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Dispositive Causality and the Art of Medicine

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Abstract: For many philosophers, the relation of medicine to health is exemplary for understanding the relation of human power to nature in general. Drawing on Heidegger and Aquinas, this paper examines the relation of art to nature as it emerges in the second book of Aristotle's *Physics*, and it does so by articulating the duality of efficient causality. The art of medicine operates as a dispositive cause rather than as a perfective cause; it removes obstacles to the achievement of health, but it does not impose health. Medicine, on this conception, aids the efficient causality of the natural body rather than substituting for it. The loss of dispositive causality makes efficient causality an imposition of force that bypasses the natural power to achieve natural goods. The paper concludes, with Plato, by arguing that dispositive causality offers a way to understand not only medicine but also governing, teaching, and parenting.

> "Nature has good intentions, of course, but, as Aristotle once said, she cannot carry them out."
> —Oscar Wilde

Our bodies often need help, and the art of medicine exists to help them achieve the naturally sought but not always naturally obtained good of health. Many philosophers regard the relation of medicine to health as paradigmatic for the relation of art to nature. Plato, for example, opposes Thrasymachus's elevation of power over natural good by pressing the analogy with medicine: "Medicine doesn't seek its own advantage, then, but that of the body?"[1] While discussing Aristotle's *Physics*, Heidegger has occasion to discuss the subordination of the medical art (*techne*) to nature (*phusis*):

> *Techne* can merely cooperate with *phusis*, can more or less expedite the cure; but as *techne* it can never replace *phusis* and in its stead become the *arche* of *health* as such. This could happen only if life as such were to become a "technically" producible artifact. However, at that very moment there would also no longer be such a thing as health, any more than there would be birth and death.[2]

Health is a good specified by nature; to replace it with a human purpose would be to replace an intrinsic good with an extrinsic good. According to Heidegger, the modern quest to replace nature with art leads to two interrelated outcomes: an obliteration of human subjectivity and an era of technological nihilism:

> Sometimes it seems as if modern humanity is rushing headlong toward this goal of *producing itself technologically*. If humanity achieves this, it will have exploded itself, i.e., *its essence* qua *subjectivity,* into thin air, into a region where the absolutely meaningless is valued as the one and only "meaning" and where preserving this value appears as the human "domination" of the globe.[3]

Under the influence of Aristotle, St. Thomas Aquinas distinguishes the art of medicine from the philosophy of nature; both deal with living bodies but in different ways. Aquinas writes that "health is brought about through the power of nature with the assistance of art," and he says that "art is nature's handmaid in healing."[4] This way of construing the relation of art and nature allows us to avoid the ill consequences identified by Heidegger. In order to flesh out this conception it will be necessary to introduce a distinction implicit in Aristotle and explicit in Aquinas between two kinds of efficient causality: dispositive and perfective. Dispositive efficient causality enables the nature of the form without substituting for its natural dynamism; perfective efficient causality is the exercise of the nature of the form. The organism is the cause of the form of health in itself; it is the perfective efficient cause; the medical art removes impediments to the organism's perfective causality; it is what Aquinas calls dispositive efficient causality.

The distinction between these two kinds of efficient causality emerges in a consideration of Aristotle's discussion of the self-medicating doctor in Book II of the *Physics*. My aim is not to interpret Aristotle's thought per se but instead to enlist his help in a quest to remove our intellectual impediments to recovering a more life-giving relation to nature. Recovering the full sense of dispositive causality enables a new relation to oneself, nature, and others: enabling

natures to exercise their native freedom and develop into the sorts of beings they do well to be. Recovering a sense of efficient causality, not only as imposing form, but as freeing an intrinsic nature to achieve its proper form, allows us to be active and contemplative at the same time: to let beings be the beings they are by exercising a causality that cooperates with natural causality. I conclude, with Plato, by discussing three applications of dispositive causality beyond medicine, namely political life, education, and parenthood.

