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Bulletin Board

THE ETHICS OF THE NEW EUGENICS

Edited by Calum MacKellar and Christopher Bechtel

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"The book is clearly written, easy to follow, well-structured, and well-researched. A lay audience will easily access and understand the debate and realize what is at stake with the new eugenics. Medical procedures and technical concepts are well explained… [Its] importance and relevance cannot be overstated…a must-read in our day and age, especially when biotechnology and the new eugenics can be a threat to all of humanity." ·
Johann A. R. Roduit, Institute of Biomedical Ethics, University of Zurich

Strategies or decisions aimed at affecting, in a manner considered to be positive, the genetic heritage of a child in the context of human reproduction are increasingly being accepted in contemporary society. As a result, unnerving similarities between earlier selection ideology so central to the discredited eugenic regimes of the 20th century and those now on offer suggest that a new era of eugenics has dawned. The time is ripe, therefore, for considering and evaluating from an ethical perspective both current and future selection practices. This inter-disciplinary volume blends research from embryology, genetics, philosophy, sociology, psychology, and history. In so doing, it constructs a thorough picture of the procedures emerging from today's reproductive developments, including a rigorous ethical argumentation concerning the possible advantages and risks related to the new eugenics.

Calum MacKellar is Director of Research of the Scottish Council on Human Bioethics, Edinburgh, and Visiting Professor of Bioethics at St Mary's University College, London, UK.

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EDITORIAL

MEDICINE AND THE CARE OF STRANGERS

C. BEN MITCHELL, PHD

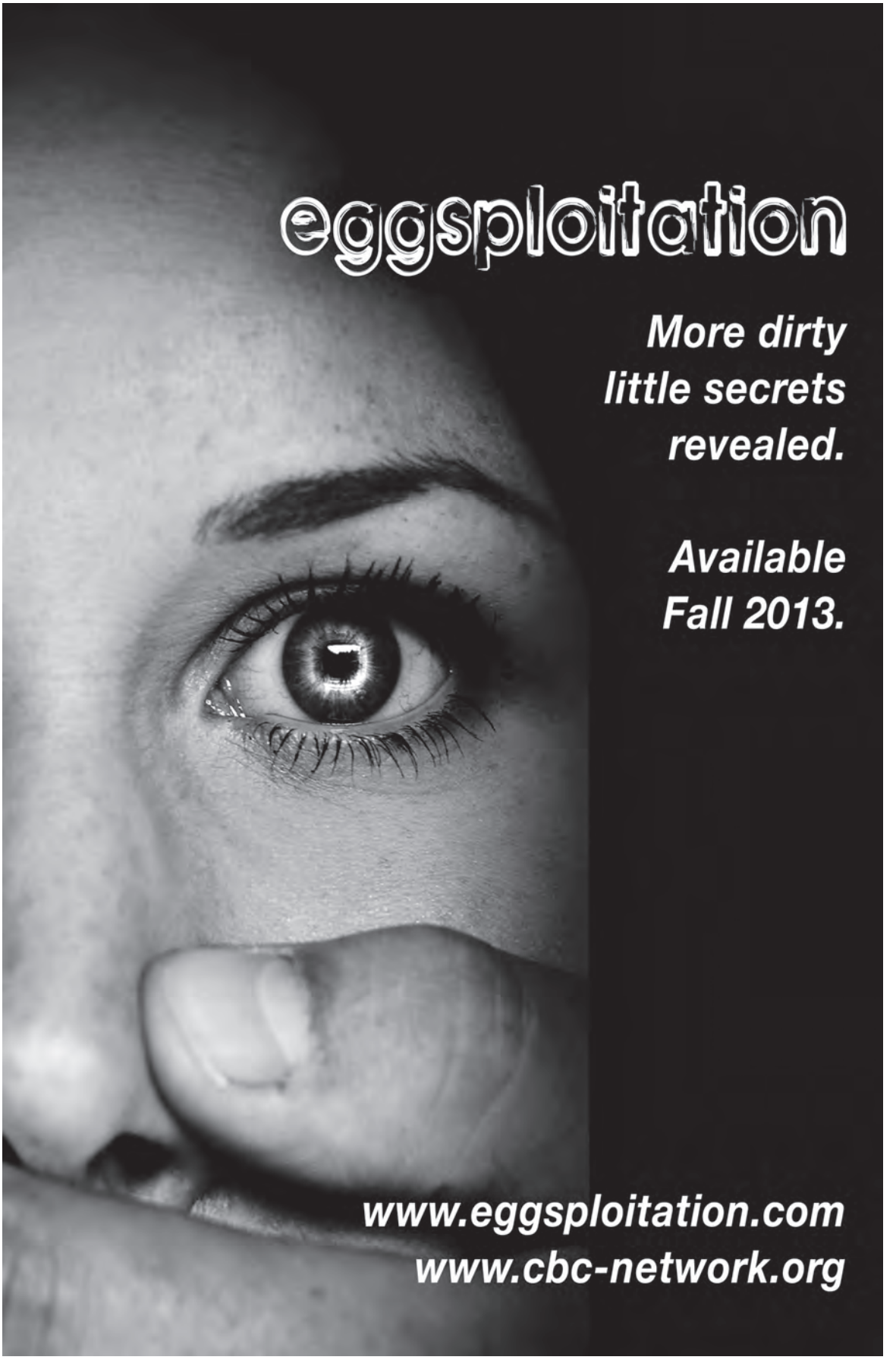
I hope readers will indulge a foray into my personal medical history. This past summer I had simultaneous bilateral total knee arthroplasty. For laypersons, that is a double knee replacement. The outcome was excellent and I am doing very well to date. I did, however, spend almost two full weeks in hospital. The first four days were spent in the orthopedic surgery unit of our local medical center. The following period was spent in in-patient physical therapy.

During my surgery and rehabilitation I became painfully aware (pun intended) of the importance of the care of strangers. Apart from the orthopedic surgeon, I was not previously acquainted with any of my caregivers. The role of those strangers was palpable (another intended pun). That would be obvious in the surgery theatre itself, but it was also the case post-surgically. My procedure required that I wear very rigid splints on both legs post-operatively. Because I was on very powerful local pain management I had little control of my legs. My complete care was given over to my wife and to those 'expert' strangers who came to my bedside from time to time.

The radical disequilibrium of power was keenly apparent to me in ways as a patient that I had only observed in my own training at the bedside. Here, the virtues of caregivers were nearly all-important. Clinical excellence, professional integrity, compassionate care, and many other virtues had faces and wore uniforms or 'scrubs.' They had costly training, formidable experience, and they also had lives outside the hospital. Those virtues were evident in the ways I was awakened at night to take my medication, in the ways my nurse pleated my bandages to allow them to stretch with movement, in the ways the 'lift team' helped me take my first steps after surgery (and gently helped me back to bed before nearly passing out!). 'For the patient's good' and 'do no harm' were not mere slogans. As patient, my attention to their observance was piqued.

These brief observations are only meant to underscore the fact that the ethics of medicine is not always or even primarily seen in those hard cases that often make such poor precedents. My experience reminded me yet again of how important virtuous doctors, nurses, and other caregivers are for moral medicine to be realized. Ethical principles are important too, of course. Those principles provide, in many cases, a sound skeletal system upon which ethical reflection can be constructed. But unless those principles are embodied in virtuous caregivers, they are merely protocols of compliance.

The care of strangers is, in some ways of course, the wrong way to put it. Those who cared for me were really my neighbors. Most of us live and work in the same city. So, in another era, we might have described the relationship not as the care of strangers but as the care of neighbors. When a legal expert asked Jesus, 'who is my neighbor?' Jesus told a story about a Samaritan who provided emergent care for a man who lay wounded on the roadside from a violent assault. I am happy to say that I and most of my caregivers did not stay strangers long. Perhaps it is worth exploring the role neighbor-love might play in helping to resolve some of the ethical dilemmas in medicine. It is just a thought occasioned by some very competent and caring neighbors of mine. **E&M**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GREY MATTERS

NEUROLOGIC PAIN SIGNATURES AND NEUROETHICAL CALLIGRAPHY

WILLIAM P. CHESHIRE, JR., MD

"And Shakespeare says 'Yes, I quite agree. It was very painful. And I could, of course, have arranged for him to take a sedative at the end of Act I, but then ma'am, there would have been no play."

– Malcolm Muggeridge on *King Lear*[1]

Abstract

Functional neuroimaging is lifting the veil away from pain and showing that its subjectivity is not completely impenetrable. Discrete neurologic pain signatures for specific types of physical pain, for example, are coming into sharper scientific focus. Translation of these neuroscience discoveries into clinical practice holds promise for improving the understanding and treatment of patients' complex pain problems. Pain narratives also have a moral dimension undetectable by brain scans. Wise application of the scrutinizing lens of scientific objectivity ought to bring empirical facts close into view without making the patient appear distant.

Pain signatures

A recent addition to the portrait gallery of human self-understanding is functional magnetic resonance imaging (fMRI) of the brain as it perceives physical pain. In a University of Colorado research study, subjects were asked to rate graded intensities of pain delivered to the skin surface by a thermode, which is a computer-operated hot plate capable of generating sequences of precise degrees of heat stimuli, ranging from warm to hot to scorching. The researchers were able to identify a consistent neurologic signature that was specific for heat-induced pain. Areas of the brain that lit up included the thalamus, the posterior and anterior insulae, the secondary somatosensory cortex, the anterior cingulate cortex, and the periaqueductal grey. The researchers called this anatomical profile a "neurologic signature of physical pain."[2] The findings surpassed previous studies of central nervous system pain correlates in that they were able to disambiguate physical from emotional pain signatures.

Pain assessment

These findings are preliminary and by no means ready for routine clinical use. The study examined only one type of pain. Most clinical pain syndromes are far more complex, perceptually and physiologically, especially in cases of chronic pain, which involves sensitization of pain pathways at multiple levels in the nervous system as well as psychosocial sequellae that impact the sufferer in virtually all aspects of life.

Even so, methodologies such as this might one day prove useful in the assessment of pain in patients who have lost the capacity to communicate. Patients who, for example, are "locked in" as the result of profound neuromuscular weakness cannot self-report their pain. Directing this technology to pregnancy, detection of pain signatures in the brains of preborn human fetuses might provide objective data to clarify at what point in development humans first experience pain,[3] although the question of whether the fetus has conscious awareness of a noxious stimulus would be much more difficult to answer.[4] Identifying an objective measure of the severity of pain could be useful also in validating the suffering of the patient with chronic neuropathic pain who has no externally visible deficits or scars. A pain scan might be equally useful in demonstrating its absence in the malingerer.

Functional MRI tests are costly and could not practically be performed on all patients with chronic pain conditions. New insights into the cerebral signatures of pain in individual patients, however, are bound to influence how physicians and the public view pain in general.

A tale of two cases

The assessment of pain has always been a clinical conundrum. Since pain is a subjective phenomenon, it can be difficult to gauge the intensity or quality of pain a patient is experiencing. Two cases from early in my own medical career illustrate how it is possible for well-intentioned clinicians to misjudge a patient's pain.

Late one night I was called to the hospital to evaluate a middle-aged woman in whom the emergency room physician, unable to find a reason for her pain, suspected an acute neurologic condition. "Please come quickly," he implored; "she is writhing in pain." After examining the patient, I diagnosed chorea, which is an involuntary movement disorder named after the Greek word for dance. Choreiform movements are quick, semidirected, nonrhythmic, and appear to twist and flow from one muscle to the next. I also performed a traditional clinical test to determine how severe her pain was. When I reported back to the Emergency Room physician that the patient actually was not in pain, he was astonished. The clinical test I chose was that of talking to the patient. When asked, she indicated that she had no pain—none at all. Rather, her caregivers had misinterpreted her involuntary movements and falsely concluded that she must be in horrible pain.

While this patient had no physical pain, her condition did cause her to suffer. Her ceaseless involuntary movements were socially embarrassing. They interfered with daily activities that most people take for granted, such as handling a spoon or fork, dressing, and matters of basic hygiene. They persisted despite trials of medications. They caused her to lose her job.

The other case was a young woman I admitted to the hospital for evaluation of rapidly progressive weakness. She had noticed slurred speech and difficulty swallowing the previous day and sought medical attention when the weakness progressed to the arms and within hours to the legs, causing her to stumble and fall. Over the course of several days, complete paralysis ensued, and she was unable to raise her limbs, speak, or move her lips, eyes, or diaphragm. Her tendon reflexes were undetectable. She had to be placed on mechanical ventilation and was brought to the intensive care unit. When we

stimulated the nerve to one of her paralyzed muscles with a repetitive electrical stimulus applied to the skin, each muscle contraction waveform was larger in amplitude than the previous one. Her stool cultures returned positive for *Clostridium botulinum*, confirming the suspected diagnosis of botulism poisoning.

Clostridium botulinum is a bacterium that produces the potent botulinum toxin, a neurotoxin which, if ingested, causes life-threatening neuromuscular paralysis by inhibiting the release of the chemical signal at the neuromuscular junction. When nerve terminals are prevented from releasing acetylcholine across the synapse, the muscle does not receive the signal to move from the brain and fails to contract. This patient's paralysis was so severe that for weeks she lost all ability to move, gesture, swallow, or breathe. She was totally unable to communicate.

Several days later, when I came by to follow up, the ICU team was preparing to do an invasive procedure on the patient. When I inquired what form of anesthesia they would be using, the nurse, who was new to the case, explained that none was needed because the patient was obviously in a coma and could not feel pain. In a teachable moment, I clarified that the patient, although totally paralyzed, was, as far as we knew, conscious, able to detect sensation, and fully capable of feeling pain. We knew this because we understood that the paralysis of botulism impairs only motor and autonomic nerves, leaving sensory nerves and brain function unaffected. From then on, the patient received pain medication for all painful procedures.

Three months later the patient, fully recovered, was seen in the outpatient clinic. When I asked her about her hospital experience, she confirmed that she had remained fully aware of her surroundings. During the weeks that she was mute and immobile in the ICU, except when medicated, she had felt every poke and prod and silently endured every needle and catheter. Her medical team had underestimated her pain.

Pain measurement

The International Association for the Study of Pain defines pain as "an unpleasant sensory and emotional experience which we primarily associate with tissue damage or describe in terms of such damage."[5] People experience pain differently. What to one person is a minor ache to another may be intolerable agony. One patient flinches at a needle, while another stoically faces surgery. One patient calmly sighs while claiming to have pain that is 10 on a scale of 10, while another shows visible signs of distress while modestly reporting a pain level of 3 out of 10. Whose pain is more severe? Which demands a more urgent response? The answer is sometimes unclear.

A common method for measuring pain is to ask the patient to rate it on a numerical scale from 0 to 10, where 0 is the absence of pain and 10 is the maximal level of pain one could experience. A similar method is the written Visual Analogue Scale (VAS), which takes into account that pain is experienced along a continuum. The patient is asked to mark his or her current state of pain along an unbroken printed line 10 cm in length.[6]

These simple measures, while clinically useful, are rough approximations, and pain behaviors do not always match VAS scores. As numerical expressions, such scores have the appearance of objectivity, but they are actually subjective and one-dimensional indicators of an exceedingly complex and multidimensional phenomenon. Various pains

differ not only in intensity but also in quality, depending on which nerve fibers conduct the pain signals. Some pains are sharp, others dull and aching, still others burning, prickling, flashing, shooting, stinging, electric shock-like, tight, pinching, constricting, or crushing. Some pains are brief. Others are enduring and unremitting. Once chronic pain sets in, the perception of painful stimuli may be magnified—a phenomenon known as hyperalgesia. Other sensations may seem distorted, and for some patients ordinary innocuous sensations can become painful—a phenomenon known as allodynia. Psychologists have developed more elaborate pain scales to sample these various pain qualities. A commonly used one is the McGill Pain Questionnaire, which presents the patient with words used to describe various types of pain.[7] Other scales parse pain into independent measures of sensory intensity and unpleasantness.[8]

Attempting to measure pain is not unlike grasping a flame. One can measure its heat and height, but the flame itself slips through the fingers. The difficulties encountered when quantifying pain indicate further aspects that are qualitative in nature. It is important to bear this in mind when making ethical decisions based on information about pain. Pain assessments that focus on its physical and quantifiable aspects tend to facilitate utilitarian judgments about the consequences of pain. Such approaches, while important, are incomplete. For example, measuring one person's pain against another's pain or against competing interests does not always yield valid conclusions. Ethics must also weigh moral principles. An MRI scan or other detector of a physical pain signature might tell whether pain is present, but it cannot distinguish the purpose of the pain or whether its cause originated from a right or wrong act.

The mental interpretation of pain draws heavily from its context, personal memories, and associated emotions. At its deepest level, one's experience of pain is inseparable from its perceived meaning. Two men would experience a sudden pain in the chest differently if one had just swallowed a jalapeño pepper and the other's father had died at the same age of a heart attack. Two women would experience a shooting arm pain differently if one had previously been treated for breast cancer. Pain at any intensity that is understood to signal a potential threat to health or an existential threat to life exceeds all scales. Such pain cascades into agony, distress, torment, or despair. This is the realm of suffering, to which physical pain may be just a point of entry.

The beloved enemy

Pain is, in fact, a necessary sensation. Neurological disorders that abolish the sensation of pain demonstrate its indispensable value. The hand surgeon Paul Brand writes of the devastating destruction of tissue that occurs in leprosy patients whose disease has destroyed the sensory nerve endings, rendering their skin and joints anesthetic:

> For the painless, danger lurks everywhere. A larynx that never feels a tickle does not trigger the cough reflex that relocates phlegm from the lungs to the pharynx, and a person who never coughs runs the risk of developing pneumonia. The bone joints of insensitive people deteriorate because there are no whispers of pain encouraging a shift in position, and soon bone grinds against bone.[9]

Pain, in Brand's estimation is no less than a "beloved enemy" that teaches the person to avert bodily harm. Likewise, the peripheral nerve specialist Peter Dyck writes of a

young girl with a rare neurological disorder that tragically caused her to be indifferent to sensations of pain:

> At 5 months of age the patient was noted to be "floppy" and had no response when her blood was drawn. She lost her teeth prematurely, possibly due to trauma sustained by chewing hard objects. Her parents were concerned that she did not cry when her hands were spanked. At 15 months she sustained a severe burn on one foot, and three weeks later she severely burned her hand. She frequently bit her tongue and cheek severely enough to draw blood but without crying. On one occasion she ran a pencil through her cheek without crying.[10]

Nociceptive pain is pain that signals tissue injury and is thereby purposeful. Neuropathic pain, by contrast, is pain that occurs in the absence of tissue injury. Neuropathic pain is pathological. It results from sensitization of peripheral nerves or central nervous system pathways involved in pain transmission and serves no protective purpose. The University of Colorado fMRI study[2] examined nociceptive pain, which was generated without risking long-term harm to the research subjects. Whether the results are generalizable to chronic neuropathic pain syndromes is a question to be addressed by further studies.

