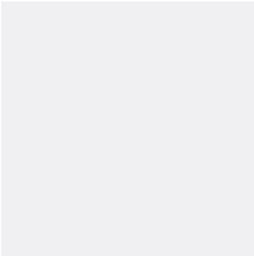


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VOL 27 • NO 1-4 • 2020 | A PUBLICATION OF THE CENTER FOR BIOETHICS & HUMAN DIGNITY



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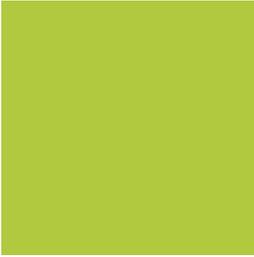
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ISSN 2372-1960 (Print)
ISSN 2372-1979 (Online)

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E D I T O R I A L



F. Matthew Eppinette, PhD | Editor
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This combined 2020 edition of *Dignitas* includes five full length articles, along with a reflection piece regarding CBHD's 2020 conference on COVID-19 by Bryan Just as well as a special COVID-19 timeline by Heather Zeiger. The indicated larger, full-year edition represents an effort to return publication of *Dignitas* to its regular quarterly cycle, setting up the publication to remain at the forefront of the ever-changing world of bioethical issues and cultural engagement. The works in this issue cover the span of human life—from birth to death, along with the preservation of life in between. Ethical issues surrounding reproduction, organ transplantation, and life extension will be addressed, along with an article exploring general bioethical principles.

Two pieces in this edition cover reproductive ethics. C. Ryan Fields writes on the matter of oral contraceptives and their moral implications for Christians. The winner of CBHD's 2020 student paper competition, Fields provides an exhortative call for unity amongst "pro-lifers," situating oral contraceptive decision-making in the realm of individual conscience and Christian freedom. Fields helpfully maneuvers the world of pregnancy prevention through clarification of terminology and delineation of the actual action of various oral contraceptives,

along with explanation of the main ethical positions regarding these drugs. From this core of understanding, the author is able to raise relevant doctrinal issues for consideration, and ultimately describe his own conclusion on the matter.

Moving past the point of fertilization, Christopher Reilly addresses the moral permissibility of frozen embryo adoption. Reilly argues that the adoption of an embryo is not only morally permissible but is, in fact, an example of radical redemption that exemplifies Christlikeness. Reilly does this specifically through the lens of moral theology: determination of what is "good" based on the revelation of Christ. While denouncing the use of in vitro fertilization (IVF) for conception, he highlights how embryo adoption does not make one complicit in such an act, and indeed he argues that it mitigates some of the ethical issues created by IVF. He also demonstrates how embryo adoption is not prohibited by the Roman Catholic instructional document *Dignitas Personae*. Reilly concludes that the call to mercy outweighs any merely potential ethical roadblocks stemming from frozen embryo adoption.

Regarding the preservation of human life, Gregory Rutecki contends with the matter of Hepatitis-C virus (HCV)-positive organ donations. Assessing the dire need

for available organ donors in the U.S., Rutecki states that the recently discovered "cure" for Hepatitis-C opens new doors of ethical consideration regarding transplantation of an HCV-positive organ. However, the American Society of Transplantation offers a cautionary "yellow light" on movement forward for such organ donations, establishing certain criteria that must be maintained. Rutecki argues that such criteria have not currently been met, as is evidenced by the inaccessibility of timely attainment of the anti-viral drug necessary to protect an organ recipient from contraction of the virus and the lack of transparency regarding the drug's experimental state when it comes to use in organ transplantation. Further addressing issues of informed consent and potential medical complications, the author ultimately warns against continuation of HCV-positive organ transplantation if the current leniency in this practice is not addressed.