1. Nature and the Self-Medicating Doctor

Nature is a power of movement intrinsic to a thing; art is a power of movement extrinsic to a thing. Living beings, such as animals, animal parts, and plants, move themselves to achieve goods commensurate with their natures. All grow to maturity and endeavor to maintain their health. Artificial beings, such as tools, machines, and the like, move only when moved by another. In order to express the dynamic self-movement of nature, Aristotle defines it as follows: "So nature is a principle and a cause of being moved or of rest in the thing to which it belongs primarily and in virtue of that thing, but not accidentally."[5] Much could be said about this definition, but the only part Aristotle deems important to expound is the simple qualification: "but not accidentally." The case of the self-medicating doctor sheds needed light on this qualification: "The same man may cause himself to become healthy by being a doctor; however, it is not in virtue of becoming healthy that he has the medical art, but it is an accident that the same man is both a doctor and is becoming healthy, and on account of this, the one is at times separate from the other."[6] Every time we brush our teeth, we use the medical art on ourselves.[7] In doing so, the art of teeth brushing appears to originate from within the one changed and thus it seems to qualify as something natural according to Aristotle's definition. However, the art of the

doctor is only accidental to being a patient: no necessary relationship holds between the two, unless sickness itself produced medical art. But of course many people who need to brush their teeth do not know how; nature does not naturally generate the requisite art. Moreover, one can always brush someone else's teeth, say one's child; there is no necessity that one brushes one's own. In things produced by art, the origin of change and rest is external to the thing as in a house or in certain cases internal to the thing—but still extrinsic—as is illustrated in the case of people exercising the acquired art of brushing their own teeth.[8]

There is a second reason that Aristotle does not state for why self-medicating doctors such as teeth brushers have not eclipsed the boundary between nature and art. It may seem that they are making health in themselves, but health is not accidentally part of the principle of nature, introduced, as it were, by medical art. The good of a natural thing is intrinsic to that thing and therefore it cannot be made, but only facilitated, i.e. its obstacles (in this case, plaque and bacteria) removed. Doctors need a natural principle of health in order for their art to work. At the same time, the efficient causality of something like medicine differs in kind from the efficient causality exercised by a natural being in becoming healthy. A doctor that medicates himself exercises one type of efficient causality in the medicating and another type of efficient causality in being the natural being capable of healing. The medical art seeks to enable the body to achieve health by removing impediments to the natural tendency to achieve this end; health is not an achievement of the medical art but of the natural body.

To develop these two senses of efficient causality, it is helpful to turn to St. Thomas' commentary on the *Physics*, in which he identifies four kinds of efficient causality:

> It must be noted with reference to causes of this sort that the efficient cause is fourfold [*quadruplex*], namely, the perfecting, the preparing, the assisting, and the advising causes.
>
> The perfecting cause [*perficiens*] is that which gives fulfilment to motion or mutation, as that which introduces the substantial form in generation.
>
> The preparing or disposing cause [*praeparans seu disponens*] is that which renders matter or the subject suitable for its ultimate completion.
>
> The assisting cause [*adiuvans*] is that which does not operate for its own proper end, but for the end of another.
>
> The advising cause [*consilians*], which operates in those things which act because of something proposed to them, is that which gives to the agent the form through which it acts. For the agent acts because of something proposed to him through his knowledge, which the advisor has given to him, just as in natural things the generator is said to move the heavy or the light insofar as he gives the form through which they are moved.[9]

Efficient causality's fourfold reflects four ways in which the one efficient cause can relate to the other three causes. As perfective, it brings about the substantial form; as dispositive, it prepares the material cause for the reception of the form; as assisting, it operates for the final cause of another; and as advising, it proposes the form that motivates or moves another to action. Now, a doctor operates for the final cause of the patient; in this sense, he or she is an assisting cause; moreover, the doctor prescribes medicine and activities to help bring about health; in this sense, he or she operates as an advising cause. However, the doctor assists and advises regarding the means to obtain an end specified by the patient's nature, and it is this patient's own nature that must achieve health. Hence, the proper efficient causality of the medical art is to enable the perfective cause by removing impediments to its perfective tendency, and this is just what the dispositive cause achieves.