Pain's moral analogies

Whereas pain stimulates sensory nerves, wrongdoing strikes a moral nerve. Pain alerts the brain to a breach in bodily integrity with signals that cannot be ignored. Repugnance alarms the brain that a moral violation has occurred with distress the conscience cannot overlook. Just as sensitive sensory nerves are necessary for health, an alert conscience is indispensable to ethics.

C. S. Lewis wrote that "God whispers to us in our pleasures, speaks in our conscience, but shouts in our pains: it is His megaphone to rouse a deaf world."[11] Lewis was not unfamiliar with pain, having been wounded during an attack on German trenches in World War I.[12] Also wounded in the European trenches of World War I was my grandfather, James Webb Cheshire, 1st Lieutenant with the 26th Infantry of the U.S. Army First Division, who wrote of the anesthetizing properties of alcohol, which was delivered to soldiers in the trenches. Some of his fellow officers, he writes, "seem to be of the opinion that the life in trenches in active sectors is so horrible, ordinary human beings could not stand the strain without … rum."[13] How to respond well and assist those overwhelmed by physical, emotional, or moral suffering, and in its midst to find meaning, remains a vital challenge for medicine and all other helping professions.

Not surprisingly, people vary in their capacity to perceive and experience distress in response to moral violations, just as people differ in their capacity to experience pain. The neurological correlates of diverse moral attitudes have been partially mapped by fMRI.[14,15] Among the analogies between pain perception and moral awareness is the problem of unconcern about moral evil, which might in some people indicate a neuropsychological deficit resulting in a form of moral anesthesia (in contrast to willful or careless unconcern). Those who overreact to trifling ethical infringements might be categorized as having the moral equivalent of allodynia, perceiving innocent acts as unethical. Accurate moral awareness might be comparable to the musician who, from

years of study and disciplined practice, has developed an acute awareness of pitch, rhythm, tone, resonance, dissonance, consonance, and harmony.

One's motivation to respond ethically to pain requires compassion—literally, to suffer with the one who is suffering. One of the most interesting fMRI discoveries regarding pain mechanisms is that observing someone else in pain evokes a shared response involving the activation of brain areas that process both sensory and emotional components of pain.[16] The capacity to feel another's pain, to sense another's suffering, to experience regret, remorse, and sorrow, over time can be beneficial in training one's moral sensibilities, provided that a source of greater meaning and hope is also available. Shakespeare wrote, "Sweet are the uses of adversity, which, like the toad, ugly and venomous, wears yet a precious jewel in his head."[17] As for specific instances of pain, the source and meaning of suffering are sometimes clear, but not always.

How is your periaqueductal grey today?

Functional MRI adds substantially to the repertoire of research methodologies that have examined measurable, objective, quantifiable pain signatures. Previous research has shown that specific movements of the facial muscles are consistently associated with pain. These include lowering of the brow, tightening of the skin around the eyes, horizontal stretching of the open mouth, and deepening of the nasolabial furrow.[18,19] Other research has shown that certain behaviors, such as guarding or rubbing the painful body region, moaning, crying, grimacing, and complaining, correlate closely with pain.[20]

Some of these correlations seem obvious, yet there is value in analyzing facial expressions and MRI signatures scientifically. This research helps to piece together the intricacies of pain perception and the puzzle of pain behavior. Detecting patterns of pain expression can provide information that some patients are unable to communicate verbally. Specific pain behaviors can be quantified by rate of occurrence or by videotape observations of patients in selected settings.[20] They can also serve as useful indicators of patients' response to treatment.

Neuroimaging holds considerable promise in the quest to understand pain mechanisms. Scientific observations are not, of course, all that can be known about the experience of pain, nor does science alone hold the answer to human suffering. Though sophisticated scanners may penetrate the brain and trace out neurologic pain signatures, decoding the mechanisms of pain perception illuminate only one of many levels of meaning.

In responding to pain, there will always be the need for human interaction, face to face, sufferer to sufferer. For Christians, ultimate hope rests in a relationship with Jesus Christ, the "Great Physician,"[21] who personally suffered with and for us.

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CLINICAL ETHICS DILEMMA

THE HEALTH CARE SYSTEM BITES BACK

WILLIAM P. CHESHIRE JR., MD

Editor's Note: *This column presents a problematic case that poses a medical-ethical dilemma for parents, families, and healthcare professionals. As it is based on a real case, some details have been changed in the effort to maintain patient confidentiality. The intent of this presentation is to offer ethical analysis and medical recommendations that are consistent with biblical principles. In this case, a medical professional parent struggles for the protection of his non-minor child.*

Column Editor: Ferdinand D. Yates, Jr., MD, MA (Bioethics) is Professor of Clinical Pediatrics at the State University of New York at Buffalo, and is the Medical Director for Neighbor Health Center in Buffalo, New York.

Question:

Is compliance with the HIPAA Privacy Rule an absolute requirement, or are there situations when the moral duty of the healthcare professional should take exception?

Case Presentation:

The parents of an 18 year-old university student received a midnight phone call from one of his classmates. The classmate explained that their son had sustained a head injury with loss of consciousness, was taken to a local emergency room, and, after a brief evaluation, had been discharged several hours ago. Their son, still somewhat disoriented, had been dropped off at his dormitory, where he lived in a single room without a roommate. The mother immediately telephoned the son, but there was no answer.

The father called the emergency room and asked to speak with the physician who had just treated his son. His call was transferred to the nurse manager. The father identified himself as a physician and politely explained that he was worried that his son's neurologic status might have deteriorated since discharge since his son was not answering the telephone. The nurse manager refused to allow the father to speak with the treating physician, citing the Health Insurance Portability and Accountability Act (HIPAA), which applied since the patient was of legal age. The father responded that he understood the need for confidentiality, but that his teenage son's life may be hanging in the balance. He expressed concerns about delayed cerebral edema and indicated that he believed the medical professional's duty to the patient's life and health should in this emergency situation override considerations of privacy. The nurse manager said "No." The father, acknowledging the emergency room's policy not to discuss his son's care, pleaded with the nurse manager at least to send a message to the treating physician that something might be seriously wrong with his son, so that the physician could then decide how best to follow up. The nurse manager retorted defiantly that she had no obligation whatsoever and refused to take any action.

The father then called the university security office, explained the situation and his concern that this may be a medical emergency, and asked that someone be sent to his son's dormitory room to check on him. The officer declined, citing the university's privacy policy, and clarified that it did not matter that the father was the one paying for the student's tuition, room, and board. The officer offered to send a message to the student's resident advisor in the morning but, due to the privacy policy, could not divulge the name or phone number of the resident advisor. The mother, meanwhile, made repeated calls to her son's friends to ask that someone check on him but could not reach any of them.

Editor's Discussion:

Confidentiality can truly be an appropriate medical-legal standard, but as such its swath of damage (protection) may well occur in diametrically opposite poles: in both protecting the patient from unwarranted and inappropriate personal exposure, as well as by preventing the access of both appropriate and necessary professional medical care. This clinical case clearly demonstrates the potential impedance of appropriate medical care to a needy patient in the name of confidentiality.

It is entirely reasonable to suggest that the protection of a 'third party' from potential harm may be an appropriate reason for suspending the issue of confidentiality. As such, there must be two other parties—the 'first party' being the hospital system (the emergency room and constituency, in our case) and the 'second party' as being the patient's parent. According to Song[1], there are four distinct aspects to the consideration of breaking confidentiality: (1) the magnitude of the possible harm, (2) the likelihood of the harm occurring, (3) the identification of a real or hypothetical third party, and (4) the effectiveness of available interventions potentiality applicable to the third party.

In this case, the magnitude of potential harm is immense: a student's life may definitely be endangered by lack of appropriate follow-up action on the part of the medical team. In addition—in reference to aspects (2) and (3) above—the likelihood of the harm is a very real possibility and the present case involves a real—not hypothetical—college student. Furthermore, the effectiveness of the potential and appropriate medical care (finding the student's whereabouts and observing him for potential neurological change) is definitive and appropriate medical steps for this situation.

In conclusion, under this particular set of medical-social circumstances, Song's template suggests that it is ethically reasonable and permissible to suspend the patient's protection of confidentiality in order to attend to the medical well-being of the college student.

There may well be other constructs for this type of analysis, and due consideration should be given as appropriate.

Denouement:

After a long apprehensive night, the parents received a call from their son, who assured them he was all right. He explained that he had forgotten to recharge his cell phone and that he had spent the night with some concerned friends who were keeping a close eye on his recovery.

Editor's Postscript:

Parenting is not for the faint of heart.

Endnotes:

1. J. Y. Song, MD. "Genetic testing and Confidentiality in the Primary-Care Setting". *Medical Crossfire*, January 2003, vol. 4, no. 1, p 46-50

Resources:

Medicolegal Issues in Pediatrics. S M Donn, G N McAbee (eds.). American Academy of Pediatrics. Illinois, 2012.

Tarasoff v Regents of the University of California, 551 p.2d 334 (Cal 1976).

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WILL YOU BE A PROVIDER OR A PROFESSIONAL?

White Coat Ceremony for the Class of 2016 at Loma Linda University School of Medicine, 2 August 2012

ROBERT D. ORR, MD, CM

Good evening, class of 2016, family, friends and faculty. I am delighted to have been asked to give this presentation. I am especially delighted because it was 50 years ago this month that I was in your shoes, entering medical school with a modest amount of apprehension, not knowing what the short-term or long-term future had in store. We had no White Coat Ceremony. This event originated in 1993 as a resurrection of the ancient practice of administering a professional oath to those who were just beginning the study of medicine. But I do recall that as we began our study in 1962 we were told that things would change. I'm not going to talk about changes that might happen in the future. I want to talk with you about some things that are unchanging.

Some say that you will learn in the next four years to be a *provider* who will develop *contractual* relationships with *consumers*. And after your training you will get a *job* where you can pursue a *market share* in the *business* of medicine. Call me a dinosaur, but I still think that you will become a *professional* who will develop a *covenantal* relationship with your *patients*. And after graduation you will follow a *vocation* where you will develop a *practice* in the *profession* of medicine. Let's look at some of the differences in these perspectives, these words.

A *provider* is a person or thing that provides… whatever, such as a family provider; a provider of goods (e.g., a vendor of manufactured goods); a provider of services (e.g., an Internet provider). There is nothing wrong with doing these things, but that is the point: it is about DOING.

A *professional*, on the other hand, is about BEING. It is about taking on a mantel (like a white coat!). It is about becoming a person who professes something. The term was coined by Scribonius in 47 AD when he defined it as a person who is committed to compassion, benevolence, and clemency in the relief of suffering; he emphasized humanitarian values. Over the centuries, professionalism has been attributed to theology, medicine, and the law. The definitional aspects of a profession include the mastery of expert knowledge (vs. a skill), acceptance of fiduciary responsibilities, and self-regulation.

Unfortunately, modern usage calls anything a profession if it is done for money. Professional athletes. Professional entertainers. I even saw an ad recently for a company selling swimming pools that said their salespersons were professionals who followed high ethical standards. A professional salesman! Is that an oxymoron or what?

Insurance companies say doctors have a contractual relationship with consumers. A contract is a binding agreement between two parties who are equal before the law. And there certainly are some aspects of a contract involved in the patient-physician relationship. The definition of a professional, however, calls for a fiduciary relationship,

a term that is less familiar. It is a relationship between unequals such that the person with more knowledge, authority, or power has an obligation to seek the best interests of the other. It is a relationship of trust. The patient must be able to trust the doctor. The depositor must be able to trust the banker. The client must be able to trust the attorney.

I prefer to think of my relationship with my patients as a (trusting) fiduciary relationship. Even more, I like to think of it as a *covenantal* relationship. It is a promise. "I promise to always seek your best interests, rather than my own." Some doctors are, unfortunately, more focused on their research project, their income, or their free time. But I promise. I promise to seek your best interests. I promise to be a person of virtue.

Several years ago, Edmund Pellegrino (a Catholic physician and scholar) and David Thomasma (a Catholic philosopher) wrote a book entitled *The Virtues in Medical Practice*. It included chapters on fidelity to trust, compassion, phronesis (practical wisdom), justice, fortitude, temperance, integrity and self-effacement. Not a bad aspiration for you, for all of us in the practice of medicine. A bit later they wrote a follow-up entitled *The Christian Virtues in Medical Practice* with chapters on faith, hope and charity.

Sir William Osler, the consummate bedside clinician, professor at McGill (my alma mater), and one of the four founders of the Johns Hopkins School of Medicine over 100 years ago wrote, "The practice of medicine is an art; a calling, not a business; a calling in which your heart will be exercised equally with your head; a calling which extracts from you at every turn self-sacrifice, devotion, love and tenderness to your fellow man." He used an important word three times in this short quote: a *calling.* Medicine is a calling, i.e., a vocation.

A *job* is a task to be done for a specific price. The dictionary says a *vocation* is (1) a strong impulse to follow a specific career; (2) a calling; or (3) a divine call to God's service. I hope you all have a strong desire to become doctors. Even more, I hope you envision this as a calling. But a vocation requires a caller and a 'callee.' Who is the callee? That would be you. Who is the caller?

A vocation is what makes medicine more than an occupation; more than an avocation. In a vocation, the focus is on the person. If I go to an accountant, my taxes are the issue. If I go to a mechanic, my car is the issue. If I go to a barber, my hairstyle is the issue. If I go to a physician, I am the issue. How is a vocation actualized? By taking an oath, by making a promise about future behavior. I promise: no lying, no stealing, no cheating, no tolerance for those who do… and, I promise to always seek the patient's best interests.

It is worthwhile to note the difference between a code of ethics and an oath. A code of ethics is a promise made to other people, e.g., the AMA's Code of Ethics. An oath, however, is a promise made to divinity.

I have been interested in professional oaths for a long time. In 1993 I conducted a research study to learn about the practices of all allopathic and osteopathic medical schools in the US and Canada.[1] You might find it of interest that the second author was a medical student who helped me with this project. In researching the past practice of oath-taking, we found that the oath was originally taken at the beginning of medical study, but that oath-taking was not common until the 20th century when they were administered at the time of graduation. In 1928, only 24% of North American medical schools administered an oath; in 1958 it was 72%; in 1977, 90%; and in our 1993 study

98% of schools did so, using a wide variety of oaths. Several were fairly widely used; a few were unique and specific to the medical school.

Sadly, and I think significantly, our analysis found that the content of medical oaths has diminished over time. The Hippocratic Oath was developed 2,500 years ago, was sworn to several Greek gods, and included 14 content items expressed in 335 words. Only one medical school of the 150 we surveyed still used the classical Hippocratic Oath in 1993. A modern version was developed over 100 years ago that included 165 words, 10 content items, and was sworn to "that which I hold most sacred." That wording successfully avoided Greek polytheism, but it also allowed a student to swear to his or her wallet if that is what they considered most sacred. Significant omissions included: swearing to deity, proscription of sexual contact with patients, and foreswearing abortion and euthanasia.

My coauthors and I speculated on reasons for increased oath usage throughout the 20th century. Perhaps it represented a recognition of how important it is for physicians to make a public promise to be trustworthy. Or perhaps it is because, when we no longer agree on content, we become more concerned with process.

We also speculated on why the core values of Hippocratic medicine are being diluted. Perhaps it is because we are truly entering a "post-Hippocratic" era. Or maybe it is because specialization has made medicine less monolithic. Or more likely, in a secularized, pluralistic society it is difficult to reach agreement on content.

In 1993, the Loma Linda University School of Medicine administered the Declaration of Geneva to its graduates. After publication of this study, Dean Brian Bull recognized that LLUSM's mission—to further the healing and teaching ministry of Jesus Christ—was unique among all medical schools in North America. I was privileged to serve on a committee of 4 or 5 individuals who he appointed to develop the "Physician's Oath of Loma Linda University School of Medicine," the oath you will take this evening. The primary content items are: a sacred calling, furtherance of Jesus Christ's healing, the wholeness of the patient, stewardship, the utmost respect of human life, confidentiality, purity, and honor.

I believe it is significant that this oath is being administered to you in a church building rather than an academic auditorium. And in front of this church is a statue depicting the Good Samaritan. In Luke chapter 3, we read that the Good Samaritan saw the wounded man and took pity on him, he cleaned and bandaged his wounds, he provided transportation, he even paid for further care, and he promised to follow-up. We are not going to ask you to drive the ambulance or pay for your patient's further care, but the rest fits pretty well with our mission.

But my favorite model of Jesus' healing ministry is his interaction with the widow of Nain and her dead son, recorded in Luke chapter 7:

> Soon afterward, Jesus went to a town called Nain, and his disciples and a large crowd went along with him. As he approached the town gate, a dead person was being carried out—the only son of the mother, and she was a widow. And a large crowd from the town was with her. When the Lord saw her, his heart went out to her and he said, 'Don't cry.' Then he went up and touched the coffin, and those carrying it stood still. He said, 'Young man, I say to you, get up.' The dead man sat up and began to talk, and Jesus gave him back to his mother.

What does Jesus model here? He saw the problem. He had compassion. He said words of comfort. He acted. And He provided healing.

In conclusion, I would urge you to be a professional, not merely a provider; to respond to this sacred calling; to use the healing ministry of Jesus as your model; and to go and do likewise.

As you swear this oath tonight, I remind you that this is not a code of ethics for providers, but a professional oath sworn to God almighty—the God of creation, the God of history, and the God of our salvation. Amen.

