvertently mention their plans to burn and kill everyone in a nearby village the next day. The clinic volunteer's injury is serious and without Dr. Cavanaugh's constant attention, he may die; however, Dr. Cavanaugh decides to leave the volunteer, drive to the nearby village, and warn all the villagers to leave before the soldiers arrive.

In both Case 3 and Case 4, the physician acts in a way that he considers counter to the patient's good. The physicians act in these ways because of competing *moral* considerations. Let us suppose that in both cases, the physicians did what was morally required of them. Do the physicians violate their professional obligations by doing what is morally required in these cases? While this might be a controversial point, I see no reason to think that they do. What *counts* as a professional obligation is constrained by overriding moral obligations. As a result, when there is an overriding moral obligation to act in a way that is not conducive to the patient's good, there simply isn't a professional obligation to act against that moral obligation. The professional obligation only exists if the act is morally permissible. On this view, general morality *constrains* what counts as a professional obligation. In Case 3 and Case 4, the physicians encounter two competing *prima facie* moral considerations that must be judged vis-a-vis one another. However, because the *moral* calculus comes out in favor of *not* acting for the patient's good, acting for the patient's good in these cases is morally prohibited, and as a result, there is no *professional* obligation to do so. Moral permissibility acts as a necessary condition for professional obligatoriness. Therefore, it is not the case that the physician necessarily "violates her role *qua physician* when she acts in ways that she considers counter to the patient's good" because there might be circumstances in which it is *morally required* for the physician to act counter to the patient's good and as a result, no professional obligation to act differently exists (Gamble and Gamble, 2022, 58).

## V. RECONCILING REGULATION WITH SCIENTIFIC AUTONOMY IN DUAL-USE RESEARCH

Conflicts between general moral considerations and perceived professional obligations not only arise in clinical medicine, but also in scientific research. In a timely article, Evans, Selgelid, and Simpson lay out the ethical dilemma in dual-use research, "Some scientific research has the potential to be used for both very beneficial ends and very harmful ends . . . The challenge for policy-makers is to manage the risks that the misuse of scientific and technological research poses, but without unduly compromising the autonomy of scientists or forgoing the benefits of their research" (2022, 72–73).<sup>5</sup> Scientists may believe they have professional obligations to disseminate their scientific findings to further the collective pursuit of knowledge but can also recognize



that sometimes this knowledge can pose serious risks to others. Given these serious risks, governments are especially incentivized to censor potentially dangerous research.

In their essay, the authors apply principles commonly used in free speech debates to the case of dual-use research. As with cases of disputed free speech, there is a presumption in favor of protecting the rights of scientists to disseminate their findings to other scientists, but this right can be overridden by competing moral concerns as the risk of widespread social harm increases. In order to curb the real tendency towards government censorship without embracing absolute scientific autonomy, the authors propose: (1) separating the governmental agencies that are tasked with regulating dual use research from those agencies that might have incentives to overestimate the probability of harm from such research and (2) using different review standards analogous to those used in free-speech contexts and requiring “more intrusive modes of regulation to satisfy a more stringent standard of review before being enacted” (Evans et al., 2022, 82).

They then argue in favor of adopting a contractualist framework advocated by Thomas Scanlon. They write, “The contractualist framework sets principled standards—based on what kind of system of rights and liberties people could reasonably refrain from contracting into—that limit which kinds of outcomes a regulatory agency can cite as ‘dangers’ in order to justify gagging, de-funding, or otherwise coercively interfering with a dual-use research program” (Evans et al., 2022, 86). Finally, the authors address three pragmatic concerns regarding regulating dual-use research: (1) the efficacy of censorship in a time when dissemination of information is increasingly difficult to stop, (2) the worry that censorship may disincentivize scholarship, and 3) how and when such regulation should occur.