The distinction between perfective and dispositive causality is implicit in Aristotle. Nature is a principle of both change and rest, which is to say, a principle that initiates change *in order to* rest in some good. To be a natural being is to be a being that is pursuing its own ends, that has the inclination and ability to achieve certain goods in keeping with its nature. So a living being initiates changes in order to achieve health. While discussing the priority of form over

matter in the *Physics*, Aristotle points out that while medicine is an efficient cause that aims to bring about something other than itself, nature is an efficient cause that aims to bring about its very self.[10] In the *Nicomachean Ethics*, Aristotle says that the virtue of wisdom produces happiness other than the way medicine brings about health in the soul; wisdom produces happiness in the way that health brings about health.[11] Wisdom, unlike medicine, is perfective rather than dispositive.

Later in the second book of the *Physics*, Aristotle distinguishes two roles that art can have in relation to nature: imitation and completion.[12] The idea of completion is that nature is endeavoring to achieve something on its own but art can help it by removing what impedes achievement of its end. Wittgenstein provides a vivid example of the latter: "You cannot draw the seed up out of the earth. All you can do is give it warmth and moisture and light; then it must grow. (You mustn't even *touch* it unless you use care.)"[13] As I tell my students, Johnny Appleseed may have planted the apple tree, but the apple tree he planted is not manufactured by him; Johnny, as a farmer, merely helps the natural principle of the tree by going to work on the material conditions for its growth and health. A natural principle is the perfective cause; it brings about the form commensurate with the intrinsic good of the natural being. An artificial principle either imitates nature or completes nature and as such acts as a dispositive cause.

Returning to the case of the self-medicating doctor, we can say that the doctor is the dispositive cause but not the perfective cause; qua doctor, she can exercise dispositive efficient causality of health; qua natural being, she can exercise perfective efficient causality of health.

2. The Causality of the Art of Medicine

What are health, sickness, and death? Sickness is an existential threat to the whole. Health is the vital achievement of the whole, but sickness threatens the unity of the whole even to the point of a substantial change, death. What is the task of medicine on this conception? To prevent the substantial change of death by removing the impediments for the body's self-assertion of its own unity.[14] Medicine goes to work on the material conditions that prove to be unconducive to the body's unity in order to enable or set free the body's own self-unifying activity. The actions of medicine are many: setting a leg, removing a tapeworm, suturing a wound, delivering a baby, prescribing medicine to lower the rate of cancer cells in a body, providing advice concerning what to eat and what not to eat. All these activities bear only a family resemblance to each other. Some involve removing impediments, some are a matter of assisting. By my count, there are at least four tasks of medicine, ranging from most to least urgent:

1. Safeguard the integrity and existence of the whole body
2. Treat patient's experience of inordinate pain
3. Restore functioning of inoperable parts
4. Promote long-term functioning of whole and parts

I will explore the kind of efficient causality operative in each.

(1) Bodily integrity and existence: An automobile accident inflicts a near mortal wound; the paramedics must stabilize the patient before transportion to the ER. The emergency room doctors will have as their first priority staving off death by helping the body recover its integrity. Wounds will need to be sutured and blood volume replaced. Or consider a milder case: A child suffers from a bacterial infection that involves a bad cough. The doctor prescribes an antibiotic to eliminate the cause of the sickness; in doing so, she removes the impediment to the child's bodily health. In neither case do the doctors bring about health; they remove the obstacle to health and in doing so they free the body to reassert its healthy wholeness. Indeed, it is clear that

antibiotics simply reduce the bacterial load of an infection.[15] Technically, they do not clear or cure the disease. That is accomplished by the body's own immune system. This is why it is not uncommon for patients with a compromised immune system to die from infections regardless of the extensive use of antibiotics.[16] Because the natural body's wholeness originates from itself no one can fix the wholeness for it. And yet, impediments to its achievement can profitably be removed by others exercising dispositive causality.

Things can get more complex, of course. Synthetic labor hormones and cervical softeners might be seen as dispositive, aiding the natural process of birth, so that the birthing remains an activity of the mother's body. In a medically necessary C-section, however, the medical art does something other than remove an impediment. It safeguards the existence of the child and the mother by bypassing the birth canal and introducing an artificial channel to deliver the child from the mother's uterus. Even in this procedure, of course, it is the woman's body that must heal itself to recover from the surgery. The C-section assists rather than disposes; it performs an action in the place of the patient, rather than helping the patient do it for herself. Such interventions, which bypass the body's own dynamisms, have as their goal the restoration of those dynamisms, if possible; that is, the necessary intervention ideally should be temporary.