Endnotes

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WHOSE DIGNITY? REFLECTIONS ON A DECEPTIVELY DIFFICULT TERM IN BIOETHICAL DEBATES

TODD T. W. DALY, PHD

Abstract

In recent bioethical debates, the term 'dignity' has proven to be frustratingly amenable to radically diverse interpretations. Christian ethicists commonly appeal to human dignity to oppose euthanasia while their opponents appeal to dignity in support of euthanasia, as evidenced by the Swiss assisted suicide organization Dignitas. As a result, some have called for the abandonment of this term in favor of something more intelligible, like 'autonomy.' Drawing upon the work of Alistair MacIntyre and Allen Verhey, I will examine the underlying cultural myths that both contribute to the confusion over dignity and render these competing accounts more intelligible, arguing that the equivocation surrounding the notion of dignity stems from the incommensurability of the competing worldviews from which the term dignity gains meaning. If the ultimate intelligibility of dignity must be situated within a metanarrative that renders some account of the human creature, including an understanding of human flourishing, then Christians should develop a more theological understanding of dignity with explicit reference to a Christian metanarrative centered on the redemptive activity of Christ, and the inherently metaphysical claims that come with such a metanarrative.

Introduction

In a small flat in a suburb of Zurich, a physician gently positions a straw near Craig Ewert's mouth, saying gravely, "If you drink this, you are going to die." The fifty-nine-year-old, who is suffering from a progressive motor neuron disease, says "yes," and sips the toxic cocktail of prescribed barbiturates. Craig and his wife Mary share a final embrace and "I love you" as they listen to Beethoven's ninth symphony. Shortly thereafter a powerful sedative puts Mr. Ewert to sleep before putting his body into a coma. A few moments later the poisons do their deadly work. The monotonic death knell of the EKG still connected to his finger signals that Mr. Ewert's struggle is at last over. The attending physician reverently whispers "He's gone; it's done." Mr. Ewert's end was carefully, conscientiously, and compassionately orchestrated by the assisted suicide clinic *Dignitas,* founded by lawyer Ludwig Minelli, who believes that Ewert's death is precisely what a dignified death should look like when one is suffering from a progressive degenerative disease.[1]

At the same time, many Christians vociferously maintain that assisted suicide is the very antithesis of a dignified death, asserting, rather, that the *care* demanded by human dignity in the treatment of the dying precludes any intentional actions that would bring about the death of the patient.[2] In bioethical debates, then, dignity is simultaneously invoked as both the basis *for* and *against* taking human life.[3] Thus, it is little wonder that some thinkers like Steven Pinker have claimed that the concept of dignity is stupid,[4]

while others, like Ruth Macklin, have lambasted appeals to dignity as either "vague restatements of other, more precise, notions" or as empty slogans.[5] Macklin and Pinker prefer the (supposedly) more precise term *autonomy* to dignity.[6]

However, given the place that the term 'dignity' occupies in formative legal documents and statements stemming back to the *Charter of the United Nations* (1945) and the *Universal Declaration of Human Rights* (1948), it appears that dignity, as a term, will remain in use at least in the short term, despite the ambiguity.[7] Even contemporary defenders of human dignity concede that the term is too slippery or vague to handle the challenges posed by our ever-increasing technological prowess, which finds us on the precipice of altering human nature itself.[8] This fact is already quite clearly demonstrated in the way dignity is used to justify widely disparate actions, from preserving life to ending it. It is no wonder then that the use of dignity to justify a wide range of actions has contributed considerably to the strident nature of ongoing ethical debates that seem to have no end or resolution in sight.

Competing Myths and Practical Rationalities

The question "Whose dignity?" refers, of course, to Alasdair MacIntyre's *Whose Justice, Which Rationality?*, a work which was motivated by the desire to give an account for conflicting conceptions of justice in ethical arguments, conceptions that, in his words, "were strikingly at odds with one another in a number of ways." [9] MacIntyre discovered that these competing understandings of justice are driven by different rationalities that are inextricably rooted in history and tradition.[10] In an earlier work entitled *After Virtue*, he traced the interminable nature of contemporary ethical debates to the failed Enlightenment project, which wrongly assumed that the only way to resolve arguments is through a universally available practical rationality free from received traditions and appeal to religious authority. Despite MacIntyre's criticism, however, this Enlightenment ideal is one among several powerful myths operative in ethical debates today. In other words, the assumption of a morally neutral language is one of several myths that have contributed to the confusion over the term dignity. It will therefore be useful to consider some of the myths that currently inform much of our thinking.

In his work *Nature and Altering It*, Allen Verhey does just this, echoing MacIntyre's critique of the Enlightenment in examining the various myths that inform the way we view the world and animate ethical discussions today, offering, perhaps, an more accessible entry point into the question "Whose dignity?" For this is not so much a question concerning which understanding is to be favored over another (though this certainly matters), but rather an attempt to get at the deeper issues behind these radically diverse interpretations of dignity by investigating the myths or metanarratives behind these competing interpretations. Verhey observes that every *ethos* implies a *mythos*; the formation of character requires a myth or metanarrative that provides some account of reality, gives meaning to human existence, and provides some structure for ordering one's life (*ethos*) towards a particular end (*telos*).[11] Myths, says Verhey, are simply inescapable and too often go unchallenged. Moreover, myths carry metaphysical baggage insofar as they make some claim on the nature of things, including ourselves.[12] The problem, then, is not one of finding a system of values of that is free of myths—for that is another kind of myth—but rather finding a good myth.[13] Verhey discusses at least two myths that bear

some weight on understanding what dignity means or how it is supposed to function: the myth of the "Project of Liberal Society," and the "Baconian Myth."

The Myth of the Project of Liberal Society

The myth of the Project of Liberal Society insists that all myths should be bracketed in the public square—including myths that speak fundamentally of nature, including human nature. Echoing MacIntyre again, this is the myth that public discussions should do without myths, or, in other words, it is "the story that we can do without stories."[14] Once again, the origins of this myth can be located in the Enlightenment, where it was believed that the tremendous amount of political and religious uncertainty that had spurred such a violent upheaval of everyday life could be considerably mitigated if disagreements could be managed *without* reference to religious or tradition-laden language.[15] As Verhey notes, a liberal society demands that we bracket such convictions in the name of peace, "and that public moral discourse attend only to the requirements of the maximum freedom for each member of the society that is compatible with a like freedom for all others."[16] What is the nature of such freedom? It might be construed as 'negative liberty' insofar as it "demands the protection of individual rights, and attempts to guarantee a space for each one to act in ways that suit one's moral preferences as long as such actions do not violate the autonomy of another."[17] However, when choice or agency becomes a defining feature of what it means to be human, it is understandable that autonomy might be favored over an outmoded and opaque term like dignity. Moreover, there is a danger in our "myopic attention to capacities for agency," notes Verhey, especially for the weak and marginalized. This myth, then, seems to foster an anthropology that reduces the human creature to agency, which invites questions concerning the moral significance, if any, of the human body.

Thus, it is little wonder that the language of rights and respect for autonomy is so pervasive in moral disagreements carried on under these terms. But the moral minimalism of the liberal project tells us, among several things, nothing about what goods we are to seek.[18] Verhey acknowledges that while this minimalism does not necessarily make the liberal project wrong, if this self-inflicted minimalism goes unacknowledged it will continue to distort the moral life and our relationship to nature, including our own bodies. When dignity is reduced to autonomy, it matters little whether one is dealing with human eggs, organs, or embryos, so long as moral agents are empowered to pursue what they value most.

Steven Pinker's criticisms of the term dignity serve as an example of the kind of arguments that typically stem from the myth of the liberal project. His rant against the religious makeup of the President's Council is a case in point. Taking particular aim at the Council's report *Human Dignity* (2008), Pinker lambasts the council for their attempt to foist "fervent religious impulses . . . onto American biomedicine."[19] Though the means and methods by which the term dignity has already found its way into various universal declarations (noted above) could hardly be described as attempts to impose 'fervent religious impulses' onto the contemporary moral landscape, Pinker nevertheless asserts that the Council's deeply misguided agenda is especially egregious when clearer terms, such as autonomy, are readily available and (supposedly) free from the strictures and particularities of religious traditions.

When, however, Pinker asserts that dignity is simply another word for autonomy, understood as "treating people in the way that they wish to be treated," his definition invites more questions than it purports to answer, for Pinker's particular definition of autonomy, including his understanding of the term '"people," is no less problematic than dignity. For instance, quite a lot rests upon who or what we mean by people.[20] What about those who have no voice, who cannot articulate the treatment they would like, as in the case of infants and the profoundly impaired? How exactly is patient autonomy to be understood in such cases? Pinker appears utterly unaware of this ongoing debate spurred on by Paul Ramsey's landmark *The Patient as Person* (1970) and Stanley Hauerwas' sardonically entitled "Must a Patient Be a Person to Be a Patient? Or, My Uncle Charlie Is Not Much of a Person, But He Is Still My Uncle Charlie" (1975), works that bear witness to some of the tensions and complexities of the concept of personhood from within the Christian tradition alone.[21]

Beyond the issue of personhood in Pinker's definition of autonomy lies a deeper concern over whether autonomy can so easily be reduced to respecting another's wishes and whether human beings can be so narrowly described as volitional creatures. While the exercising of one's will may be one component of what it means to be human, Pinker's understanding of autonomy leaves the human body largely out of consideration. Such an omission seems strange given that he acknowledges a limited kind of phenomenologically-based dignity that is "triggered" by our perceptions of another's *embodied* presence—the way the sight of a baby's face, for instance, triggers protective instincts in us.

Despite Pinker's minimalist understanding of dignity, the larger issue concerns the supposed neutrality of 'autonomy' over against a religiously loaded term like dignity. Pinker seems unaware that *both* terms are rooted in particular traditions and practical rationalities.[22] One may just as easily ask, "Whose autonomy?" While autonomy language can be traced back to Locke, Rousseau, and Kant, it has been noted that bioethicists generally reject the theoretical tradition and legacy of autonomy, and that bioethics discourse is impoverished as a result.[23] For instance, Bruce Jennings argues that the autonomy most frequently used in contemporary bioethical discussions shares much more in common with John Stuart Mill's (1808-1873) subjective conception of autonomy and, to a greater degree, Isaiah Berlin's (1909-1997) concept of 'negative liberty' than a Kantian autonomy informed by *duty*, understood as obedience to the self-imposed moral law or categorical imperative as discerned by the exercising of reason.[24]

However, these criticisms aside, the primary point here concerns Pinker's objections to what he perceives as a religious encroachment on the public square. He finds it especially beguiling that the religiously minded President's Council might influence public policy, informed as it is by arcane, tradition-laden notions of the common good.[25] He asks, "How did the United States, the world's scientific powerhouse, reach a point at which it grapples with the ethical challenges of twenty-first-century biomedicine using Bible stories, Catholic doctrine, and woolly rabbinical allegory?"[26] To borrow from MacIntyre, there is certainly a practical rationality at work here that his hardly devoid of tradition, namely, a form of consequentialism that might be mistaken for utilitarianism. For, according to Pinker, the primary means by which social change takes place in a free society "only emerge[s] as hundreds of millions of people weigh the costs and benefits of new developments for themselves, adjusting their mores and dealing with specific harms

as they arise," which, as Pinker claims, is precisely what we have done with other ethical issues like IVF and the internet.[27]

Pinker's arguments, then, for rendering dignity as autonomy suffer precisely from the weaknesses identified by Verhey and MacIntyre insofar as (1) he assumes that the term 'autonomy' is a tradition-free, a-religious term, and (2) in his implicit anthropology, which is myopically focused on agency, leaving issues of human embodiment largely unaddressed. Yet, Pinker's objections arise from myth, the project of liberal society, which is itself a metanarrative weighted with its own metaphysical claims and practical rationality. Pinker's understanding of human dignity as autonomy is no less indebted to a particular rationality rooted in tradition than any *Christian* understanding of human dignity. There is, however, another powerful and related myth at work that fuels the concept of autonomy: the Baconian Myth.

The Baconian Myth

Drawing on the work of Gerald McKenny, Verhey notes that one myth that animates our technological drive for perfection is the "Baconian Myth," or what McKenny himself called "the Baconian Project," with its fundamental belief that practical science (as opposed to speculative science) orients us toward "the relief of human subjection to fate or necessity."[28] This project takes its name from Francis Bacon (1561-1626) who spurned speculative knowledge, including the search for final causes, in favor of instrumental knowledge by way of induction.[29] This instrumental or practical knowledge could then be used to relieve the suffering of humankind by conquering nature and becoming, in Bacon's own words, "instruments of the divine omnipotence," ushering us back to the Garden of Eden, marked by an increased power over nature, including the eradication of disease and the radical extension of the human lifespan.[30] Over time, the admittedly thin theological foundation of Bacon's vision would evaporate under the secularizing influences of the Enlightenment, with its increased emphasis on utilitarian thought in which suffering is reduced to a negative entry in a cost-benefit balance sheet, and its heightened interest in individual autonomy.[31]

But, as Verhey observes, the *mythos* that scientific progress will be able to put an end to all suffering at the hands of nature and, thus, enable us to really flourish continues to endure, inspiring an *ethos* of confidence in technology to remedy our problems. "The Baconian account of knowledge simply arms compassion with artifice," says Verhey.[32] In this myth, nature itself becomes the enemy. Any dignity that might inhere in the created order, including the human body, suggesting that there might be limits to our projects is excluded from the utilitarian calculus.

> The myth of the Baconian project sets humanity not only over nature, but against it. The natural order and natural processes *have no dignity of their own*; their value is reduced to their utility to humanity.[33]

When the power to bend nature to our own desires is relentlessly pursued and celebrated as liberation from material necessity, one can begin to see how, in this particular framework, 'dignity' becomes divorced from the natural order or anything material—including our own bodies—and begins to express itself positively in terms of autonomy, primarily as agency, as instrumental power exercised by one's naked will.[34] Steven Pinker's criticisms of the President's Council are most intelligible from within a Baconian framework when he finds it unconscionable that that new technologies such as

drugs that enhance cognition, genetic manipulation, lifespan extension, and therapeutic cloning that would obviously improve life and decrease suffering might be outlawed if they threatened human dignity. According to Pinker, the President's Council is against maximizing health and human flourishing, which is most clear in his sweeping assertion that "advances like these, if translated into freely undertaken treatments, could make millions of people better off and no one worse off."[35] Once again, the kind of reductionist understanding of dignity as autonomy that finds its intelligibility in this myth leaves little to no room for consideration of what limits, if any, might be imposed by human embodiment, much less what role the body might play in moral formation.[36]

The myth that scientific progress carries endless felicity in its train, and the concept of dignity animated by this myth, should be rejected. This does not entail a rejection of science, but rather the myth behind scientific progress that suggests that true human flourishing can only occur after we have mastered nature as our enemy. While the focus on instrumental knowledge in science has lead to tremendous discoveries and advances over disease, it is worth remembering that speculative knowledge remains valuable, and more importantly that science itself as a discipline is ill equipped to tell us what needs fixing, much less what values are worth pursuing.[37]

The origins of these two myths and the practical rationalities at work are, of course, far more complex than have been related here. However, these sketches may help us to understand why dignity as autonomy remains so attractive and why the language of rights remains so pervasive.[38] It may also help explain why assertions that dignity resides in individuals *apart* from their ability to perform certain capacities, including more fragile beings like embryos and the profoundly impaired, sounds highly dubious. In such a climate, attaching dignity to embryos or human beings at the margins of life may sound rather strange, and this idea has invited charges of 'speciesim,' 'personism,' and a rejection of the incalculable worth of human individuals.[39] While Christians should continue to support the basic affirmations of dignity in the *Universal Declaration of Human Rights*, it is time for both the defenders and disparagers of dignity to say something more by owning up to the myths or metanarratives that inform competing notions of dignity. In other words, the kind of work dignity is to do—whether to protect life or defend a patient's right to end her life in the face of a terminal illness—requires a deeper understanding of the metanarrative in which dignity is situated and the metaphysical claims of that narrative.[40] Christians and utilitarians alike need to examine their own metaphysical commitments by acknowledging the particular metanarratives that render such claims intelligible.

Saying Something Theological

For Christians, these insights should be both *comforting* and *challenging.* Comforting because Christians need neither wither under the pressure to accept the current terms of public debate nor fear to speak in ways foreign to the practical rationality of the Christian faith, and at the same time challenging because saying something theological often requires hard work. Clearly, if Christians are to speak of human dignity, then it must be understood theologically.[41] After all, while many appeal to the giftedness of all human life when defending human dignity, such statements beg the question about the nature of the *Giver.* Any meaningful answer to this question is inescapably theological.