## VI. MEDICAL ETHICS AS TAUGHT AND AS PRACTICED: PRINCIPLISM, NARRATIVE ETHICS, AND THE CASE OF LIVING DONOR LIVER TRANSPLANTATION

In a well-argued piece, Daniel O’Brien (2022) provides a penetrating critique of principlism, the dominant theory of ethical decision-making in medicine in the United States.<sup>6</sup> O’Brien argues that principlism is disconnected in important ways from medical ethics as practiced by clinicians. He begins by providing an extensive philosophical critique of the metaethical assumptions within the principlist approach. Using Alasdair MacIntyre’s seminal work,<sup>7</sup> he argues that principlism suffers from a vicious internal contradiction that afflicts the Enlightenment moral project generally.

During the Enlightenment, thinkers attempted to relocate the locus of morality within the individual. Rejecting the institutional imposition of moral norms along with the traditional dichotomy between “man-as-he-could-be

if-he-realized-his-essential nature” and “man-as-he-happens-to-be,” Enlightenment thinkers looked for the norms of morality within the nature of man which culminated in Kant’s attempt to ground morality in the categorical imperative, an *a priori* universal, moral norm recognizable by all rational agents. O’Brien writes,

Principlism in ethics and bioethics as it is understood today—the idea that rules or principles can be deduced by reason, and that reason can be used to evaluate ethical dilemmas through the lens provided by these principles—owes its coherence to Kant’s rescuing of reason as a basis on which ethical conduct can be ascertained, as well as to his argument that subjective principles or rules can be used to specify moral action in the practical world. (2022, 101)

O’Brien, following MacIntyre, notes that the Enlightenment project of locating morality within human rationality faces an intractable problem: “Reason provides *reasons*, but one still must *choose* which reasons to endorse . . . Ethics requires *radical choice*, choice without reason” (2022, 101–102). MacIntyre, following Kierkegaard, argues that this radical choice is criterionless, entailing that “whatever is chosen has no claim to authority over one’s conduct because it is by its nature chosen arbitrarily. Thus, there is no sense in which an individual *ought* to behave in the manner that her radical choosing compels her” (O’Brien, 2022, 102).

In the face of this difficulty O’Brien describes two options. The first is to adopt emotivism—morality as a mere assertion of autonomous will, unconstrained by objective universal moral standards emanating from one’s rational nature. The second option is to reject the Enlightenment assumption that morality is located within human nature and go back to the teleological moral framework that reclaims the distinction between humans-as-they-are and humans-as-they-ought-to-be. O’Brien (2022), utilizing MacIntyre’s teleological framework, advocates for the latter option and argues that medical ethics as practiced appears to bear much more resemblance to MacIntyre’s approach than to principlism. He finishes his piece by briefly exploring a case study regarding living donor liver transplant to show how a principlist approach to ethics might actually cause harm.

## VII. WHY INTELLECTUAL DISABILITY POSES A CHALLENGE TO THE RECEIVED VIEW OF CAPACITY AND A POTENTIAL RESPONSE

In another critique of commonly accepted paradigms in clinical ethics, Graber and Kreusel (2022) explore an interesting conundrum for advocates of a traditional view of decision-making capacity.<sup>8</sup> They start with the assumption that persons generally should have their autonomous choices respected unless those choices interfere with the rights of others. They then define an autonomous choice as one free from “controlling interference by others and limitations that prevent meaningful choice” (Graber and Kreusel, 2022, 118,

citing [Beauchamp and Childress, 2012](#), 58) and note that one of the limitations that prevents meaningful choice is lack of decision-making capacity. Further, on a decision relative account of capacity (DRAC), decision-making capacity is relative to the patient's cognitive abilities and the complexity of the decision at hand. The lower the patient's cognitive abilities and the higher the complexity of the decision at hand, the less likely it is that the patient has decision-making capacity.

For example, the decision to undergo prophylactic chemotherapy requires balancing complex probabilities of potential harms and benefits which may preclude competent decision making by those with moderate intellectual disabilities. However, the decision to sit in one place rather than another while watching TV would not normally involve such a complex balancing of harms and benefits and as such would be a decision which should be respected despite a patient's intellectual disability. Thus, as the complexity and potential harm of the decision decreases, the presumption for noninterference increases.