(2) The experience of pain: Pain alerts us to bodily disintegration and this alert is in itself good, but it turns out to be too blunt an instrument and is all too easily overwhelming for the patient. Pain medication can thus make an unbearable experience tolerable. It interferes with the body's pain mechanisms and thereby suppresses or lessens the feeling of pain. Pain can also be addressed by attacking its cause. My wife was stung by a sting ray. I helped by carrying her to the lifeguard station. There a lifeguard provided medical treatment: soaking her foot in very hot water to denature the proteins that constitute the venom. I helped my wife by carrying her, doing

something she could not do for herself. The lifeguard applied medical art by having the knowhow and skill necessary to assist my wife's body's own efforts to restore health by resisting the invading venom and by cleaning the open wound. He could not be her source of healing, but he could help her by doing something that would break down the venom and thereby go to work on the material conditions for pain. In this scenario, the lifeguard disposed by cleaning the wound and assisted by breaking down the poison.

(3) Restoring lost functioning: The child falls out of a tree and breaks his arm; the doctor does not "fix" the arm, but sets it, so that the body can heal itself properly. Here the doctor helps or aids a process without being the cause of the process. That is to say, the doctor removes an obstacle to the process but is not the agent of the process. More technical examples of restoring lost functioning include a curative bone marrow transplant, coronary artery bypass grafting (CABG), which bypasses diseased vessels to restore adequate blood flow to the heart, and the use of a pacemaker to restore natural electrical rhythm to a diseased heart that would otherwise fail completely.[17] These cases still work within the telos of human health, restoring a privation, and they would thereby be different from cases of augmentation in which one added another organ or function to the body. They exercise dispositive causality by working on the material conditions for health.

(4) The medical art also promotes long-term health. Here the doctor must prescribe the right diet, not too much or too little, and the right exercise, not too much or too little. The doctor's causality is one of advising but the advice concerns bringing about the right material conditions for the body's health to be achieved. In this way, the advice stands in service of the patient's own free exercise of dispositive causality that will aid the body's own native efforts to achieve health for itself. For the patient cannot freely will the perfective causality of the body

(one might lose the will to live, of course, or one might will to live in the face of overwhelming odds, but still willing to be healthy and the body's achievement of health are independent achievements). One cannot simply will to be healthy, one must will the means to be healthy and even this might not be sufficient, who knows. So, to be healthy, one must will to eat well, to get enough sleep, to exercise, to minimize sources of stress, and to do similar sorts of activities. These activities, like watering and weeding a flower bed, provide the material conditions for the flourishing that is health without being the perfective cause for the flourishing that is health.

3. The Art of Medicine as Restoring Health

Heidegger, commenting on Aristotle, emphasizes that the medical art is about restoring health: "Even if a doctor practices medicine in order to attain a higher degree of the *techne*, he or she does so only in order all the more to reach the *telos* of restoring health—provided, of course, that we are talking about a real doctor and not a medical 'entrepreneur' or 'time-server.'"[18] In the same way, Hans-Georg Gadamer, Leon Kass and Robert Sokolowski distinguish between medicine as an art and medicine as a technique.[19] The former is grounded in the premedical and natural good of health; the latter, by contrast, can be used against this good as in the case of torture. As an art, then, medicine takes its bearing from the natural good of the living being. Sokolowski relates the two as follows: "The one good becomes targeted or wanted as good from two directions, from the point of view of the living organism that wants to be healthy, and from the point of view of the medical art; in this criss-cross, the perspective of the medical art is secondary and derivative."[20] The question I am pressing is the causality at work in restoring the natural good of health, and I have argued that dispositive causality, the causality that promotes

the end of another by removing impediments to its natural achievement, is just the sort of causality at work in this case.