In his work *Neither Beast Nor God*, Gilbert Meilaender has noted and taken up O'Donovan's challenge, deftly unpacking two inextricable aspects of dignity—personal dignity and human dignity—and holding them together theologically.[42] In the face of the admittedly more "undemocratic" aspects of personal dignity that appreciate exceptional displays of virtue that distinguish one's dignity from another's, we must, asserts Meilaender, also preserve the dignity of every human creature. However, to preserve human dignity requires theology, because we are certainly more than simply members of a species or simply instances of a universal type. Both Christians and Jews, for instance, have some account of persons as both equidistant from God and of equal worth before God, an account that, in Meilaender's words, "grounds and makes sense of this commitment [to the dignity of humanity] we all share."[43] However, he also notes that we must maintain the distinction between the *nature* we have and the *persons* we are.[44]

Meilaender's theological reflections are sound and invite Christological reflection given their emphasis on the concepts of nature and persons which are amenable to a Chalcedonian Christology with its focus on holding the nature(s) and person together hypostatically in Jesus Christ.[45] More generally, it seems clear that an explicitly *Christian* account of human dignity must go beyond references to God and the *imago Dei* to the clearest picture we have of God in the person of Jesus Christ, by whom, as Karl Barth recognized, our humanity is judged and determined, not the reverse.[46] In his introduction to Barth's work entitled *God in Action*, written fifty years ago, Elmer Homrighausen asserted, "The dignity of man does not lie in his having been created in the image of God but rather in the fact of the Incarnation of Jesus Christ. . . .The Incarnation gives man a new status and possibility."[47] While this statement warrants further exploration, it is a good starting point for Christian reflection on dignity. For, minimally, the Incarnation itself is the strongest affirmation of the dignity all human creatures share. As such, it serves as a vindication of *all* stages of human life, given that God, who eternally begets the Son, came to earth not only as a man in the historical person Jesus of Nazareth but also as an embryo and developing fetus without, at the same time, ceasing to be God.[48] When dignity is "fleshed out" (John 1:14) in this manner, situated as it is within the Christian metanarrative where weakness and finitude are not necessarily something to be overcome, it becomes much more difficult to envision any Christian understanding of dignity that would have much use for the term autonomy, unless of course this term is also inscribed within the Christian story that takes the redemption of creation through the death, burial, resurrection, and ascension of Christ as of central importance. Similarly, defenders of autonomy must own up to their own metaphysical commitments and offer arguments as to why the weak and marginalized either warrant, or are unworthy of, protection and care.[49]

Conclusion

If the concept of human dignity is ever to be more than a placeholder for deeper concepts that remain unspoken and unarticulated, it is time for Christians, Kantians, Hobbesians, and utilitarians to move away from supposedly morally neutral, universally available language and own up to the practical rationalities inherent in the various myths or metanarratives espoused by those who employ the term, not for the celebration of diversity, but so that we might have a better way of getting at the truth. For Christians, this entails demonstrating the firm link between God—and especially God as revealed

in Christ—and human dignity. For, ultimately, "Whose dignity?" is not only a political question, but a deeply theological one. Though internal discussions may be more explicitly theological than those in public, it seems right that Christians should continue to work both within the church and without.[50]

Even publically posing the question of "Whose Dignity" may prove somewhat useful as a "theological irritant," a pebble in the shoe, spurring deeper thought and analysis.[51] For to ask this question is to challenge the fundamental assumptions behind the meaning and use of this term, including the metanarrative of which it is a part, inviting more substantive questions concerning not only the origin of dignity, but its use in public. There are, of course, many challenges to entering the public square, not the least of which concerns whether or not Christians should even bother to do so in the first place, or, if so, under what circumstances or to what degree theological terms and concepts can be 'translated' into more accessible language in light of the ongoing hostility toward any public arguments that appeal to faith and tradition.[52] One would hope that several centers for the study of Christian bioethics—from the center at Loma Linda to the Linacre Centre—might lead the way in rehabilitating dignity by fostering the theological discussions demanded by such rehabilitation, with the willingness to situate it within an explicitly Christian metanarrative.[53] At the very least, human dignity might then be seen as something much richer than autonomy. Considering the question "Whose Dignity?" may be a good place to begin.

Endnotes

1. Mr. Ewert's death is eerily similar to the "American's dignified death" described so presciently by Jacques Maritain in *Reflections on America* (New York: Scribner's, 1948), and commented upon by Philippe Ariès, "Death Inside Out," in *Death Inside Out*, ed. Peter Steinfels and Robert M. Veatch (New York: Harper and Row, 1974), 14, though Maritain was addressing the ways in which dying patients were *deceived* as to their own condition for their own sake and to spare the family and caregivers.

   > The medical staff induces in him a kind of dream-like state in which he thinks that to die amidst these smiling faces and these uniforms, white and immaculate like the wings of angels, is a genuine pleasure, or at least a moment of no consequence—"Relax, take it easy, it's nothing." Take away the professional smile and add a little music, and you have the contemporary philosopher's ideal of the dignified, humanistic death: "To disappear *pianissimo* and, so to speak, on tip toe."

2. There is of course also a well-established distinction between intention and foresight that can be traced back to Thomas Aquinas in his *Summa Theologica* IIa IIae, q. 64, art. 7-8. While Aquinas treated this distinction in relation to self defense in discussing Exodus 22:3-4, it has been appropriated by contemporary medicine. One can for instance administer pain-killers with the intention of easing one's pain as an acceptable form of care, knowing however that this may actually hasten death (foresight). Many ethicists however have noted that while this distinction is useful, it may be too simplistic to account for all of the internal aspects of moral being and activity.
3. Adam Schulman notes several other scenarios where dignity is invoked to support more than the binary options suggested above. For instance, dignity can be used to argue (1) that a patient suffering from Alzheimer's should forgo further treatment to avoid humiliating dementia, (2) that a patient should continue to receive care and resist any attempts at euthanasia, whether passive or active, or (3) that the patient's own autonomy and hence personal choice should be respected. See "Bioethics and the Question of Human Dignity," in *Human Dignity and Bioethics*, ed. President's Council on Bioethics (Washington, D.C.: President's Council on Bioethics, 2008), 4.
4. Steven Pinker, "The Stupidity of Dignity: Conservative Bioethics' Latest, Most Dangerous Ploy," *The New Republic*, May 28, 2008.

5. Ruth Macklin, "Dignity is a Useless Concept: It Means No More Than Respect for Persons or Their Autonomy," *British Journal of Medicine* 327 (December 2003), 1419.
6. As early as 1970 the Protestant ethicist Paul Ramsey (1913-1988) expressed concerned that the sanctity of human life was being reduced to 'mere dignity,' which in his words was only a sliver of the shield of sanctity. Ramsey maintained that it was crucial to assert humanity's *sacredness* rather than humanity's dignity in the social, political, natural, biological order. *The Patient as Person*, 2nd ed. (New Haven, CT: Yale University Press, 2002 [1970]), xlvi.

   > It is of first importance that this be understood, since we live in an age in which *hesed* (steadfast love) has become *maybe* and the "sanctity" of human life has been reduced to the ever more reducible notion of the "dignity" of human life. The latter is a sliver of a shield in comparison with the awesome respect required of men in all their dealings with men if man has a touch of sanctity in this his fetal, mortal, bodily, living and dying life.

   It seems clear however that distinguishing the latter from the former would require a robust Christian ethic sufficiently informed by doctrine, and at least some metaphysical claims that could be generated by a thorough theological anthropology.
7. Steven Pinker believes that the term dignity is stupid in part because of its ambiguity which can be easily repaired by using more precise terminology. Edmund D. Pelligrino, who succeeded Leon Kass as chairperson of the President's Council on Bioethics in 2005 also acknowledged the ambiguity surrounding dignity, but used this as a basis to explore the notion in more depth, hence the 2008 release of *Human Dignity and Bioethics*. Pellegrino admits that the contributions to this volume "make it clear that there is no universal agreement on the meaning of the term, human dignity." Yet, he maintains that an "appreciation of the variety of these views is critical, if we are to understand the divergences in how we think and act in response to the challenges posed by contemporary bioethics." "Letter of Transmittal to The President of The United States," in *Human Dignity and Bioethics*, ed. President's Council on Bioethics, xi-xii.
8. Schulman, "Bioethics and the Question of Human Dignity," 7.
9. *Whose Justice, Which Rationality?* (Notre Dame, IN: University of Notre Dame Press, 1988), 1.
10. *Whose Justice, Which Rationality?*, 1. For instance, practical rationality can be construed as an with accurate assessing of costs and benefits (utility), or as acting in accordance with the duty treat others as ends in themselves (deontology), or as aligning with the realization of the true and ultimate good of human beings (virtue). MacIntyre hopes for a return to tradition-based forms of moral reasoning that were displaced by the Enlightenment. While it might appear that public arguments of this nature have even *less* hope of ever reaching resolution, MacIntyre points out that the Enlightenment model that currently dominates the public square has already sufficiently demonstrated its inability to resolve conflicts. He also rejects that rival and incompatible traditions are entirely beyond resolution. *Whose Justice, Which Rationality?*, 10; 370-388; Alasdair MacIntyre, *Three Rival Versions of Moral Enquiry: Encyclopaedia, Genealogy, Tradition* (London: Duckworth, 1990); Gavin D'Costa, *Theology in the Public Square: Church, Academy and Nation* (Oxford: Blackwell, 2005).
11. Allen Verhey, *Nature and Altering It* (Grand Rapids, MI: W. B. Eerdmans, 2010), 13. Verhey cites H. Fries, "Myth," in *Encyclopedia of Theology: The Concise Sacramentum Mundi*, ed. K. Rahner (New York: Seabury Press, 1975), 1011-1012: Fries sees myth as

    > Characterized by the fact that it sees the empirical world and its happenings, and above all, man and his action in the light of the reality that constitutes them, and makes them a unity, and at the same time transcends them. . . . It is mostly in narrative form, a story which is a "sacred word" a word about true being and the all-sustaining event, not merely in the causal sense, but in the sense that it gave meaning and purpose to all actual being and happenings.
12. "Views . . . of nature and human nature always come with metaphysical baggage, are always accompanied by myth." *Nature and Altering It*, 29.
13. "The problem is not that there are myths; the problem is that there are bad myths." Verhey, *Nature and Altering It*, 15.
14. Verhey, *Nature and Altering It*, 26.
15. *Whose Justice, Which Rationality?* (Notre Dame, IN: University of Notre Dame Press, 1988), 7. The Enlightenment deprived us of the concept that all rational enquiry is embodied in a tradition and rooted in history, including the standards of rational justification themselves. MacIntyre

argues to the contrary that all thoughts, ideas, and arguments are inextricably rooted in traditions and practices that give ideas and concepts their specific meaning. In short, the Enlightenment notion that our moral language could be extracted from the traditions of thought and practices that gave rise to such language in the first place and made it intelligible was hopelessly idealistic.

16. Verhey notes the irony here, namely, that the moral minimalism which demands that the very convictions that must be set aside in the name of plurality turns out to be rather inhospitable to difference. "At its best, it is the discourse of those who, in spite of their differences, resolve to live together as peaceful strangers, but it can hardly nurture any other form of community than that of wary and spiteful strangers who want to be protected from one another." *Nature and Altering It*, 28.
17. Verhey, *Nature and Altering It*, 27.
18. Verhey, *Nature and Altering It*, 27. In addition, The Project of Liberal Society reduces covenantal relationships to contractual negotiations, and pushes more substantive questions of what is to be done, and who we are to become to the margins in favor of more procedural concerns like "Who decides?" Finally, as MacIntyre has already argued, this project demands that public discourse must be free of religious traditions and moral communities.
19. Pinker, "The Stupidity of Dignity: Conservative Bioethics' Latest, Most Dangerous Ploy," *The New Republic* , May 28, 2008, 28.
20. Indeed, Pinker's statement suggests that the notions of autonomy and people (which bespeaks personhood) are concepts universally available to all apart from any religious tradition or history. While it is easy to speak of 'people' in the abstract, arriving at a precise notion of the singular of people—'person' is far more difficult.
21. Reprinted from *Connecticut Medicine* 39 (1975): 815-817 in Stanley Hauerwas, Richard Bondi, and David B. Burrell, *Truthfulness and Tragedy: Further Investigations in Christian Ethics* (Notre Dame, IN: University of Notre Dame Press, 1977), 127-131. Ramsey's work on the concept of 'person' was used in response to the depersonalizing effects of medicine and the temptation to use one patient (in experimental medicine) for the good of another. As Stanley Hauerwas rightly observes, "the notion of 'person' functions for Ramsey as a Kantian or deontological check on what he suspects is the utilitarian bias of modern medicine." *Truthfulness and Tragedy*, 128. There is still debate amongst philosophers and ethicists concerning the development of personalism, Christian personalism, and the degree to which Kant can/should be appropriated. See for instance Derek S. Jeffreys, "The Influence of Kant on Christian Theology: A Debate About Human Dignity and Christian Personalism," *Journal of Markets & Morality* 7 no. 2 (Fall 2004): 507-516, and a response from Robert P. Kraynak in the same volume, pp. 517-525. See also *In Defense of Human Dignity: Essays for Our Times*, ed. Robert P. Kyaynak and Glenn Tinder (Notre Dame, IN: University of Notre Dame Press, 2003).
22. For other criticisms of Pinker's article, see Gilbert Meilaender, *Neither Beast Nor God: The Dignity of the Human Person* (New York: New Atlantis Books, 2009), 79-86.
23. Bruce Jennings, "Autonomy," in *The Oxford Handbook of Bioethics*, ed. Bonnie Steinbock (Oxford: Oxford University Press, 2007), 73. Other notable criticisms of autonomy include George J. Agich, *Autonomy and Long Term Care* (New York: Oxford University Press, 1993), Willard Gaylin and Bruce Jennings, *The Perversion of Autonomy: Coercion and Restraint in a Liberal Society*, 2nd ed. (Washington, D. C.: Georgetown University Press, 2003), and Onora O'Neill, *Autonomy and Trust in Bioethics* (Cambridge, Eng.: Cambridge University Press, 2002).
24. Jennings, "Autonomy," 83.
25. Drawing on Damon Linker's book *The Theocons*, Pinker sees the President's Council primarily as a group of intellectual activists who asset that the basic tenets of the American social order—the recognition of the right to life, liberty, and the pursuit of happiness—are insufficient for a moral society that requires some common vision beyond bare-bones individualism. Nevertheless, even if such standards could be articulated, Pinker thinks that most denominations are not equal to the task of formulating and interpreting these standards.
26. Pinker, "The Stupidity of Dignity," 28-29.
27. Pinker, "The Stupidity of Dignity," 31. H. Richard Niebuhr anticipated MacIntyre's critique concerning the traditional or 'traditioned' element in all forms of knowledge when he addressed the challenges posed to the Christian doctrine of revelation vis-à-vis the claims of historical

criticism, noting that in light of what we know from the cultural- and historical-situatedness of all knowledge we should not be surprised that Mill's hedonic calculus of pleasure is somewhat different from Epicurean hedonism, which is clearly more Hellenistic in nature and in some ways more akin to Stoicism than its Utilitarian successor. *The Meaning of Revelation* (New York: Macmillian, 1962), 11-12.

28. Gerald P. McKenny, *To Relieve the Human Condition: Bioethics, Technology, and the Body* (Albany: State University of New York Press, 1997), 22. Verhey lists Max Oelschlaeger's "dominant social matrix" as a combination of the myths of the Baconian project, the project of liberal society, and the project of capitalism. Oelschlaeger himself identifies six different themes to describe this matrix. See Max Oelschlaeger, *Caring for Creation: An Ecumenical Approach to the Environmental Crisis* (New Haven: Yale University Press, 1994).
29. Francis Bacon, *Novum Organum* I.73, in *The Works of Francis Bacon, Lord Chancellor of England*, vol. 3 (Philadelphia: M. Murphy, 1876), 354. Bacon is critical of scientists who are excessively empirical, behaving like ants who "heap up their store" and scientists who behave like spiders who dogmatically "spin out their own webs." Bacon prefers the bee which extracts matter from flowers and then *puts it to use*. See *Novum Organum* I.95, in *Works*, vol. 3, 362.
30. Francis Bacon, *History of Life and Death*, in *Works*, 467.
31. Robert Song, "The Human Genome Project as Soteriological Project," in *Brave New World?: Theology, Ethics and the Human Genome*, ed. Celia Deane-Drummond (London: T. & T. Clark, 2003), 173-174. Song also draws on Charles Webster in observing that the Puritans adapted Bacon's perspective and "busied themselves with the exploitation of the fruits of the earth in service to God." For more on the Puritans and science, see Charles Webster, *The Great Instauration: Science, Medicine and Reform 1626-60* (London: Duckworth, 1975), 1-31, 324-342, 484-520. McKenny and others have also observed that nineteenth century Romanticism with its emphasis on inwardness and individual self-expression also contributed to the further growth of the human will through celebration of choice.
32. Verhey, *Nature and Altering It*, 23.
33. Verhey, *Nature and Altering It*, 25, emphasis mine. To state that things have a 'dignity all their own' or inherent dignity is not a denial that such dignity is bestowed by God. See for instance Karen Lebacqz, "Alien Dignity: The Legacy of Helmut Thielicke for Bioethics," in *Religion and Medical Ethics: Looking Back, Looking Foreard*, ed. Allen Verhey (Grand Rapids, MI: W. B. Eerdmans, 50), 44-60.
34. As we have seen, autonomy is also construed negatively with respect to the project of liberal society insofar as autonomy is meant to secure humans freedom from interference in pursuing individual happiness.
35. Pinker, "The Stupidity of Dignity." 28. Later on Pinker argues that the defenders of dignity often appeal to Huxley's *Brave New World* as if this is "inerrant prophecy." (p. 31) Christians ought to take heed at this indictment insofar as such appeals appear driven more by consequentialist concerns than theological argument. In other words, one would hope that Christians would learn to appeal to the Christian story, rather than a dystopian fantasy, despite tremendous pressure exerted by the myth of the project of liberal society and its appeal to areligious, universally-available rationally language.
36. Indeed, as McKenny has claimed, the Baconian project entails its own particular stance towards the human body, one that is also profoundly implicated in the development of one's self-formation, or in the words of Verhey, one's *ethos*. See *To Relieve the Human Condition*, 218-219.

    > The Baconian Project not only replaces attitudes and practices regarding the moral significance of the body, its pursuit of health, and its susceptibility to disease, decay, and death . . . but is itself a set of attitudes and practices regarding the body, and one that is pervasive in our self-formation.

37. Verhey, *Nature and Altering It*, 24 f.n. 24.
38. Whether autonomy is really any easier to define that dignity, as we have already seen, seems dubious. Maklin's appeal to autonomy suggests that the operative metanarrative is one significantly informed by modern, liberal assumptions. Rights language can be traced back to Locke (1633-1704), and more significantly, Hugo Grotius (1583-1645), who was the first to uncouple the link between natural law (rights) and God.