Moving toward end-of-life issues, Bryan Just incisively deals with matters regarding radical life extension (RLE) and the variety of Christian responses to it. By first observing the nature of various possible objections to it, Just excellently gets to the root ethical issues undergirding RLE and explores whether such matters merely caution against its use or whether they warrant prohibition altogether. Just goes on to delineate Christian responses from key voices in the bioethical world,

followed by larger, organizational replies. He concludes that there is no major consensus on the ethical acceptability of RLE in the Christian world, and highlights the tension that exists between the preservation of human life along with the acceptance of death as the means by which mankind may be rejoined to perfect fellowship with God.

In a piece addressing more general theological and bioethical issues, Robert Lawrence describes a progression of ethical development in 2 Peter, focusing on 2 Peter 1:3–10. Lawrence delineates the unique ethical perspective of the letter's author along with its similarities to, and distinctions from, other ancient philosophers. While being similar in its

teleological force, it is unique in its hierarchical progression, with one virtue necessarily linked to and building upon another. Thus, Lawrence states, the list is an exemplary application of virtue ethics. Further developing each of 2 Peter's listed virtues, the author demonstrates how the foundation of this progression is an evidential faith (*pistis*) that must find its teleological end in self-sacrificial, unconditional love (*agapē*). Lawrence closes with application of 2 Peter's ethical delineation on a real-life case under consideration in the world of bioethics.

Finally, the copy you hold in your hands marks the final *printed* issue of *Dignitas*. Starting with the first issue of 2021, *Dignitas* will become a fully open-access,

online publication. Michael J. Slesman, PhD, Associate Professor of Bioethics and Director of Bioethics Degree Programs here at Trinity International University, will be assuming the editorship of *Ethics & Medicine: An International Journal of Bioethics*. Thus, that journal now becomes a publication of our sibling, the Bioethics Department of Trinity Graduate School. This change provides an opportunity for The Center for Bioethics & Human Dignity to open up the important content of *Dignitas* to an even wider audience. CBHD members will continue to receive printed copies of *Ethics & Medicine*. Thank you for your faithful readership of and contributions to *Dignitas*. We look forward to seeing you online at <https://cbhd.org/Resources/Dignitas>.

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03



Green Light or Proceed with Caution? Has the Time Arrived for Hepatitis C-Positive Organ Donations?

Gregory R. Rutecki, MD | Guest Contributor

Over the last two decades, the iterative success of solid organ transplantation has hit a wall as a consequence of a plateau in organ donations. The result has been a fatal gap between an increasing need for transplantable organs and a ceiling in supply. That “ceiling” limited liver transplants to approximately 8,000 in 2017.¹ However, in 2016, there were more than 13,000 persons on the liver waitlist.² The overall number of organs transplanted in the U.S. has hovered in the 36,000 range.³ Placing these numbers in a stark perspective, donations may be contrasted with a continually expanding organ waiting list. The list has exceeded 122,000 persons and increases 2–10% per year.⁴ There is a human price to be paid for the disparity. In some instances, waiting list times may exceed 10 years, and in the context

of kidney transplants, incurs a 25% mortality.⁵ More than 1 out of every 10 persons on a waiting list dies annually—or is *decimated*.⁶ In the future, this fatal imbalance will be exacerbated without more donors. The demand for livers is expected to expand further as a result of a contemporary epidemic of non-alcoholic steatosis—predicted to burden the waitlist with an increase of 170%!⁷ A similar increase is expected as a result of a burgeoning younger demographic with alcoholic cirrhosis.⁸

At this juncture, one is compelled to ask whether there is an ethical way to increase the donor pool. A recent confluence of events has provided a unique possibility. Direct Acting Antiviral therapy (DAA) has “cured” previously incurable hepatitis C virus (HCV)-infected persons.