In *Being and Time,* Heidegger contrasts two ways of relating to people in our care.[21] The inauthentic way is to *leap in* and do the task for the person. The authentic way is to *leap ahead* and enable the person to do the task for himself. Heidegger's contrast between these two ways of relating to others trades on the freedom of the other; in leaping in, that freedom is not engaged; in leaping ahead, it is. Thus, we can coordinate this distinction with the distinction between dispositive and perfective efficient causality. In leaping in by giving a man a fish, the benefactor acts as perfective cause of the procurement of the fish; in leaping ahead by teaching a man to fish, the benefactor acts as a dispositive cause that enables the new fisherman to do his own fishing and exercise his own perfective causality. But it is not just man's freedom that has a natural tendency to be respected; it is also his human, embodied nature. Hence, one might approach medicine as a means of leaping in, of trying to replace the health of the body, but this would be to undermine medicine as medicine; instead, what is in keeping with the art of medicine is to leap ahead and thereby free the human body to achieve the health it naturally aims at. The goal of medicine is not to create relations of dependency; it is to help set the body free in its independence.

Heidegger's famous meditation on the fourfold involves something like dispositive causality. Humans, as mortals, cooperate with nature, plants, and animals (earth), respect the cosmic rhythm of life (sky), and hope in the wellbeing that lies beyond human power (divinities). Regarding cooperation with nature or what he calls, earth, Heidegger writes: "Mortals dwell in that they save the earth—taking the word in the old sense still known to Lessing. Saving does not only snatch something from a danger. To save properly means to set something free into its own

essence [*etwas in sein eigenes Wesen freilassen*]."[22] This sense of saving earth as setting it free into its own essence could be used to express the art of medicine, the art of saving health. He says that letting beings *be* means that "mortals nurse and nurture the things that grow."[23] Heidegger does not say so here but we can draw the following conclusion: because the bodies of mortals are things that grow, they require such cultivation as well. In this cultivation, earth meets the divine, and the human opens itself to the wellbeing that exceeds the power of art. In calling the human the shepherd of being, Heidegger aims to entrust the intelligibility of things to the care of the human.[24] The human transcends the whole in order to safeguard it and thereby find its own self as custodian or caretaker.

Medicine in fact may not belong to us insofar as we may die but insofar as we live. Heidegger's invocation of mortality, then, might fall prey to the very forgetfulness of health he is trying to overcome. Arendt finds in Augustine grounds for calling the human the *natal*, the one who is born.[25] And what does the task of the natal look like? To cooperate with nature as she endeavors to bring about growth and health in her members. Medicine in this conception is not a matter of staving off death, a means to fulfill our desire to persist in being; it is rather a matter of remembering and renewing the gift of life given in birth.[26] It is not the imposition of an artificial purpose but the aiding of a natural end. Only in this context, the context of nature given to the natural, the context described by Aquinas and Aristotle, can it make sense to say that medicine does not impose health but restores it.

4. Non-Medical Applications of Dispositive Causality

The distinction between dispositive and perfective efficient causality is fruitful in many other domains of life besides medicine. By drawing on Plato's *Republic*, let me highlight three: political, educational, and parental.

(1) *Political power*. In Book I of the *Republic*, Socrates counters Thrasymachus's identification of power and subjective purpose by likening political power to the art of medicine. Plato argues that rule is a kind of art and that every art, like the art par excellence that is medicine, serves a specified good other than itself:

> So, then, Thrasymachus, no one in any position of rule, insofar as he is a ruler, seeks or orders what is advantageous to himself, but what is advantageous to his subjects; the ones of whom he is himself the craftsman. It is to his subjects and what is advantageous and proper to them that he looks, and everything he says and does he says and does for them.[27]

Rule, then, is a kind of dispositive causality that promotes the obtainment of the good of the whole and its parts. Applied to our present political context, dispositive causality would give lawmakers a way to conceive of their role as enabling the causality of subsidiary groups. This would be a matter of leaping ahead rather than leaping in. Absent this emphasis, the modern state tends to exercise only perfective causality, because it fails to register natural principles intrinsic to its citizens or its enterprise; the active freedom of the citizens to achieve goods is thereby stifled; citizens become mere patients or recipients of the activity of the state. By the same token, the counsel to be open to the views of others, so necessary for democratic and social life, is the idea of exercising a dispositive cause. For it is not a matter of being passive, of being bombarded by the views of others, but instead an issue of soliciting, considering, and discussing their views, an activity that accommodates otherness while being nonetheless ordered to truth as perfective. This is the sort of openness that Socrates pioneered and Plato championed; it is the radical openness of philosophy to rational discussion ordered to mutual discovery of the truth. Politics,

like medicine, is an art that serves to fulfill the human natures of its citizens, to enable freedom for the obtainment of the good.