39. Indeed, as Christopher Tollefson has noted, any claims of inherent dignity in humanity as a whole or in individual persons has met with counterclaims asserting that (1) humans are *not* special when compared to animals (e.g. speciesism), (2) humans are not of equal value (e.g. personism), and (3) all human life is not of incalculable value. "Mind the Gap: Charting the Distance between Christian and Secular Bioethics," *Christian Bioethics* 17, no. 1 (May 2011): 49.
40. For a contemporary defense of the need for metaphysics in ethical discussions vis-à-vis pragmatic ethics, see Richard Sherlock, "Must Ethics Be Theological? A Critique of the New Pragmatists," *Journal of Religious Ethics* 37, no. 4 (December 2009): 631-649.
41. Oliver O'Donovan, *The Ways of Judgment* (Grand Rapids, MI: W. B. Eerdmans, 2005), 40, quoting Duncan Forrester, *On Human Worth* (London: SCM Press, 2001), 30 f. "Duncan Forrester begins from the right place when he stipulates: 'At the heart of the notion of equality lies the conviction that each person is of infinite, and hence equal worth and should be treated as such,' and he draws the right inference when he adds, 'But it is difficult to see how this core affirmation can be justified without theological reference.'"
42. Gilbert Meilaender, *Neither Beast Nor God: The Dignity of the Human Person* (New York: New Atlantis Books, 2009), 18: "Thinking about human dignity, about our needy openness to the world around and beyond us, reminds us that our humanity cannot adequately be described apart from the relation to God, and this—taken seriously—must eventually press us to think not only about our shared human dignity but also about the dignity of each person."
43. *Neither Beast Nor God*, 96.
44. *Neither Beast Nor God*, 102.
45. It would seem that Christology is a proper theological grounding for what Meilaender rightly asserts must be in a dialectical relationship. For maintaining the distinction between nature and person is most critical when discussing Christology. The dual affirmation known as *anhypostasia-enhypostasia* may prove helpful here. These terms highlight that Christ takes on human nature not in the abstract, but in the particular person of Jesus of Nazareth. Stated negatively, there is no assumption of the human nature apart from the particular instantiation in the person of Jesus Christ. This may be the strongest way to affirm Meilaender's claim that "the dignity of our humanity and the dignity of our person thus coinhere." *Neither Beast Nor God*, 103. For a helpful articulation of the terms *anhypostasis* and *enhypostasis* see Thomas F. Torrance, *Incarnation: The Person and Life of Christ*, ed. Robert T. Walker (Downers Grove, IL: InterVarsity Press, 2008), 228 ff.
46. Karl Barth, *The Epistle to the Romans*, trans. Edwyn C. Hoskyns (Oxford: Oxford University Press, 1968), 94. "So it is Christ that reveals the true nature of man. Man's nature in Adam is not, as is usually assumed, his true and original nature; it is only truly human at all insofar as it reflects and corresponds to essential human nature as it is found in Christ. True human nature, therefore, can only be understood by Christians who look to Christ to discover the essential nature of man."
47. Elmer G. Homrighausen, "Introduction," in Karl Barth, *God in Action*, trans. E. G. Homrighausen and Karl J. Ernst (Manhasset, NY: Round Table Press, 1963), ix-x.
48. Neil Messer however is suspicious concerning Christian attempts to establish the intrinsic dignity of all human life, including human embryos, by reference to the *imago Dei*. "There are good exegetical and hermeneutical reasons for thinking that the ethical implications of the *imago dei* are not best expressed in terms of human dignity." *Respecting Life: Theology and Bioethics* (London: SCM Press, 2011), 10. He prefers the biblical concept of 'neighbor' understood as those whom God has given us to love, in part because it is more resistant to unacceptably restrictive definitions (see for instance Ian A. McFarland, "Who is My Neighbor? The Good Samaritan as a Source for Theological Anthropology," in *Theological Issues in Bioethics: An Introduction with Readings*, ed. Neil Messer (London: Darton, Longman and Todd, 2002), 76-84). While Messer may be correct here, linking human dignity to the *imago Dei* as most fully realized in the person of Jesus Christ who himself became a 'neighbor' in the flesh might assuage some of his concerns.
49. With Paul Ramsey, there may a humanist ethic that acknowledges the "awesome claims and entitlements of another human life simply because he or she is a human being." While Ramsey himself preferred the term 'sanctity of human life,' he allowed for the possibility of a humanist ethic reaching similar conclusions in support of the 'dignity of human life,' or, "a nonreligious replacement for 'my neighbor as holy ground' that still sustains an inviolable human dignity."

However, Ramsey himself confessed: "It is not so much that I grant that this may be true as that I am myself profoundly uninterested in finding out whether it is or not." Paul Ramsey, *Ethics at the Edges of Life: Medical and Legal Intersections* (New Haven, CT: Yale University Press, 1978), xiii.

50. Of course there are those like Stanley Hauerwas who believe that Christian arguments can only lose their distinctive theological orientation by venturing into the public square, and would be better off spending their time helping the church *be* the church in order to serve as a public witness.

51. Duncan Forrester has called for the use of "theological fragments" in public discussions, by which he means ideas, particular insights, and even practices that come from a 'quarry' of the Christian faith that may act as irritants to move the debate in new directions. See *Christian Justice and Public Policy* (Cambridge, Eng.: Cambridge University Press, 1997) and *Truthful Action: Explorations in Practical Theology* (Edinburgh: T. & T. Clark, 2000).

52. Here we do well to remember Paul Ramsey's statement that no one ought to leave behind one's ultimate commitments when entering rational argument, even if Ramsey rarely made such commitments explicit in his arguments. Paul Ramsey, *Ethics at the Edges of Life: Medical and Legal Intersections* (New Haven: Yale University Press, 1978) xv. Nigel Biggar's distinction between integrity and distinctiveness when arguing as Christians is helpful as well. "And if the likes of Paul Ramsey have sometimes downplayed the theological elements of their ethics for the sake of being persuasive in public discussion, that might have been an expression of rhetorical love rather than a lack of theological nerve," *Behaving in Public: How to Do Christian Ethics* (Grand Rapids, MI: W. B. Eerdmans, 2011), 9. At the same time, Gilbert Meilaender's point should be kept in mind: "It is not religious believers who should be ill at ease in a public square committed to equal respect for every human being; it is those who lack the faith that animated and animates such commitment. It is not religious believers who should be mute in a public square committed to equal dignity; it is others who find themselves mute when asked to give an account of our shared public commitment." *Neither Beast Nor God*, 97.

53. This would seem to apply especially to institutions like the Center for Bioethics and Human *Dignity* (CBHD).

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BEYOND GENETIC DETERMINISM

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Abstract

Increasing understanding and awareness of our genetic makeup has led to confusion between genetic predispositions that influence our health and behavior and genetic determinism that attributes all of our actions to such factors. The Christian and classical view of human nature attributes virtue to overcoming biological factors that may lead to irrational actions. Current discoveries in the field of epigenetics have only strengthened the importance of pursuing virtuous actions as they affect the genetic health of our progeny.

Advances in genetic research have been hailed in many quarters as harbingers of a new Golden Age, an age in which cancer, congenital diseases, and the sometimes drastic treatments that accompanied them will be a dim memory of a brutal age—much the way we think of the practices of blistering and bloodletting in the eighteenth century. Indeed, we are already beginning to see the benefits of advances in genetics in the treatment of many diseases. Still, there are many who find genetic advances—from cloning to gene therapies—to be unsettling. And these questions are far from theoretical, as can be seen in Kevin Davies' description of genetic pre-selection in his book on *Cracking the Genome*:

> News that a woman with an early-onset hereditary form of Alzheimer's disease screened her embryos using in vitro fertilization to prevent her newborn child from inheriting the faulty genes sparked fears of the "slippery slope" to designer babies. Today, the technology is being used to screen non-fatal, adult-onset diseases such as cancer and Alzheimer's. Tomorrow, could it be used to screen personality, physique, or sexual orientation?[1]

As this incident reveals, genetic science is rapidly moving from the science fiction of Huxley's *Brave New World* to the reality of genetic selection and alteration.

Leaving aside the issue of genetic manipulation for the moment, how does our awareness of genetic information call into question the very notion of what it means to be human? Are we more than the sum of our genetic information? Humans have traditionally attempted to define themselves through their origins. The book of Genesis attempts to find a higher purpose in human life through its divine beginnings: "And the Lord God formed man of the dust of the ground, and breathed into his nostrils the breath of life; and man became a living soul."[2] Does the new "book of Genes" (our genetic code), eliminate the God-breathed "life" from our genetic dust and, thereby, lessen our basic human dignity? As Gordon Wenham writes in describing the significance of this passage:

> Man is more than a God-shaped piece of earth. He has within him the gift of life that was given by God himself. The biblical writer was not alone in rejecting a reductionist view of man which sees him as simply an interesting collection of

> chemicals and electrical impulses [or genetically determined tissues, we might add].[3]

To reject the notion of the divine value of human life is to remove the moral foundation for ethical behavior for many people. Furthermore, to understand our genetic makeup is no substitute for understanding what it means to be human. Those looking for some mark of distinction in our genetic structure are sure to be disappointed.

Indeed, one of the great surprises of the Human Genome Project was the simplicity of the decoded DNA. There are approximately 20,000 to 25,000 genes that carry all the information needed to convey every aspect of the human body's function and appearance.[4] Before the project was completed, scientists had expected to uncover at least 100,000 genes. It turns out that the humble field mouse, Robert Burns' "wee, sleekit, cow'rin, tim'rous beastie,"[5] had about the same number of genes as the poet himself.

In fact, the genome of a human is not much more complicated than that of a fruitfly (approximately 13,000 genes) or a roundworm (19,000 genes). And what of the plant world? We fall a bit behind the *Arabidopsis thaliana* (thale cress) with its 25,000 genes.[6] I'm not sure what to make of the fact that I may be less complicated genetically than the salad I eat.

So, what are we to conclude from the latest results of the genetic sweepstakes? We humans have typically taken our superiority over other species for granted. Our vast civilizations, gleaming cities, and towering monuments dominate the landscape. We have poetry, philosophy, art, and music. We are the creators of the I Ching and the Pieta, Machu Picchu and the Messiah. Like Shakespeare's Caesar, we "bestride the narrow world like a Colossus."[7] It has been hard on our collective ego to find ourselves in a dead heat with rodents on the gene count.

Even if we can live with the disappointing results of these genetic comparisons (it is now a well established fact that we share 96% of our genetic code with chimpanzees[8]), some of us may be slightly uncomfortable with the idea that a genetic blueprint is determining not only our physical traits, but the outcome of our lives. Popular psychology now tends to attribute every human decision to genetic destiny. If you are overweight, it may not be due to your eating habits, but to genetic predispositions toward obesity. If you struggle with anger management, you may well be genetically predisposed to violent outbursts. If you are unfaithful to your spouse, you are heeding the evolutionary call to increase your offspring.[9] To paraphrase the Bard, our destiny lies "not in our stars, but in our cells."

Let me hasten to add that serious scientists do not typically promote a worldview with a genetic escape clause from human responsibility. Biologists are in the business of describing the structure and function of living organisms; they are generally content to leave the "oughts" of human behavior to philosophers and priests. Still, the results of biological research often run headlong into the deepest moral and spiritual questions of the ages. The contest between "soul" and "appetite" described by Plato, or that of "spirit" and "flesh" bemoaned by St. Paul, are the classical manifestations of this problem.

In the *Phaedrus*, Plato famously uses the image of a chariot driver to describe the relationship between reason, appetite, and spirit:

> Let us… compare the soul to a winged charioteer and his team acting together… The ruling power within us men drives a pair of horses… one of these is fine and good and of noble stock, and the other the opposite in every way. So in our case the task of the charioteer is necessarily a difficult and unpleasant business.[10]

Plato elaborates on these ideas in *The Republic*, where he notes that individuals prosper when the reasoning part (the charioteer in the analogy) holds reign over the spirited part (the good horse) and the appetite (the obstinate horse):

> It is proper for the reasoning part to rule, because it is wise and has to use forethought for the whole soul; and proper for the high-spirited part to be its ally and subject… These two, then, thus trained and educated, will truly learn their own business; then they will preside over the desiring part.[11]

In setting up this tug-of-war between the rational self and physical desire, Plato is only recognizing a common mental phenomenon—the internal conflict that humans inevitably experience when choosing between actions that may feel good, but which are harmful to themselves or others. We hear this same conflict echoed in Jesus' reprimand to his sleeping disciples that the "spirit is willing, but the flesh is weak."[12] Paul writes of his own internal conflict in his first letter to the Corinthians: "I do not understand my own actions. For I do not do what I want, but I do the very thing I hate."[13] And this is the same idea captured in the common plea for people to "listen to their better angels."

Although Plato understood the "desiring part" of man to encompass a variety of physical and psychological desires (particularly the ambition to rule over others in *The Republic*), we might well include genetic predispositions in that category today. Of course, many of the physical consequences of our DNA structure can't be controlled (although, as noted earlier, scientists are working toward genetic manipulation). In the meantime, we know that certain genetic abnormalities do increase the risk for cancer and other diseases. Angelina Jolie's highly publicized decision to have a double mastectomy when her BRCA1 gene put her at high risk for breast cancer certainly illustrates the new awareness of the connection between genetic information and health decisions.

It is important, however, to distinguish between the physical consequences of our genetic structures, whether we are considering our height, eye color, or the propensity for certain cancers, and the influence of our genetic predispositions on moral decision making. Plato's concept of the soul as the charioteer reminds us that we cannot simply point to our genetic predispositions as the reason for our actions. We have the ability as human beings to make rational and ethical choices that go against the "desiring part" of our natures. Aristotle takes the same line of reasoning in the *Nicomachean Ethics*, when he notes that a virtuous life is based on the conscious decision to choose the right course: "For we praise the rational principle of the continent man and of the incontinent, and the part of their soul that has such a principle, since it urges them aright and towards the best objects; but there is found in them also another natural element besides the rational principle, which fights against and resists that principle"[14]

Thus, Plato and Aristotle might recognize that some people are more inclined to drink to excess than others; and today we might suspect that there are certain genetic structures that may incline individuals towards alcoholism. However, the classical view holds that one should not simply submit to desire, but that one should "fight against and resist" that behavior. This is a principle widely recognized in law when we do not

excuse illegal actions (driving under the influence, for instance) because of personal predispositions (genetic or otherwise). But perhaps new scientific developments may take some of the inevitability out of the genetic equation. It has been assumed until recently that most genetic information was "hardwired" into our nature over vast stretches of time. The actions of the individual (i.e., to subordinate natural desires to the rational principle) seemed to matter little to the genetic heritage that would be passed along to the next generation.

However, scientists have long been puzzled by the differences present in identical twins. Why would one twin suffer from a debilitating disease and the other be perfectly normal? If the genetic code is the same, what causes the differentiation? The answer apparently lies in the way the genetic code is expressed. It is possible, for instance, for a gene to be switched "on" in one twin and "off" in the other. The mechanism for this—the genetic software, if you will—comes through the epigenetic markers that surround the genome. Although not actually part of the DNA strand, epigenetics (literally, "on top of" the gene), not only account for differences in twins, but can also help explain the complexity of human characteristics despite the relatively small number of genes.

Scientists are only beginning to understand the nature of these epigenetic markers. They include methyl molecules that attach directly to the gene and histone proteins that condense chromosomes and prevent genes from being expressed.[15] Early studies have shown that there can be significant environmental factors in the development or loss of these epigenetic structures. Many scientists are beginning to acknowledge that the Human Genome Project—once thought to be the end-all and be-all of genetic discoveries—was only the tip of the genomic iceberg.

The implication for such studies in the health professions goes without saying. Laboratory studies are already providing evidence that these epigenetic markers can be manipulated with extraordinary outcomes, enabling rats with a propensity toward plus-sizes to produce offspring that are shopping in the petite boutiques. Understanding these epigenetic markers holds great promises for treating all kinds of diseases, from diabetes to cancer.

However, from a philosophical standpoint, epigenetics seems to reinforce the classical view that virtuous actions must be pursued over and against the desiring part of our natures. Unlike the genetic code, which is relatively stable and generally only changes over many generations, epigenetic markers can be influenced by the health of the parents. One study, for example, has shown that if your grandfather went hungry as a young man it might have a statistical correlation with your own life expectancy.[16] Such effects include not only unavoidable catastrophes (famines, epidemics), but also voluntary behaviors. For instance, a nurturing parent may actually strengthen the epigenetic well being of his or her children. Conversely, a biological parent with a history of smoking or drug abuse could pass along this damage to the next generation. As Marcus Pembrey from University College-London once remarked, "You live your life as a sort of guardian of your genome."[17]

The shift from the victim of genetic necessity to the guardian of our genome is not a trifling matter. It strengthens the importance of human choice; for our choices affect not only ourselves, but also generations to come. And while the maze of ethical questions created by genetic research—from cloning to genetic engineering—will not soon be

resolved, the study of epigenetics provides evidence that genetic coding is not a one-way street. We are both influencing and being influenced by our genetic structures. For the humanist who feels a bit beleaguered by constant reference to evolutionary destinies and genetic determination—sometimes uttered with a dogmatism that would have put John Calvin to shame—the growing scientific evidence supporting the importance of epigenetic markers is like a fresh philosophical breeze. We may float on a tide of genetic predispositions, but we can still claim, "I am the master of my fate. I am the captain of my soul (and cell)."[18]

Endnotes

1. Kevin Davies, *Cracking the Code* (Simon and Schuster, 2001), xviii.
2. Genesis 2:7 (King James Version).
3. Gordon Wenham, Genesis 1-15. *Word Biblical Commentary.* Vol. I. (Word Incorporated, 1987), 60.
4. 4. U.S. Department of Energy Genome Program. "How Many Genes Are in the Human Genome?" Accessed at http://www.ornl.gov/hgmis.
5. Robert Burns, "To a Mouse." Line 1.
6. U.S. Department of Energy Genome Program. "Functional and Comparative Genomics Fact Sheet." Accessed at http://www.ornl.gov/sci/techresources/Human_Genome /faq/compgen.shtml.
7. William Shakespeare, *Julius Caesar.* Act I, Scene II, Lines 135-36.
8. Stefan Lovgren, "Chimps, Humans 96 Percent the Same, Gene Study Finds" *National Geographic News.* August 31, 2005. Accessed at http://news.nationalgeographic.com /news/ pf/87202973.html.
9. Many examples of genetic predispositions can be found in J. Craig Venter, *A Life Decoded* (Viking, 2007). For instance, severe depression is associated with a shortened form of the serotonin transfer gene, known as 5-HTTLPR (329) and the dopamine receptor 4 gene may have some influence on alcohol and drug addictions.
10. Walter Hamilton, trans., *Phaedrus* (New York : Penguin 1973), 50-51.
11. W.H.D. Rouse, trans., *The Republic*, Book IV. In *Great Dialogues of Plato* (New York: Mentor, 1984), 242.
12. Matthew 26:41 NRSV.
13. Romans 7:15 NRSV.
14. Richard McKeon, trans. *Nicomachean Ethics.* In *The Basic Works of Aristotle* (New York: Random House, 1941), 951.
15. Carl Zimmer, "The Rest of the Genome." *New York Times.* Nov. 11, 2008. Accessed at www. newyorktimes.com.
16. "Ghost in Your Genes," NOVA. PBS. October 16, 2007.
17. Ibid.
18. William Ernest Henley. "Invictus." Accessed at http://www.poetryfoundation.org/poem/182194.