At this point in the argument, Graber and Kreusel raise a problem. Suppose we have a situation in which each individual choice has a low level of complexity and risk of harm, but an aggregation of such choices rises to the point of serious risk of harm. They give the example of a patient with moderate intellectual disability named Bridgett who likes diet sodas and if allowed, would drink 20 or more of them a day. Each decision to drink or not drink a soda, when taken in isolation, represents a low level of complexity and harm and as such, should be respected on a DRAC account; however, if the patient is allowed to drink 20 or more sodas in a day the aggregation of these choices would have serious health effects. The puzzle for advocates of the DRAC account is how to account for the judgment that the patient with a moderate intellectual disability lacks decision-making capacity to decide to drink more than 20 diet sodas a day because such a decision has a high degree of potential harm and complexity, but also account for the judgment that the patient has decision making capacity to choose to drink each individual soda when considered in isolation.

The authors critique several potential responses that might explain how to reconcile these two judgments. The authors' preferred solution to the problem involves rejecting the assumption that each decision to drink a soda is identical. Using applied behavior analysis as a background psychological theory, they point out that some behaviors tend to be automatically reinforcing. The more we do the behavior, the more we want to do the behavior. They argue that as the patient drinks more sodas the probability of the patient drinking more sodas increases and as such with each soda that is drunk the decision to drink the next soda becomes more complex making interference for beneficence-based reasons more justified. Graber and Kreusel argue that while the individual choices to drink diet soda are seemingly similar, they are in fact different because with each choice to drink a diet

soda the agent also is changed, having a greater desire to drink the next diet soda. As a result of the changes that are occurring to the agent, the decisions become more complex and as a result more open to justifiable intervention.

Graber and Kreusel's analysis raises an interesting question regarding the decision relative account of capacity. As they note, as the complexity of the decision becomes lower the justification for intervention must be higher. For patients with moderate levels of intellectual disability, when the levels of decision complexity and harm are low, patients' choices should be respected. These choices may be completely arational and based simply on the patient's desire at that moment. The basic idea here seems to be that when the stakes are not that high, we should respect the patient's choice. So, the question arises: When do the stakes become high enough to interfere? Presumably, when the risk of harm increases past a minimal threshold and there is a clearly optimal choice or subset of choices in the set of inescapable choices available to the patient.

Suppose, however, we run into a wall of epistemic uncertainty. Is there an inflection point, at which, as complexity continues to grow, interference becomes *less* justifiable? It may be very difficult to know if drinking two diet sodas leads to greater harms than drinking three diet sodas, even if soda drinking is automatically reinforcing; however, in the diet soda drinking case, we have the option of not drinking the diet soda, which at some point seems like a "better" option. However, in some medical decisions, it may be very difficult to accurately judge the relative value and disvalue of treatment options. As the complexity of the decision grows, there simply might not be an optimal choice, just different choices. If optimally situated, fully rational decision makers reasonably disagree about whether *any* option in a mutually exclusive but practically inescapable set of choices is optimal, the question arises as to why one should deny those with moderate intellectual disability the final say, if they have an opinion about it. Let us assume that the choice will be arational. If one thinks that choosing for oneself is some sort of good, even if the choice that is made is not fully rational, then in cases where there is no optimal choice, just different choices, why give preference to the seemingly idiosyncratic reasons of surrogates, given the assumption that no choice is optimal, just different, over the arational choice of patients with moderate intellectual disability? Why not seek assent from the patient rather than consent from a surrogate in these cases? Why not think that a meaningful choice, at least in some sense, is one that *I* make regardless of whether it is rational or arational?

#### VIII. THE PHENOMENOLOGY OF HEALING: EIGHT WAYS OF DEALING WITH THE ILL AND IMPAIRED BODY

In a thoughtful and conceptually clarifying piece, Drew Leder (2022) lays out a geography of healing strategies used by patients based on the

phenomenologically ambiguous relationship that patients have with their bodies. Leder writes, “In such ways, *I am* my body; its powers are none other than my own. Nonetheless, I am so ambiguously, for I also experience my body as something *I have*—that is non-identical to self” (2022, 140). Leder takes this basic existential ambiguity and uses it to divide various healing strategies into those that “embrace the body” and those that “free oneself from the body”.