(2) *Education*. Teaching is not a matter of the teacher imposing knowledge on the pupil; if it were, education would be an act of violence; what is learned would remain foreign to the student. In the allegory of the cave, which concerns "the effect of education and of the lack of it on our nature," Plato presents education as an essentially dispositive activity.[28] The teacher cannot bring the forms to the prisoners; rather the teacher can only induce the student to turn his or her whole body around and to make the ascent for himself or herself. Plato explains:

> Then education is the craft concerned with doing this very thing, this turning around, and with how the soul can most easily and effectively be made to do it. It isn't the craft of putting sight in the soul. Education takes for granted that sight is there but that it isn't turned the right way or looking where it ought to look, and it tries to redirect it appropriately.[29]

Let's say a teacher is trying to teach a pupil the concept of division. In this case, the teacher has to teach and the pupil has to struggle to learn, but the teacher is not purely active while the pupil is purely passive. The teacher works to turn the student's attention, the pupil works to see what is there to be seen, and eventually something like the concept of division as the breaking of a whole into equal groups comes to light. The idea of division is what acts as the perfective cause. Education is an art that serves to fulfill the human nature of the students by opening them up to the natures of things themselves.

(3) *Parenting*. Plato says that the aim of the law, to liberate the best part of the soul, likewise is the aim of the parents' dispositive causality: "But it's also our aim in ruling our children, we don't allow them to be free until we establish a constitution in them, just as in a city, and—by *fostering* their best part with our own—equip them with a guardian and ruler similar to our own to take our place. Then, and only then, we set them free."[30] The word for fostering,

therapeusantes, comes from *therapeia*, meaning care for something; Plato uses it to talk of the work of the medical art. Book 8 details ways that we can fail as parents to foster freedom and instead let our children be ruled by the mob and their own unlimited irrational appetites. The essential causality of parenting, in rearing children, is to function as a dispositive cause that enables the offspring to have the sort of virtues that will enable them to achieve the good.

Heidegger says that upending the subordination of art to nature renders human life bereft of intrinsic meaning. Recovering dispositive causality, as a way of conceiving of the subordination of an art to its corresponding natural power and end, safeguards the meaningfulness of life. If we are oriented by nature beyond our natures for perfection by other natures, we remain open in our being to the truth that fulfills and transcends us. Dispositive causality enables a productive relation between art and nature, which wields a power to promote human nature's attainment of its naturally sought goods.[31]

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[1] Plato, *Republic*, in *Complete Works*, ed. John Cooper (Indianapolis, IN: Hackett Publishing Co., 1997), 342c.

[2] "On the Essence and Concept of *Phusis* in Aristotle's *Physics* B, 1," trans. Thomas Sheehan, in *Pathmarks*, ed. William McNeill (Cambridge: Cambridge University Press, 1998), 197.

[3] "On the Essence and Concept of *Phusis*" 197.

[4] *The Division and Methods of the Sciences*, trans. Armand Maurer (Toronto: PIMS, 1986), q. 5, a. 1, ad 5, p. 22.

[5] *Physics*, trans. Hippocrates G. Apostle (Grinnell, IA: The Peripatetic Press, 1980), 2.1, 192b21.

[6] *Physics* 2.1, 193b24-28.

[7] I am thankful to Kevin White for this example.

[8] *Physics* 2.1, 192b27-33.

[9] *Commentary on Aristotle's Physics*, trans. Richard J. Blackwell, Richard J. Spath and W. Edmund Thirlkel (New Haven, CT: Yale University Press, 1963), Lectio V, no. 180. Translation modified.

[10] "Again, when we speak of nature as being a generation, this is a process toward nature [as a form]; for the term 'nature' as signifying a process is not like the term 'doctoring.' The latter term signifies a process toward health, not toward the art of doctoring, for doctoring which begins from the art of doctoring cannot be a process toward the art of doctoring; but nature [as a process] is not related to nature [as a form] in the same way, for from something the growing

object proceeds to something or grows into something. Into what does it grow? Not into that from which it begins but into that toward which it proceeds." *Physics* 2.1, 193b12-18.