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BIOTECHNOLOGIES AND HUMAN NATURE: WHAT WE SHOULD NOT CHANGE IN WHO WE ARE

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Abstract

The advance in recent biotechnologies holds much promise for healing and therapy. At the same time it raises profound ethical, philosophical and theological issues. One of the major issues is the possibility of transforming human nature into something other than what we have always understood as key elements of our humanness. This article sets out four dimensions of human nature that, on theological grounds, ought to be preserved in the midst of the many potential transformations through the biotech revolution.

Introduction

For the first time in human history the clear distinctions between the natural world and artificial world are being blurred. Throughout most of history the natural world was the given world, evident in humans, animals, and plant life.[1] It was the way things are. The artificial world was the humanly created world, the world of artifacts and technology. While humans invented and controlled this artificial world, humans as a species remained ontologically distinct from it. Enter the world of biotechnology and the traditional distinctions become quite muddled.

By "biotechnologies" we mean "a set of technologies aimed at manipulating living things, including human beings themselves, arguably for the common good."[2] Or, as the former President's Council on Bioethics put it, "Biotechnology is bigger than its processes and products; it is a form of human empowerment. By means of its techniques (for example, recombining genes), instruments (for example, DNA sequencers), and products (for example, new drugs or vaccines), biotechnology empowers us human beings to assume greater control over our lives, diminishing our subjection to disease and misfortune, chance and necessity."[3] Thus, biotechnologies include a broad array of mechanisms for human usage including drugs, gene therapy and manipulation, psychopharmaceuticals, hormones, organ transplants, new forms of orthopedic appliances, and neural implants.

We, of course, recognize the great therapeutic good that can come from biotechnologies. However, with the good come pressing philosophical, theological, and ethical questions of immense significance. The biotechnologies themselves may be deemed morally neutral, with the ethical judgment focused on their usage. Nevertheless, we should note that even the very employment of certain technologies often carries a trajectory with moral concerns. That is, the technologies have a way of controlling us, even as we control them.[4] As Ronald Cole-Turner notes, "The aim of the technologies of human enhancement is not to change the world but to change ourselves to fit better, to compete better, or to live better in the world as it is. And along the way, these technologies change the way we see ourselves, turning our bodies and brains into something to be changed at will."[5]

It is clear that biotechnologies have the potential to move us not just beyond therapy, but beyond the realm of current human nature into what some have called a posthuman situation or a transhuman context. This means that human beings as we now know them could be radically altered or even cease to be. Short of such cataclysmic modification, the biotechnologies can have an immense impact upon various human endeavors and patterns that are common to human life now.

As we look at these potential changes through biotechnology we must ask what essential ethical criteria exist for judging these new technologies. Of course, it will not do to simply give a Luddite response and reject the technologies out of hand. We need more careful criteria to discern what can be accepted and what should be ethically called into question.

Ethical Criteria for Biotechnologies

Several different criteria for judging biotechnologies have been suggested. Such criteria are not mutually exclusive and can be of help in ethical assessment. In the end, though, I will suggest another paradigm for us to consider beyond the following criteria, namely the criteria derived from givens in human nature.

Nature of Medicine Criterion

The nature of medicine criteria focuses on two very different conceptions of what medicine is about in terms of its ends, purposes, or *telos*—namely therapy or enhancement. This ethical approach to biotechnology is rooted in the Aristotelian tradition that every human endeavor and natural realm has a particular end or *telos*. The ethical good corresponds to the particular ends for which it exists. It is interesting to note that Aristotle's ethic is not rooted in a theistic framework of divine givens, but it certainly functions that way with natural givens or ends that are ethically virtuous and even binding.

Traditionally the end of medicine was healing or therapy. It supposed a clear understanding about the nature of disease or physical deformities, and medicine's *telos* was healing for the good of the patient, which in turn meant the good of society. This understanding of medicine's *telos* was the heart of the Hippocratic oath tradition, in which the end of medicine was "to do away with the suffering of the sick, to lessen the violence of their disease, and to refuse to treat those who are overmastered by their diseases since in such cases we are powerless."[6] With new biotechnologies we now have the capacity to use medicine in a different way, namely, to enhance certain personal or human characteristics that are beyond therapy, whether they be physical, mental, social, or psychological.

Within this framework the ethical judgment is determined by the perceived ends of medicine and how far that *telos* can extend. If medicine is primarily about healing or has only therapeutic ends, then enhancement is rejected or at least questioned. But if medicine and the related biotechnological world can include enhancement as an end then such enhancement can be accepted. Julian Savulescu, a professor at Oxford, argues that we have a moral obligation to enhance ourselves and our children, including selecting genetically better children. "What matters is human well-being, not just treatment and prevention of disease... If we have an obligation to treat and prevent disease, we have an obligation to try to manipulate those characteristics to give an individual the best

opportunity of the best life."[7] Or as John Harris put it, "If it is not wrong to attempt to improve something like intelligence by education, why should it be wrong to attempt to improve it by genetic manipulation."[8]

The contrast between these two paradigms regarding the *telos* of medicine is clearly articulated by William Hurlbut, a physician and consulting professor in the Neuroscience Institute at Stanford. The traditional role of medicine has been "to cure disease and alleviate suffering, to restore and sustain the patient to a natural level of functioning and well being." In this framework, Hurlbut believes that "the medical arts were in the service of a wider reverence and respect for the order of the created world." But now, with the powers of biotechnology, "Medicine has found a new paradigm, one of liberation: technological transformation in the quest for happiness and human perfection." This end of medicine is driven by "our appetites and ambition, to encompass dimensions of life not previously considered matters of health... Increasingly, we expect from medicine not just freedom from disease but freedom from all this is unattractive, imperfect, or just inconvenient."[9] For Hurlbut, the dangers of such an enterprise for all of creation are evident.

While the nature of medicine as an ethical criterion has some merit, it faces a significant challenge—namely that the dividing line between enhancement and therapy is not always so clear. For example, at what point does growth enhancement hormone become an enhancement and not therapy? For a North American male, would it be 5'7", 5'3" or 4'10"? Or would a nanotechnological increase of IQ for a person with an IQ of 80 be therapy or enhancement? Would a chip in the brain to help curtail a person's violent behavior be enhancement or therapy? Suppose there were only occasional outbursts?

These kinds of questions point to the difficulty of using the ends of medicine as the only ethical guide. This does not mean we should totally scrap the criterion, but it is highly problematic to clearly distinguish therapy from enhancement in every case, and there remains the ongoing question of whether medicine can include enhancement dimensions.

The Eugenics Criterion

Here the criterion determines that biotechnologies can be used, but a limit is implemented regarding eugenics, the attempt to develop a good genetic stock. Eugenics is an old agenda, dating back at least to Plato and his attempt to develop a high caliber of Athenian citizens. Today, eugenics through biotechnologies can be understood as enhancement gone social, meaning an attempt to enhance particular human beings or groups of humans with a social or cultural end in view. Some simply see this as a species-ideal enhancement in which the enhancement is "a natural and inevitable progression in the evolving nature of human beings."[10]

Eugenics has historically utilized two approaches. The first is negative eugenics—breeding out bad genes through various forms of elimination, such as preimplantation genetic diagnosis (PGD) to then eliminate a non-desired child. This is already being done with regards to Downs Syndrome children, as nearly 90% of detected Down syndrome pregnancies are now ending in abortion. Some women even report accusations of irresponsibility by peers if they carry the child to full term. This is a form of negative eugenics.[11]

The second approach is positive eugenics, the breeding in of good genes. This approach can be accomplished by selective mating or various reproductive technologies such as artificial insemination, surrogacy, selective in vitro fertilizations, and, potentially, through cloning.

While the Nazi shadow hangs over eugenics, there are many contemporary proponents who argue that we have a moral responsibility to overcome those genetic tendencies that make life burdensome, challenging, or painful and that impact society negatively. Robert Sinsheimer, a noted molecular biologist, set the tone when he called for a new eugenics: "The new eugenics would permit in principle the conversion of all the unfit to the highest genetic level."[12] Eugenics is not just focused on given individuals and their condition, but also on the overall social condition. This is at the heart of Savulescu's argument that we have a moral obligation to enhance individuals, and therein is the difference, he says, between his proposed enhancement and the ignoble eugenics movements of the early twentieth century and the Nazi agenda. [13]

But there is a major problem with eugenics: it is inherently prejudicial against certain people or groups whose genetic or phenotypic configurations do not meet the desired criteria. Thus, to move towards eugenics with the use of biotechnologies is to move logically toward discrimination against individuals or groups of people who are deemed to not meet the socially expected norms.

There is an ugly part of American history in the early to mid-twentieth century that has only recently been told, and this history should make us cautious about any eugenics enterprise.[14] For a significant period of time the practice of eugenics was mainstream and widely accepted in American society. Now, with contemporary biotechnologies, such a eugenics agenda is more easily facilitated than the methods of a century ago. Eugenics as a social mechanism must be rejected as incompatible with human dignity and basic human rights. Of course we want to eradicate genetic diseases that limit individuals, and sometimes whole groups, from experiencing life to the fullest, but that is a therapeutic model, not a eugenic one. Thus, the eugenics criterion in biotech utilization is helpful and very important for societal and individual good. It does not, however, cover all the cases that need to be addressed in biotechnologies, for not all uses of biotechnology are, by any means, directed towards a eugenics end.

Justice Criterion

Many have pointed out that a potentially major ethical issue with biotechnologies is their use in certain human endeavors where justice would be thwarted. Justice here simply represents the classical definition of what is owed persons, including an essential fairness in various spheres of life and various human undertakings.

Although we know that nature never yields a fully even playing field,[15] it does allow for a great deal of flexibility in the attempt to make the playing field more even. By human efforts, personal responsibility, taking advantage of opportunities, and societal impetus, we can seek to change our situation in life and the situation of others. But all of this presupposes a basic justice or fairness in terms of the opportunities to seek such change.

Biotechnologies could radically alter this. When a person enhances himself/herself through personal effort or taking advantage of opportunities, such enhancement depends

primarily upon their own initiative. They are being rewarded for something they have achieved, even when society puts mechanisms in place to enable the achievement. But with biotechnology enhancement they would be rewarded for what a technology has done. Take the issue of attempting to enhance SAT scores to get into the college of choice. Certainly we already have a certain kind of enhancement: courses, books, computer programs guaranteed to boost one's score, and the like. We know that in reality not all persons are able to take advantage of these enhancements due to lack of wealth or information about them. But they are not precluded from them by nature. Initiative, the help of others, ingenuity, and educational or societal programs can often aid access and achieve a greater degree of justice or fairness in the opportunity to enhance one's score. The potential for greater justice still exists.

But a chip in the brain to enhance memory or mathematical precision and thereby boost one's score would, by its very nature, thwart justice. For, in such a case the person is rewarded not for some effort he/she has put into the process, but rather by something external to themselves and their effort. Just because one downloads a particular set of data into the brain does not make them a true knower of that data and its implications. Thus, justice would be destroyed when such technological intervention impacts access to jobs, schools and other rewards. Even if everyone had access to the technology, we are still faced with the reality that one is rewarded for something external to himself/herself and their human initiative.

Or take other spheres of genetic or biotech enhancement such as athletic ability for a given sport or feat within a sport, enhancement of physical characteristics for a beauty contest, or enhancement of one's personality in order to achieve a given job. In each of these areas justice is thwarted. One is no longer being rewarded for something achieved by their own ability, but something a mechanical device or genetic change has achieved. In fact, we might even say that the very nature of the enterprise, its *telos*, has been changed. Sport is no longer sport, a human activity of competitive play that assumes fairness to facilitate competition.

Justice is also applied as a criterion in terms of concerns over the inequity that would follow the use of biotechnologies. Some are concerned that in economic terms the use of biotechnologies will lead to a survival of the fittest situation, reminiscent of 19th century social Darwinism. The gap between the biotech "haves" and "have-not" raises concerns of fairness and justice. As Ted Peters argues, "Transhumanism is not a philosophy for the losers, for the poor who are slated to be left behind in the struggle for existence."[16]

Justice is certainly an important and helpful framework for ethical judgments of biotechnologies, though it does not cover the whole of what can be done with these technologies. Moreover, the issue of justice and fairness relative to biotechnologies is not as clear-cut as proponents often claim.[17] Justice is always a conceptually murky concept to apply amidst the complex, competing realities of life in society.

Multiple Standards Criterion

In a recent work by Christian ethicist James Peterson, we find an eclectic approach to guiding the use of biotechnologies. In contrast to more cautious criteria, which Peterson finds helpful but inadequate, he attempts to build upon a more open stance towards the natural world in which we live, including the genetic world. He argues that "shaping the world is part of the God-given mandate for human beings to share in the redemption and

development of creation... Not fulfilling the responsibility to shape the world reflects disobedient apathy. Even if we just want things to stay as they are, we are going to have to make changes, to correct the often downward track." He questions the notion that "human" is a static concept and believes that stewardship of the earth does not preclude changing it. "That human beings are physical beings does not of itself require that their physical nature remain unchanged. Future descendants, in some ways physically different from our current state or development, may be more human in what we value as human."[18]

With this framework Peterson sets forth four standards for shaping human nature through genetics and biotechnologies. Human genetic intervention can proceed if the intervention is safe, brings genuine improvement to an individual and humanity in general, provides an increase in the recipient's capacity, and makes the best possible use of limited resources.[19]

Peterson has set forth some practical and concrete standards for the use of biotechnologies. However, his positive and optimistic stance towards changing the human "self" and humanity itself begs some important questions: Are there any limits to what we can change in human nature? Is human nature truly a pliable concept that is not judged by any other criteria than safety, improvement, increase of capacity and just use of limited resources?

The Posthuman Impetus in Biotechnology

The criteria we have examined thus far are useful elements in the ethical evaluation of biotechnology, though each contains limitations. Moreover, they overlook a major dimension of contemporary interest and impetus in biotechnology. A number of major thinkers believe that biotechnologies will enable us to transcend what we now know as human beings. Through the desire to enhance certain human characteristics and to delete others, or to eradicate certain perceived threats to human happiness, advocates envision a state of posthumanity or a transhumanist context. As James Hughes puts it, transhumanism asserts "the proposition that human beings should use technology to transcend the limitations of the body and brain."[20] Or as the Transhumanist FAQ argues, "We can… use technological means that will eventually enable us to move beyond what some would think of as human."[21]

There are various proponents of this significant alteration of human life, but among the best known are Ray Kurzweil and Nick Bostrom. Kurzweil comes from a strong technology background, having taught for a number of years at MIT. Some of his research enabled the emergence of voice recognition technologies and the development of numerous other computer technologies. Today he spends much of his time holding seminars for business and technology leaders in his Singularity University, "An interdisciplinary university whose mission is to assemble, educate and inspire leaders who strive to understand and facilitate the development of exponentially advancing technologies in order to address humanity's grand challenges."[22] His life and thinking were recently captured in a movie entitled *Transcendent Man.*

Kurzweil is best known for his prediction of what he calls the Singularity, which "will represent the culmination of the merger of our biological thinking and existence with our technology, resulting in a world that is still human but that transcends our

biological roots." In this world "there will be no distinction… between human and machine or between physical and virtual reality."[23] He believes that, with the merging of human beings and machines, poor health, old age, and even death could be a thing of the past. His father died at the age of 58 and "since then, Mr. Kurzweil has filled a storage space with his father's effects—photographs, letters, bills and newspaper clippings. In a world where computers and humans merge…[he] expects that these documents can be combined with memories harvested from his own brain, and then possibly with Fredric's DNA, to effect a partial resurrection of his father."[24]

Nick Bostrom, a philosopher at Oxford University, is a major leader in what he and others term transhumanism. Bostrom and his cohorts deplore the current state of humanity, with its pain, suffering, poverty, disease and mortality. They believe that technology can enable humans to overcome our own limitations to finitude that cause these dire conditions, and can lead to a whole new kind of being within the world, free from current limitations. In an article contending that human dignity can be understood as a kind of quality of life, Bostrom writes:

> Let us make a leap into an imaginary future posthuman world, in which technology has reached its logical limits. The superintelligent inhabitants of this world are *autopotent*, meaning that they have complete power over and operational understanding of themselves, so that they are able to remold themselves at will and assume any internal state they choose. An autopotent being could, for example, easily transform itself into the shape of a woman, a man, or a tree. Such a being could also easily enter any subjective state it wants to be in, such as state of pleasure or indignation, or a state of experiencing the visual and tactile sensations of a dolphin swimming in the sea. We can also assume that these posthumans have thorough control over their environment, so that they can make molecularly exact copies of objects and implement any physical design for which they have conceived of a detailed blueprint…. They would have the same kind of control of physical reality as programmers and designers today have over virtual reality.[25]

Human Nature Criterion

It is clear that Kurzweil, Bostrom, and their cohorts have a goal of using biotechnology to actually change human nature as we now know it.[26] They desire to take hold of the "evolutionary process" and modify those characteristics of human nature that are deemed limiting or problematic. Thus, there is a very real possibility of radically altering the human species, or at least specific features of human beings.

This raises the question of what we ought not change in who we are. Or, to put it positively, as we utilize biotechnologies what are the essential features of humans, made in the image of God, that ought to be preserved? Of course, if there is no human nature that is normative or given, as many claim, this issue disappears. This is precisely the position of posthuman and transhumanist advocates like Kurzweil and Bostrom.[27]

As Christians who affirm a particular theological anthropology, a narrative about humanity, we need to probe whether there are indeed features of human nature that are divine givens that ought to be acknowledged and guarded. I want to suggest several different dimensions of human nature that I believe are divine givens and, thus, should be

preserved. These can be argued theologically, but they can also be argued through a more natural law type of argument. My focus here will be primarily theological.

The Integrity (Uniqueness) of the Human Species

The desire to re-shape human beings to make them other than they are or have been goes far back in history. The chimera of Greek mythology is a classic example of the aspiration to merge existing species and develop new ones, and many have dreamed of extending it to include humans.