In the latter category, Leder (2022) includes (1) *ignoring* the body, (2) *refusing* to submit to the body, (3) *objectifying* the body, and (4) *transcending* the body. In the former category, Leder includes (1) *accepting* the body, (2) *listening* to the body, (3) *befriending* the body, and (4) *witnessing* the body. Different patients may find the same strategy helpful, and the same patient may find different strategies helpful in the same situation.

Leder’s conceptual mapping rings true and raises interesting empirical questions that he hints at in his piece. Leder writes,

I seek here only to sketch the outlines of a systematic approach, but one that opens up a future research program with greater specificity. For example, one might take a single disease, such as multiple sclerosis, and ask which of these strategies seem most helpful, and for what symptoms, and what personality types, and at which stages of the disease’s progression. (2022, 141)

I agree with Leder here and think that such disease specific patient population research programs could constitute a useful application of his phenomenological analysis to clinical practice.

One could also examine the hypothesis that the understanding about oneself and one’s responses to disease, obtained as one orders these healing practices through philosophical analysis, is, itself, an additional help. If patients’ enhanced understanding of the ambiguities inherent in embodied human existence do help with healing, it would be an interesting and more truthful alternative to Socrates’ hyperbolic dictum: “The unexamined life is not worth living” (Plato, 1997, *Apology*, 38a 5-6). Perhaps living an unexamined life is better than non-existence, but examining one’s life and achieving understanding about one’s life, even during severe and chronic disease, certainly might make one’s life better.

## IX. DOCTOR EX MACHINA: A CRITICAL ASSESSMENT OF THE USE OF ARTIFICIAL INTELLIGENCE IN HEALTH CARE

As artificial intelligence and machine learning advances, medicine will undoubtedly incorporate this new technology into the practice of medicine.<sup>9</sup> Svensson and Jotterand (2022) provide us with a thorough overview of the potential challenges that medicine will face as artificial intelligence systems evolve to manage the ever-increasing amount of data being produced in modern medicine. They describe how artificial intelligence works and how

AI systems might radically alter current physician-patient interactions. They also describe concerns about implementation of large-scale AI systems, especially autonomous AI systems. These include potential problems with incomplete importation of data leading to biases and errors, potential problems with privacy and informed consent, and potential problems that could arise if one comprehensive AI system became dominant in the market. In their paper, they advocate developing thoughtful regulation of AI in the medical industry utilizing a procedural integrated model which they describe as “a strategy for consensus building around a moral framework for novel methodologies based on the concepts of deliberative democracy” (Svensson and Jotterand, 2022, 170).

Svensson and Jotterand raise profound questions about how large-scale AI systems will alter our current understanding of the role of physicians and the practice of medicine. One theme that their essay points to is the importance of transparency. Currently, many patients are willing to trust physicians because they believe they can synthesize data from populations regarding the successful diagnosis and treatment of disease and use that data to help individual patients reach treatment decisions that fit their particular values and context. Physicians are able to do this because the information, both from populations and from the individual patient, upon which they are making their judgments is transparent to them in some sense (i.e., a given physician might not understand all the trial data leading to a particular guideline based recommendation, but other physicians that concentrate their focus on that area can, and they can explain, in a way that is understandable to other physicians, the rationale behind the recommendation).

One of the challenges with large-scale AI systems in medicine is that the rationale for recommendations might become so opaque that physicians, even experts in a particular area, might not be able to understand the reasons that support those recommendations. If the rationale behind a recommendation is incomprehensible because one is ontologically unable to comprehend it due to its complexity, then the only basis for trust in that recommendation is the character of the entity making that recommendation. The AI system becomes much like an omniscient but epistemically opaque deity. One might be able to trust the incomprehensible commands of an omniscient entity if that entity is also omnibenevolent; however, if one does not have reason to believe that the entity is good and working for one's good, then why follow those commands? Further, without transparency in the algorithms used by AI and a rationale that is, at least in principle, communicable to physicians and patients, human autonomy is diminished. Persons cannot act for reasons when no reasons can be given that persons can understand. In such a case, both physician and patient are reduced to relying on the emotionless, amoral, paternalism of an incomprehensible algorithm, which they may not even have good reason to believe is providing appropriate medical guidance. Thus, one of the important components of a successful

integration of AI into medicine will be for AI to evolve to a point that it can communicate its rationale for its recommendations to others. The AI systems will need to make its rationale transparent so that both physicians and patients can continue to understand why they are doing what they are doing.