[11] *Nicomachean Ethics* 6.12, 144a3-4.

[12] *Physics* 2.8, 199a16-17.

[13] Ludwig Wittgenstein, *Culture and Value,* ed. G. H. von Wright, trans. Peter Winch (Chicago: University of Chicago Press, 1980), 42.

[14] I understand that the scholastics may have employed dispositive efficient causality in their natural philosophy only in the case of substantial change; insofar as the loss of health leads to a substantial change, a causality that aids the restoration of health could be seen to be in the ambit of substantial change. I do not wish to endorse all aspects of the history of the use of this term but instead to develop it in my own voice in terms of the things themselves.

[15] Peter Ankomah and Bruce R. Levin, "Exploring the collaboration between antibiotics and the immune response in the treatment of acute, self-limiting infections," *Proceedings of the National Academy of Sciences USA* 111 (2014): 8331-8338.

[16] I am grateful to Rev. Nicanor Austriaco, OP, for this point.

[17] I am thankful to Ryan Brown for these examples.

[18] "On the Essence and Concept of *Phusis* in Aristotle's *Physics* B, 1," 223.

[19] Hans-Georg Gadamer, "Apologia for the Art of Healing," in *The Enigma of Health: The Art of Healing in a Scientific Age,* trans. Jason Gaiger and Nicholas Walker (Stanford, CA: Stanford University Press, 1996), 31-44; Leon Kass, "Regarding the End of Medicine and the Pursuit of Health," *Public Interest* 40 (1975: Summer): 11-42; Robert Sokolowski, "The Art and Science of Medicine," in *Christian Faith & Human Understanding: Studies on the Eucharist,*

Trinity, and the Human Person (Washington, DC: The Catholic University of America Press, 2006), 241.

[20] "The Art and Science of Medicine," 242. On the relation of the art of medicine to the purposes of its practitioners, see Robert Sokolowski, "What Is Natural Law? Human Purposes and Natural Ends," in *Christian Faith & Human Understanding*, 214-33.

[21] *Being and Time*, trans. John Macquarrie and Edward Robinson (New York: Harper & Row, Publishers, 1962), 158-159.

[22] "Building, Dwelling, Thinking," in *Poetry, Language, Thought*, trans. Albert Hofstadter (New York: Harper & Row, Publishers, 1971), 150.

[23] "Building, Dwelling, Thinking," 151.

[24] See Chad Engelland, "Heidegger and the Human Difference," *Journal of the American Philosophical Association* 1 (2015): 175-193.

[25] "To put it differently, the decisive fact determining man as a conscious, remembering being is birth or 'natality,' that is, the fact that we have entered the world through birth. The decisive fact determining man as a desiring being was death or mortality, the fact that we shall leave the world in death. Fear of death and inadequacy of life are the springs of desire. In contrast, gratitude for life having been given at all is the spring of remembrance, for a life is cherished even in misery. … This will to *be* under all circumstances is the hallmark of man's attachment to the transmundane source of his existence. Unlike the desire for the 'highest good,' this attachment does not depend upon volition, strictly speaking. Rather, it is characteristic of the human condition as such. Augustine's reflections on human existence in this Creator-creature context arise directly from Jewish-Christian teaching and are obviously much more original than the more conventional considerations centering on desire and fear that were discussed [above]."

Hannah Arendt, *Love and Saint Augustine,* ed. Joanna Vecchiarelli Scott and Judith Chelius Stark (Chicago: University of Chicago Press, 1996), 51-52.

[26] See Chad Engelland, "The Personal Significance of Sexual Reproduction," *The Thomist* 79 (2015): 615-639.

[27] *Republic*, 342c.

[28] 514a.

[29] 518d.

[30] 590e-591a. My emphasis.

[31] I am thankful to Ryan Brown, MD, William Stigall, MD, Michele Averchi, Kevin White, Joseph Zahn, Matthew Walz, Marco Stango, Rev. Ignacio De Ribera-Martín, DCJM, Rev. Nicanor Austriaco, OP, Jake Tuttle, and Sr. Elinor Gardner, OP, for their comments.