Today, with sophisticated technologies, the desire to mix animals and humans has intensified. Already scientists in the UK have formed human-animal embryos by inserting human DNA into cows' eggs (University of Newcastle, 2008). The goal is to produce stem cell models for investigating various diseases and developing new drugs. Called cytoplasmic hybrids or "cybrids," the genetic material is 99.9% human. While the goal of the technology at this point is research and therapy, it opens up the possibility of developing a hybrid being. The rationale for doing so is supported by the fact that all living things share DNA consisting of the same four chemical building blocks, called nucleotides. The differences between human, animal, and plant life is largely in the sequencing of those nucleotides. Chimpanzee DNA and human DNA, for example, are 95% the same in overall sequencing, though chimpanzees have 48 chromosomes and humans have 46.

With the new biotech possibilities enabled by computer brain implants and chips, we can see the future possibility of Kurzweil's Singularity, the point at which the distinction between human and machine will be blurred. The technological potential for this is certainly debated, but we cannot ignore its possibility, or the theoretical underpinnings of posthuman enthusiasts.

On the genetics side, Gregory Stock from UCLA argues that a future in which we will be able to choose our genes means that we are moving towards a new era of radical human transformation. There is even the potential for human disappearance, as Stock claims that "progressive self-transformation could change our descendants into something sufficiently different from our present selves to not be human in the sense we use the term now." While it would not technically end our lineage, "*Homo Sapiens* would spawn its own successors by fast forwarding its evolution."[28] Through "germinal choice therapy" we will soon approach the point of transforming ourselves into something entirely "other." "In offering ourselves as vessels for potential transformation into we know not what, we are submitting to the shaping hand of process that dwarfs us individually. In secular terms… we are merely accepting the possibilities of the advanced technologies we are creating. But from a spiritual perspective, the project of humanity's self-evolution is… a cosmic instrument in our ongoing emergence."[29]

The possibility of a posthuman being, whether part animal and part human, part machine and part human, or a radical genetic transformation into something entirely "other," runs counter to biblical and theological affirmations of the human person as unique and distinct from the rest of creation. Creation in the image of God (Gen. 1:27-28) belongs only to humans, not other parts of God's good creation. This in no way lessens the significance, intrinsic value, and beauty of other parts of creation. Rather, it simply means that there is an ontological distinction between humans and the rest of nature that sets them apart with a unique dignity, value and identity. The artifacts that humans create

and shape are likewise distinct from the human self. All of this means that *Homo sapiens* has a biological integrity that ought not be transformed into something other than *Homo sapiens*. It does not imply a laissez-faire approach to the natural and genetic realms, for part of the cultural given at Creation is to engage with the world of nature in stewarding God's good, but now fallen, creation, reversing the deleterious effects of the fall in nature.

Both the uniqueness and the integrity of human beings are seen in Genesis 2, as humans are given the task of naming or classifying the animals:

> Now the Lord God had formed out of the ground all the wild animals and all the birds in the sky. He brought them to the man to see what he would name them; and whatever the man called each living creature, that was its name. So the man gave names to all the livestock, the birds in the sky and all the wild animals (Gen. 2:19-20).

The naming or classifying process given to humans assumes a distinction from the rest of nature, setting them apart from other creatures. Similarly, God also gave humans the task of caring for and ruling over the rest of creation as seen in Genesis 1:28-30 and 2:15, "The lord God took the man and put him in the Garden of Eden to work it and take care of it." The Psalmist once asked the question, "What are mere mortals that your are mindful of them, human beings that you care for them?" The response is, "You have made them a little lower than the heavenly beings and crowned them with glory and honor. You made them rulers over the works of you hands; you put everything under their feet" (Ps. 8:4-6). Though the main point of the Psalm is to bring praise to God, "Lord, our Lord, how majestic is your name in all of the earth" (8:1), the grandeur of humans in his creation points to an implicit integrity and uniqueness of the human race.

Implied in these texts is a clear distinction within creation between humans, animals, and plants, despite their shared genetic qualities. The fact that they share commonality only reinforces the value of and need for caring for the rest of creation by not blurring the distinction between its various parts. While all of creation is good, and all parts of creation have value, only humans have the kind of dignity and value that flows from the *imago dei*. This creational distinction was affirmed by Jesus, who, in affirming the value of a sheep who needs human care, said, "How much more valuable is a human being than a sheep" (Mt. 12:12).

It is true that animal parts have been used in human therapy (i.e. pig valves), but such cases are different than the mixing of DNA that would form something other than a *Homo sapiens*. Because DNA forms the building blocks of biological life, the merging of animal DNA with human DNA actually begins a process of creating something other than a human being. Moreover, we know that some diseases (i.e. venereal diseases) stem from intimate human-animal contact that crosses the barrier of the distinction. Many scientists fear that the mixing of humans with animals could create an onslaught of diseases that would be devastating to human life and, potentially, animal life. This very possibility provides a "natural effect" rationale for questioning the move to seek a human being that is no longer unique in creation.

Thus, one limit of biotechnologies (whether genetic or computer-generated) is the integrity of the human race, *Homo sapiens*. Any technology that attempts to eradicate or modify that essential uniqueness and integrity, evidenced in human DNA, is incompatible with Christian theology.

Human Finitude

Humans have long desired to escape their finitude or "creatureliness." From the desire to "build ourselves a city, with a tower that reaches the heavens" at Babel (Genesis 11:4), to the attempts to drastically lengthen life or find a solution to aging that creates a fountain of youth, humans have sought to escape their finitude, their essential limitedness.

Newly emerging or hoped-for biotechnologies have engendered a desire to transcend the limitations of age, disease, and cognitive confines. The perfectibility of the human species through the use of biotechnology, bionics, and pharmacology is a goal of transhumanists and posthuman advocates. A major thrust of the movement is to achieve a kind of immortality, as advocated by Aubrey de Gray, who believes that technology could lead us one day to live not just 300-400 years, but indefinitely. In fact, de Gray believes this may be possible in the next few decades.[30] "The two core beliefs driving the transhumanist agenda are that human existence is unnecessarily held captive to the death, decay, and disease inherent in the evolutionary process and that the application of a host of "smarter" technologies… will enable us to mitigate and eventually eliminate the effects of aging and disease altogether." At that point, "We will move into the posthuman realm."[31]

From a Christian standpoint, there are two essential understandings of human limitation that are affirmed in Scripture: our finitude and our fallenness. We have often accentuated the latter and overlooked the former. Finitude is first affirmed by the fact that we are from the "dust of the ground" (Gen. 2:7 cf. 3:19). This is not so much a scientific rendition of how God created humans as a designation that we are finite, limited creatures who cannot and should not seek to transcend our creatureliness. We are part of the limited and contingent natural world with an interdependent connection to that natural world, even with the human "dominion" over creation.

Finitude is clearly implied by the Genesis account in that we are dependent beings in a two-fold way: dependent upon God (Gen. 2:17) and dependent upon each other (2:18), "It is not good for the man to be alone." Being dependent beings, we are therefore interdependent upon something other than ourselves to live as God intended. We are even dependent upon the rest of nature to survive and live. Our creaturely finitude is powerfully echoed in the words of the prophet Isaiah, "All people are like grass, and all human faithfulness is like the flowers of the field… The grass withers and the flowers fall, but the word of our God endures forever" (40:6,8). This is not simply a rendering of human fallenness, but a depiction of our finite nature.

Reinhold Niebuhr once noted that the Christian view of human nature "insists on man's weakness, dependence, and finiteness, on his involvement in the necessities and contingencies of the natural world, without, however, regarding this finiteness as… a source of evil in man." In fact, a person's fallen nature is a consequence of "his unwillingness to acknowledge his dependence, to accept his creaturely existence, but it is precisely their creaturely dependence upon God that frees them from anxiety."[32] Humans in their fallen state experience anxiety over their finiteness. Unwilling to accept this good state of finitude, "Man is tempted," says Niebuhr, "to deny the limited character of his knowledge, and the finiteness of his perspective. He pretends to have achieved a degree of knowledge which is beyond the limit of finite life. This is the "ideological taint" in which all human knowledge is involved."[33]

Even the Incarnation, God taking on human flesh, affirms the significance of finitude. Brent Waters writes, "In the incarnation the necessity of finitude and mortality, of human limitation more broadly, are affirmed rather than eliminated."[34] God identifies with us in Christ's suffering and death and, hence, embraces our now fallen finitude, since suffering and death are the most visible expressions of our creatureliness. Jesus not only embodied this creaturely dimension of human existence in his incarnation, but also clearly taught it when he asked, "Can any one of you by worrying add a single hour to your life?" (Mt. 6:27). As the surrounding text shows, all of nature is dependent, including humans, made in the very image of the Creator.

This finitude is what enables us to recognize the foibles, needs, and suffering of others in a fallen world and, thereby, respond with empathy and healing. Attempting to transcend finitude potentially leads to a loss of capability in identifying with "the least of these." To strip away limitedness and vulnerability is to strip away that which makes us human, even before the fall. While the effects of the fall will be overcome in heaven, there is nothing in Scripture to suggest that we will totally transcend our essential finitude and creaturely dependence.[35] To do so would mean we had become God, the infinite One. In full union with God in heaven, we will actually be more dependent than ever before.

Throughout history the utopian attempts to transcend finitude have actually lead to dystopias and some of the greatest atrocities in the treatment of fellow-humans. Francis Fukuyama writes, "Beginning with the French Revolution, the world has been convulsed with a series of utopian political movements that sought to create an earthly heaven by radically rearranging the most basic institutions of society."[36] The utopian dreams failed in part because they overlooked the reality of human nature; and one significant aspect of that nature is our finitude. This is what leads to a marked divide between Christian eschatologies and secular eschatologies, with the former relying on God's coming kingdom to bring ultimate world transformation and the later focusing on self-defined and self-inaugurated endeavors to bring world transformation.[37]

Accepting finitude does not necessarily entail a rejection of all attempts to overcome human limitations, nor does it mean inactivity in the natural world. Social and cultural quietism is not the appropriate Christian response to our finitude. We do and should work to overcome the effects of the Fall, and we legitimately seek to advance certain human capabilities. Some, following Iranaeus, have suggested that creation is good, but is not yet complete. Thus, humans have a freedom with nature so that, as James Peterson argued, "The physical world for which we are grateful can be better. The world is a better place without smallpox."[38] But these pursuits should be understood within a framework of stewardship over creation and an acceptance of our essential finitude as stewards. Without acknowledging the reality of this finitude and factoring it into the social equation, we develop visions of grandeur that are self-defeating and undermine the very beauty and value of human life itself.

Embodied Souls (or Ensouled Bodies)

Though posthumanists and transhumanists are naturalistic in their worldview, believing that all reality can be reduced to material factors, they are ironically anti-body, at least as the body presently exists. Brent Waters points to a Manichean dualism in their thinking and objectives, in that they long to be saved from their bodies. As Waters puts it, in the

posthuman project, "In order for humans to achieve their full potential they must destroy their bodies, but in so doing they destroy the very thing which makes them human." The project is driven by "a hatred and loathing of the body."[39] Ronald Cole-Turner put it this way: "Transhumanists hold a view of the human self that is characterized by some of the Enlightenment's more questionable assumptions, in particular the view of the self as a disembodied center of consciousness and will that uses technology to control the body and the environment but somehow remains largely unaffected by either."[40]

New technologies could make possible the transcending of current bodily limitations. Thus, new genetic engineering or new biotechnologies could minimize the body to allow the ingenious mind to transcend bodily restrictions. "Extending longevity and improving physical and mental functions is merely an interim strategy until such time that virtual immortality is achieved, liberating humans from their weak and fragile bodies."[41]

Christians have long debated the relationship of body and soul, the material and non-material dimensions of human life. The debate is compounded by the fact that the Bible uses multiple images and words to describe this intricate inter-relationship, and sometimes uses them interchangeably: soul, spirit, mind, body, and heart. Today the debate is focused primarily on non-reductionist materialism versus substance dualism.[42] But it is safe to say that most biblical scholars and theologians, who look to biblical authority as their starting point, attempt, in some fashion, to hold in unity the material and non-material dimensions of the self. We are whole beings.

In Genesis 2 we begin to see this sense of wholeness, of embodied souls, or if you will, ensouled bodies: "Then the Lord God formed a man [*Adam*] from the dust of the ground and breathed into his nostrils the breath of life, and the man became a living being [*nephesh* or soul]" (2:7). Jesus, citing the greatest commandment, calls for a love which brings together the holistic embodied self, "Love the Lord your God with all your heart, soul and mind" (Mt. 22:37). This implies that we must always attend to the intricate balance between the material and non-material dimensions of human life.

The ensouled body concept clearly indicates that humans are always a unique mix of nature and nurture. New biotechnologies could threaten to destroy this blend by their artificial creation of purely mechanistic factors to shape human behavior. The authors of *Biotechnology and the Human Good* note that some advocates of biotechnology envision a technology to upload information from one person's brain into the body of another. "Kurzweil and others suggest that at some point it will be possible not only to have neural enhancements but also to scan the brain with its entire neural system and transfer it to a computer or to another body, a process they term *instantiation*."[43]

The ensouled body (or embodied soul) sets humans apart from the rest of the created order. This is evident in the fact that animals' essential behavioral repertoire is genetically given at birth, and thus the physical or genetic factors dominate learning and behavior. In contrast the human person at birth has a minimally developed repertoire of learning and behavior. It is precisely this underdeveloped self that sets the human being apart as a moral and spiritual being, one who chooses to relate to God and engage in a way of life reflecting his or her essential spiritual and moral nature. This does not nullify the genetic givens of a human person but, with learning, behavior and belief emerging in the midst of ensouled-body life, there is a unique blending of nature and nurture. As sociologist Christian Smith puts it, "Humans are moral animals not primarily because morality serves some instrumental interest… Rather, because they experience, in part

as a result of their self-consciousness, a particular relationship to themselves and the world that evokes a search for standards beyond themselves by which they may evaluate themselves."[44]

This ensouled body framework is at the heart of our relational nature as humans. The image of God in humanity has long been linked to our own innate need for relationships, for just as the triune Godhead exists in relationship, so we as humans bear the image as relational beings. Our human relationships are not identical to the non-bodily triune relationships, for the ensouled body dimension of our existence is central to our human relational nature. We encounter the other not just as a "body" or just as a "soul" but always as an integrated whole. Our bodies are essential to our personalities, but our unique personalities are never reduced to our bodies. The other knows us only as an ensouled body (or embodied soul), and we know the other only as an ensouled body as well. Relationships, an integral dimension of our humanness, are dependent on the unique blending of these two dimensions. To become purely body or purely soul would negate human relationships.

All of this assumes an embodied self, but it is a self that is made up of more than simply body or physiological factors. To destroy, through biotechnologies, the unique ensouled-body matrix is to destroy that which is essentially human.

Maleness/Femaleness

New forms of genetic engineering and new biotechnologies have the potential to eradicate a distinction that has been at the heart of all societies throughout history—the distinction between male and female. While this essential physical and ontological distinction has been worked out historically in various ways in terms of gender functions, there has always been an essential distinction between the sexes.

Given the ideological commitment to minimize or even eradicate this distinction, new technologies that could overcome the divide would be clearly welcomed by many who embrace a posthuman future and with it a post-gender distinction. As Nick Bostrom noted in our earlier quote on *autopotent* beings, they could have "complete power over and operational understanding of themselves, so that they are able to remold themselves at will and assume any internal state they choose. An autopotent being could, for example, easily transform itself into the shape of a woman, a man, or a tree."[45]

Gregory Stock believes that germinal choice technologies (GCT) will likely allow parents to refine chromosomal choices and hints at their impact on gender and sex. "Children's biological predispositions will come to reflect parental philosophies and attitudes, and thus children will manifest the ethos and values that influence their parents." With gender, "Many couples could make different choices about the attributes of boys and girls. Thus, GCT might translate cultural attitudes about gender into the biology of children." He believes that "once we can fashion our children's biological predispositions, many cultural and personal influences will feed directly into biology."[46] This suggests the possibilities of radical genetic changes in sex and gender. Even before this technology is available, some couples are choosing to raise their children without reference to a particular gender. One couple in Toronto, Canada recently sent out a birth announcement saying, "We've decided not to share Storm's sex for now—a tribute to freedom and choice in place of limitation, a stand up to what the world could become in Storm's lifetime."[47]

The givenness of creation regarding sexual matters is strongly rejected by many today, including some theologians and biblical scholars. This fact is seen, for example, in *Sex and the Single Savior* by Dale Martin, a professor of Religious Studies at Yale. Martin rejects the notion that there is inherent meaning in sex derived from the Bible. In one chapter, "The Queer History of Galatians 3:28," he contends that there is no coherent and consistent reading of the phrase, "In Christ there is no male or female." He suggests that because there are varied readings of the text, we cannot arrive at a clear meaning for guiding our sexual lives. Thus, we could legitimately imagine a rendering in which, "No person could be masculine without becoming fully feminine, and no person could be feminine without also at the same time becoming fully masculine."[48]

But, even better yet, argues Martin, we can eliminate any duality of male and female. In this framework:

> We admit the queer observation that gender is multiplex, not duplex. In the words of the editors of the feminist book *Third Wave Agenda*, 'girls who want to be boys, boys who want to be girls, boys and girls who insist they are both…' Once we destabilize the duality, all sorts of new ways of being human, not just two and not just combinations of two, may be invented. The gender made possible by the new creation in Christ opens as yet unknowable ways of gendering human experience.[49]

A similar perspective is given by Lone Fatum as she rejects liberal, feminist, and egalitarian readings of Galatians 3:28 and concludes that, "male and female gender are both annulled as a sexual duality in favor of… asexuality." For Paul "sexual liberation is in fact liberation from sexuality."[50] Similarly, theologian Patrick Chung argues for a radical love that annuls binary categories of sexual and gender identities, "a love so extreme that it dissolves existing boundaries… boundaries that separate us from other people, that separate us from preconceived notions of sexuality and gender identity."[51]

The dual creation of male and female is an ontological and physiological given of creation from which come other givens: the mandate of procreation (1:28), the significance of sexual intercourse (2:24c), and marriage, a "one-flesh" reality between male and female, as the context in which intercourse and procreation are to take place (2:18, 21-22, 24-25). These givens are affirmed by Jesus in Matthew 19:4-6, "Haven't you read, he replied, that at the beginning the Creator made them male and female, and said, for this reason a man will leave his father and mother and be united to his wife, and the two will become one flesh. So they are no longer two, but one. Therefore, what God has joined together, let no one separate." That these are creational givens, affirmed by our Lord, and then affirmed explicitly and implicitly in the rest of Scripture, gives strong support to the God-given dual nature of being human. This dual nature does not imply a hierarchy or specific, delimiting social and religious roles for the genders, but rather an essential way of being in the world through which God has ordered marriage, family and procreation. Thus, the male/female distinction is a given of human nature that ought not to be eradicated through new forms of biotechnology.