## X. CONCLUSION

These articles represent the continuing commitment of *The Journal of Medicine and Philosophy* to bring together the practice of medicine and rigorous philosophical reflection and analysis. Each article stands on its own but throughout the issue, questions regarding the conceptual boundaries of what counts as medicine and what counts as a professional versus general moral obligation and how they relate to one another lurk behind arguments and assertions. Also, within these articles we consistently encounter the importance of transparency, both transparency of ourselves and of the decisions that guide medical treatments.

## NOTES

1. The literature on physician participation in state sponsored execution is large. For other articles on this topic, see Clark (2006), Nelson and Ashby (2011), Litton (2013), and Kadlac (2014).

2. For a recent book length treatment of issues at the interface of environmental ethics and bioethics, see Christina Richie's (2019) *Principles of Green Bioethics: Sustainability in Health Care*.

3. By ecological footprint, Katz seems to mean the production of things like greenhouse gasses and large amounts of solid and liquid waste that might have negative environmental effects.

4. Gamble and Gamble could defend a negative constraint: In order for a physician's act to be caring the physician must *not* believe that the recommended course of action is harmful to the patient. In Case 1, the risks of the operation are minimal, and the physician does not believe that the operation will ultimately be harmful to the patient. The physician simply believes that in all likelihood the operation will not be successful. However, since there is a non-negligible chance that it might be successful the physician is willing to give it a try. Here one might think that even if the physician does not believe that the operation will be successful, the surgery might still be conducive to the patient's good because the patient's good comprises both objective features (the probability of success of the operation) and subjective features (the patient's desire to pursue the small chance of a successful operative outcome). If the physician believes that the subjective features are important, then the physician might form the belief in such a case that the operation is actually conducive the patient's good even if its chances of success are small. However, these types of axiological judgments can be epistemically difficult. The physician might just as likely find that he does not have a belief one way or the other regarding whether the operation is conducive to the patient's good. He is just not sure. However, he does believe that the patient desires the operation and that the operation *might* be conducive to the patient's good and that it likely won't harm the patient. This conjunction of beliefs seems to be enough for the physician's act to be *an act of caring* even though it does not include the belief that the act *is* conducive to the patient's good. One might consider three different possibilities for the physician: (1) having a belief that the act under consideration is conducive to the patient's good, (2) having a belief that the act under consideration is *not* conducive to the patient's good (harmful to the patient), and (3) *not* having a belief that the act under consideration is conducive to the patient's good. The third possibility is compatible with the aforementioned conjunction.

5. For other articles that explore the ethics of dual use research, see Kuhlau et al. (2008), Dubov (2014), MacIntyre (2015), Ienca, Jotterand, and Elger (2018), and Salloch (2018).

6. The literature on principlism—from both defenders and critics—is vast, including seminal articles published by *The Journal of Medicine and Philosophy*. For a sample, see Clouser and Gert (1990), Lustig (1992), Green, Gert, and Clouser (1993), Davis (1995), Quante and Vieth (2002), Strong (2000), Ilitis (2000), Richardson (2000), Veatch (2020), Beauchamp and Childress (2020), and Shea (2020).

7. See *After Virtue* (MacIntyre, 1984), and *Whose Justice? Which Rationality* (MacIntyre, 1988).

8. For another recent article that deals with issues of competency in those with cognitive disability, see Scholten, Gather, and Vollman (2021).

9. For other articles that deal with ethical questions raised by AI in medicine, see Nabi (2018) and Hubbard and Greenblum (2020). For two recent articles that discuss the questions of transparency and trust with regard to medical AI, see Ursin, Timmermann, and Steger (2021) and Starke et al. (2021).

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