Granted, both physical and psychological anomalies exist in our fallen and broken world.[52] However, fallen human nature and the fallen nature of the cosmos is not our normative framework, though we must take its realities seriously in the midst of human aspirations and in our work with broken individuals. The creational norms of male and

female are an ontological reality and a moral foundation that ought not be altered or eradicated. Paul's statement that in Christ "there is neither male nor female" (Gal. 3:28) means, of course, that gender is not relevant in access to God and is not limiting in our living out the Kingdom way of life in Christ. However, this redemptive reality does not negate the creational givens in which we live our Christian lives and experience the freedom of Christ—a freedom that overcomes old, fallen gender stereotypes and expectations. But such freedom in Christ is in continuity with biological and ontological creational givens, and biotechnologies should not eradicate this essential dimension of humanness.

Conclusion

Biotechnologies have great potential to bring healing and therapy to our broken and fallen world. Healing is a moral imperative for us as God's viceroys who on this earth pattern our own lives after the Great Physician, our Savior and Lord. Thus, biotechnologies can and should be welcomed as part of our calling to steward and cultivate the world and bring healing where the ravishes of the Fall are at work. The world is, indeed, much better off when debilitating diseases are eradicated and crippling injuries are healed. New knowledge about our world and humanity should be welcomed and applied in all spheres of life, but within a Christian framework. The good gifts of creation are not ours to use in any way we please, for we are stewards of those gifts, developing and utilizing them in light of God's designs. Moreover, we carry out this cultural mandate in God's world with an understanding that some solutions to our malaise could be worse than the physical and natural disquiets themselves. In a finite and fallen world there are, at times, unintended and dire consequences to what appear to be our most noble pursuits. This is especially true in the new biotechnology paradigm of liberation as opposed to healing. In the words of William Hurlbut, "Imagined ideals, untethered from a comprehensive and coherent moral frame, set the course. And desire, deracinated from its natural origins where pleasure and higher purpose are inextricably bound, provides the motive force."[53]

Thus, along with all of their good, biotechnologies have the potential to radically change or even eradicate dimensions of human nature that are God-given and central to human life for our own good. I have suggested in rudimentary form four of these dimensions: the integrity of the human race, our finitude, our embodied soulness, and our male/femaleness. These are dimensions that ought to be preserved and made to flourish through our engagement with and stewardship over the natural world. They are elements essential to human welfare and to the good of society. They are, moreover, theological essentials for understanding humanity, God and the relationship between the two.

Endnotes

1. Certainly defining nature itself is no easy task. For a helpful overview of this and theological reflection on nature see Allen Verhey, *Nature and Altering It* (Grand Rapids: Eerdmans, 2010).
2. Ben Mitchell, Edmund Pellegrino, Jean Bethke Elshtain, John Kilner, and Scott Rae, *Biotechnology and the Human Good* (Washington, DC: Georgetown U. Press, 2007), 1.
3. The President's Council on Bioethics, *Beyond Therapy: Biotechnology and the Pursuit of Happiness* (New York: Harper Collins, 2003), 2
4. This approach to technology in general was particularly articulated by Jacques Ellul in his now classic work, *The Technological Society* (New York: Knopf, 1964).

5. Ronald Cole-Turner, "Introduction: The Transhumanist Challenge," in *Transhumanism and Transcendence: Christian Hope in an Age of Technological Enhancement*, ed. Ronald Cole-Turner (Washington, DC: Georgetown U. Press, 2011), 7.
6. Ben Mitchell, Edmund Pellegrino, Jean Bethke Elshtain, John Kilner and Scott Rae, 117. For an overview of the shifts in the telos of medicine and medical ethics see Edmund Pellegrino, "The Metamorphosis of Medical Ethics," Journal of the American Medical Association 269-9 (March 3, 1993): 1158-1162.
7. Julian Savulescu, "Genetic Intervention and the Ethics of Enhancement of Human Beings," in David Kaplan (ed.), *Readings in the Philosophy of Technology*, 2nd edition (Lanham, MD: Rowan & Littlefield, 2009), 423.
8. John Hunt, *Clones, Genes and Immortality* (New York: Oxford U. Press, 1998), 203. For a helpful overview of the debates on enhancement see, Paul Jersild, *The Nature of Our Humanity: The Ethics of Genetics and Biotechnology* (Minneapolis: Fortress, 2009), 116-129.
9. William Herlbut, "St. Francis, Christian Love, and the Biotechnological Future," *The New Atlantis: A Journal of Technology and Society* 38 (Winter/Spring 2013): 94.
10. Jersild, 116.
11. For a helpful overview of contemporary forms of eugenics with regards to reproduction see Amy Laura Hall, *Conceiving Parenthood: American Protestantism and the Spirit of Reproduction* (Grand Rapids: Eerdmans, 2008).
12. Robert Sinsheimer, "The Prospect of Designed Genetic Change" *Engineering and Science* 32 (1969): 8-13.
13. Savulescu, 424.
14. See for example Edwin Black, *War Against the Weak: Eugenics and America's Campaign to Create a Master Race* (New York: Avalon, 2003) and Christine Rosen, *Preaching Eugenics: Religious Leaders and the American Eugenics Movement* (New York: Oxford University Press, 2004).
15. This was part of the argument from the former President's Council on Bioethics in which they contend, "Athletics, like many other human activities, depend on native gifts that are unequally distributed." The President's Council of Bioethics, *Beyond Therapy,* 132. Though the council was quite reticent regarding new biotechnologies they did not believe that justice or fairness was a major grounds for rejecting them.
16. Ted Peters, "Progress and Provolution: Will Transhumanism Leave Sin Behind," in Cole-Turner, p. 71.
17. For a helpful overview of these debates on fairness see *Beyond Therapy*, 123-134.
18. James Peterson, *Changing Human Nature: Ecology, Ethics, Genes, and God* (Grand Rapids: Eerdmans, 2010), 45, 84.
19. Ibid., 163-204.
20. James J. Hughes, *Citizen Cyborg: Why Democratic Societies Must Respond to the Redesigned Human of the Future* (Cambridge, MA: Westview Press, 2004), 155.
21. Humanity +, "Transhumanist FAQ." http://humanityplus.org/learn/transhumanist-faq/. December 12, 2012.
22. http://singularity.org, November 10, 2010.
23. Ray Kurzweil, *The Singularity is Near: When Humans Transcend Biology* (New York Viking Press, 2005), 9.
24. Ashleee Vance, "Merely Human? That's So Yesterday," *New York Times Reprints*, www.nytimes.com/2010/06/13/business/13sing.html.
25. Nick Bostrom, "Dignity and Enhancement," www.nickbostrom.com/ethics/dignity-enhancement.pdf, Nov. 11, 2010.
26. Of course, to appeal to human nature raises multiple philosophical questions about the meaning of nature and human nature, and the validity of these terms in biotechnological judgements. For the current status of those debates see Gregory Kuebnick (ed.), *The Ideal of Nature: Debates About Biotechnology and the Environment* (Baltimore: Johns Hopkins U. Press, 2011).

27. This view of human nature seems also to be implied by James Peterson in *Changing Human Nature* by his failure to address the question of human nature or in his seeming lack of concern over the issue.
28. Gregory Stock, *Redesigning Humans: Choosing Our Genes, Changing the Future* (New York: Houghton Mifflin, 2003), 4.
29. Ibid., 173.
30. Aubrey de Gray and Michael Rae, *Ending Aging: The Rejuvenation Breakthroughs that Could Reverse Human Aging in Our Lifetime* (New York: St. Martin's Press, 2008).
31. Todd Daly, "Chasing Methusela: Transhumanism and Christian Theosis in Critical Perspective," in Cole-Turner, p. 133.
32. Reinhold Niebuhr, *The Nature and Destiny of Man*, vol. 1 (New York: Scribner's, 1964), 150.
33. Ibid., 182.
34. Brent Waters, "The Future of the Human Species," www.cbhd.org/content/future-human-species. (November 13, 2010), 5.
35. There is of course much we do not know about our future state in the presence of God, but there is nothing in Scripture suggesting that we somehow become infinite creatures. In heaven our dependence upon God will be complete. All of this of course raises the significant theological question of whether physical death in the natural world was in some manner part of our creatureliness or entirely a result of human sin. The latter seems at first glance to be taught by Paul in Romans 5, though some have suggested that he is speaking primarily of spiritual death that in turn brings to natural, creaturely physical death great pain, sorrow and anguish.
36. Francis Fukuyama, *Our Posthuman Future: Consequences of the Biotechnology Revolution* (New York: Farrar, Straus and Giroux, 2002), 14.
37. Lutheran theologian Carl Braaten made this point before the advent of transhumanism and contemporary biotechnologies when he states, "A crucial difference between secular futurology and Christian eschatology is this: The future in secular futurology is reached by a process of the world's becoming. The future in Christian eschatology arrives by the coming of God's kingdom. The one is a becoming and the other a coming." Carl Braaten, *The Future of God* (New York: Harper & Row, 1969), 29.
38. Peterson, 30.
39. Brent Waters, 10.
40. Cole-Turner, 194.
41. Ibid.
42. For a good defense of the substance dualist position and its implication for ethics see J.P. Moreland and Scott Rae, *Body and & Soul: Human Nature and the Crisis in Ethics* (Downers Grove: InterVarsity Press, 2000. For a good defense of the non-reductionist materialism position see Nancey Murphy, *Bodies and Souls, or Spirited Bodies?* (Cambridge: Cambridge University Press, 2006). Neither approach reflects the more radical approaches of pure dualism or naturalistic materialism.
43. *Biotechnology and the Human Good*, 43
44. Christian Smith, *Moral, Believing Animals: Human Personhood and Culture* (New York: Oxford, 2003), 31. Smith draws in these assumptions in part from philosopher Charles Taylor and his insistence that humans have second order desires, that is desires about desires. Smith also insists that along with being moral animals we are inherently believing animals who by nature trust something beyond ourselves.
45. Bostrom.
46. Stock, 194.
47. Zachary Roth, "Parents keep child's gender under wraps," *Yahoo News*. Htttp://news.yahoo.com/s/yblog_thelookout?20110524/ts_yblog_the, May 25, 2011.
48. Dale Martin, *Sex and the Single Savior: Gender and Sexuality in Biblical Interpretation* (Louisville: Westminster John Knox Press, 2006), 89.
49. Ibid.

50. Lone Fatum, "Image of God and Glory of Man: Women in Pauline Congregations," in *The Image of God: Gender Models in Judeo-Christian Tradition* ed. by Kari Elisabeth Borresen (Minneapolis: Fortress, 1995), 63-64,76.
51. Patrick Cheng, *Radical Love: An Introduction to Queer Theology* (New York: Seabury Books, 2011), X.
52. A good example of this is intersexual condition in which the genitalia of one sex are mixed with physical characteristics of the other sex, or in which one may have both ovarian and testicular tissue present. In Klinefelter's syndrome a male has an XXY chromosomal makeup, while in Turner's syndrome a female has an X chromosome missing, resulting in an XO makeup.
53. Hurlbut, 94.

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BOOK REVIEWS

The Anticipatory Corpse: Medicine, Power, and the Care of the Dying

Jeffrey P. Bishop. Notre Dame: University of Notre Dame Press, 2011.

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To those inclined to accept the common criticism against contemporary medicine for its uncritical pursuit of "life at all costs" as articulated by Robert Veatch, Daniel Callahan, Wesley J. Smith, Bishop's thesis may be perceived as ridiculously fantastic or utterly counterintuitive at best. Whatever medicine may accomplish in the name of life, Bishop argues that ultimately *death* informs and animates medicine. Specifically, Bishop sees medicine's epistemology as grounded in the stability of the dead body, the corpse, which engenders a reductionist metaphysic of efficient and material causes to the exclusion of more substantive formal and final causes which explore the shape and ultimate purpose of the good life.

Bishop goes on to argue that this epistemology and metaphysic have unintentionally engendered "violent" practices toward the dying by either reducing death to mere physiology—where both life and death are considered as fully defined in terms of material and efficient causality—or by managing death through the totalizing practice of palliative care. Medicine has "lost its way in the care of the dying . . . because of how it understands death in the body." (28) The irony is that these practices actually serve to mask death, pulling it out of a communal context where the narrative, liturgical, mythological and even tragic aspects of death might otherwise be considered for the patient's good and for that of the community caring for the patient.

Bishop draws on *Birth of the Clinic* (1963) where Michel Foucault chronicled the philosophical, scientific, cultural, and political developments that lead to the creation of the supposedly neutral space of the clinic, where competing philosophies of medicine were conjoined and where doctor, medical student, and patient were brought together for the sake of practical knowledge and efficiency—the model on which medicine currently functions. Foucault noted however that under this arrangement patients were increasingly objectified in the name of diagnosis, while death was seen primarily as the terminus of both life and disease, and hence the pivotal point from which to understand the living body. That is, flux of life could be described more clearly by the stasis of death. The sooner a body could be sliced opened after death, the more information could be gained. In the clinic, too, doctors learned to interrogate disease in much the same way that the dead body was "questioned" by the scalpel. Bishop observes:

> Thus the techniques of the clinic elicited what could only have been known definitively through dissection of the body. The analytic technique acts in the same manner as the autopsy. Both reveal the disease; the violence of the penetrating gaze is an analogue to the violence of opening the corpse. This new normative object, the dead body, comes to represent the patient's living body . . . (55)

This reductionist metaphysic of efficient causation has profoundly shaped medicine's care for the dying, claims Bishop—from the ICU to organ donation—by spawning a morality of autonomy and choice, especially concerning the end of life. Bishop argues that a metaphysic of mere efficient and material causality is utterly blind to the moral distinction between killing and letting die, and as such underwrites physician assisted suicide as the logical conclusion of a decisionist morality that prizes choice itself over deeper considerations of the proper form of life and life's ultimate purpose (*telos*). Moreover, he cogently observes how Roman Catholics and Evangelicals are often conscripted into this shallow metaphysic and its accompanying ethic when they argue for "bare life"—as in the case of Terri Schiavo—to the exclusion of what might be said for the good life, which requires deeper teleological considerations,

such as the *visio Dei*. Bishop pulls no punches: "It appears that the Church has abandoned its theological anthropology for the political ontology of the dominant secular society." (210-11)

Bishop garners additional support for his thesis with a penetrating and deeply troubling investigation into the practices surrounding organ transplantation and the ironies involved in the bio-political construction of "brain death" that relies on the *death* (of a "potential donor" who was formerly a "patient") in order to preserve *life* (of a "potential recipient"). In exploring liminal space, when the patient is paradoxically reduced to a living corpse for the sake of organ donation, Bishop draws extensively on contemporary medical literature in convincingly arguing that the practices by which organs are "procured" for transplantation are absurd, subtly violent, and ultimately covered over by the carefully crafted rhetoric of the "bio-political regime." He concludes that there is a profound dualism at work here between the "dead" patient and the "living organs," between the patient's family and the donor community. All deaths must serve the greater good. (176) Once again, Bishop notes that:

> The logic of efficient donation, which strives for the maximization of donors and organs, cannot be resisted under a metaphysics of efficient causation. . . . The good life—including the life of the dying—as its own end is not a possibility. (184)

No less disturbing is his narration of the rise of palliative care where Bishop brilliantly argues that medicine's failed attempt to master death physiologically has been met with a new hope to master it psychologically and sociologically, giving birth to "bio-psycho-socio-spiritual medicine." (228) With the supposed neutrality of statistical medicine working in conjunction with the soft sciences that are inherently suspicious of the transcendent, Bishop argues that in trying to provide holistic care palliative medicine has actually developed into totalizing, even totalitarian care. As Bishop rightly notes, contemporary palliative care actually suffers from its ideological shift away from the doctrines that originally animated the hospice, explicitly Christian notions of hospitality, love (charity) and care for "the least of these." (Matthew 25) Bishop rightly laments that the original idea of the hospice has now been hijacked by medicine and combined with palliative care with its claims to care for the whole person. However,

> Care at the end of life is no longer the care offered by family, nurses, nuns, or their counterparts; it is deployed for the patient's own good, by experts. *Cura corporis* [care of the body] and *cura animae* [care of the soul] become the venue of professionals, who are bent on mastering death and finitude and fear and grief. (258)

In this arrangement, religion is effectively reduced to the handmaiden of medicine; what was once under the purview of Christian hospitality is now under the professionalized domain of spirituality.

The Anticipatory Corpse has the potential to become a classic in the field of medicine. It should be read by medical practitioners, medical students, students of philosophy, anthropology, theology and culture. Bishop's critique of contemporary medical practices and the fundamental philosophical questions underlying them are a stark reminder that the practices of medicine—many of them very good indeed—should not become ends in themselves. The question that Plato and others have asked concerns *the role of medicine in pursuit of the good life*, or how medicine fits in with our metanarrative. Insofar as autonomy and practical efficiency remain key components of any American version of how our story ought to go, we can expect medicine to continue to shape our dying in reductionist ways under the guise that medicine is actually equipped to provide comprehensive care. Bishop has made this point with devastating impact.

It is mildly disconcerting however that Bishop's pessimistic tone throughout the work will likely try, and eventually defeat, the reader's patience before his arguments have time to sink in. At times he is alarmingly negative—even his confession that he wants to believe that most people practicing medicine are motivated out of a proper sense of compassion feels forced. (285) It seems he is all too aware of the bio-political powers at work that (mis)shape these initially pure desires into something that ultimately does violence to the dying in the name of comprehensive care. Bishop at least owns up to his own pessimism with a frank admission in his final chapter, but this might have been more useful for the reader earlier on. Indeed, the last chapter may just as well be skipped, as Bishop's phenomenological musings in search for a cure for medicine bring him to a dead end, as he readily concedes—or almost.

For the most encouraging line in the entire book is his last: ‘Might it not be that only theology can save medicine?’ (313) It is time to find out.

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