In the past, potential, otherwise-viable organs from an HCV-positive source would have been discarded. Such organs came from a category characterized as “Extended Criterion Grafts.” The category was comprised by a demographic of donated organs deemed inferior when compared with traditional donations. These organs have been deemed inferior because of their infectious risk to recipients. Until very recently, HCV-positive organs were presumed to transmit HCV to some recipients. Since HCV was incurable at that time, the infection could be fatal. Recently, there has been a veritable paradigm shift. HCV is now curable and this previously discarded pool of organs has the potential to dramatically increase donations. Opioid addiction, for example, will lead to a 200% increase in opioid-related deaths.⁹ In Kentucky, the opioid addiction epicenter, 50% of users are HCV positive.¹⁰

Gregory R. Rutecki, “Green Light or Proceed with Caution? Has the Time Arrived for Hepatitis C-Positive Organ Donations?” *Dignitas* 27, no. 1–4 (2020): 3–8.

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Scrutiny of the escalating interest in HCV-positive grafts in an age of successful DAA treatment can engage important ethical questions in the context of transplantation's next potential generation of donors. It has been estimated that organs from HCV-positive donors might increase the number of kidney transplants alone 500–1,000 or more per year.¹¹ Increases will also include hearts, livers, and other single organs. If reasonable ethical boundaries surrounding HCV-positive organ donations to HCV-negative recipients are met, the impact of this specific donor pool can be lifesaving for many. Exactly where should these boundaries be drawn? Unfortunately, there is no universal ethical standard for the utilization of HCV-positive grafts in this era of DAA. Although a reputable consensus conference has provided fundamental ethical direction, compliance with fundamental precepts has been lacking to date.

Hepatitis C-Positive Organs for Transplant? An Ethical Consensus to Carefully Consider

In 2017, an American Society of Transplantation (AST) Consensus Conference addressed the potential widespread utilization of HCV-positive donors for organ transplantation.¹² The committee was comprised by 23 members, all experts in the field of solid organ transplantation. This author's reading of their "blueprint," outlining an ethical approach to HCV-positive transplants, suggests that their constructs, designed to protect recipients of HCV-positive organs from harm, are a critical starting point. There were at least 4 that warrant consideration (from this author's reading). In addition, a more recent publication and this author's opinion respectively suggest fifth and sixth ethical considerations.¹³

1) At present, HCV-positive to negative transplantation is experimental and *not standard of care*. The conference concluded that a yellow light (proceed with caution), not a green light (characterize the enterprise as standard of care), should be given to the donation and transplantation of

HCV-positive organs, and the group then proceeded to outline the conduct of future research protocols.

2) DAAs have to be guaranteed for all recipients and given early after transplantation as well as later (such as a "salvage regimen") if they are deemed necessary for relapses. "Early" can be interpreted as either immediately pre- or post-transplant for all HCV-positive to negative recipients or as soon as possible after HCV positivity occurs in a previously negative recipient. This author favors immediately pre- or post-transplant for all. The ethics of "short" versus longer course DAA administration per se will not be discussed.

3) Informed consent has to be standardized, consistent, and evolving with new data obtained after longer-term follow-up. Ideally, it should be as centralized as feasible.

4) Monitoring of the cohort of organ recipients in trials should be extended.

5) Research results to date have to be interpreted with more scientific rigor.

6) Studies that are solely pharmaceutically sponsored should be prohibited.

The Consensus Conference Explicitly Specified a Yellow Light for the Enterprise

The ethical consensus at the Conference proposed: "Until this practice [implanting HCV-positive organs into recipients without the infection] is clearly shown to be *safe* and efficacious in larger *multiorgan studies*, centers performing such transplants should continue to have *IRB approved research protocols* that have been vetted for *safety and adequacy of the informed consent process*."¹⁴ The experts' concerns were safety, IRB oversight, and informed consent. Their conclusion left no doubt—the HCV-positive to negative transplant enterprise, while promising, is experimental and should not be considered standard of care.

It is important to note that the consensus conference is not alone regarding this

optimistic and yet cautious appraisal.¹⁵ Their report in 2017 should have set ethical boundaries for the future, beginning with the agreement that efforts be characterized as experimental and therefore limited by the research direction drawn by the conference. Unfortunately, many studies since the conference have not heeded their conclusions. Additional caveats from the experts and concurring publications should have emphasized areas of concern that focus on safety (including DAA availability and potential complications without access to them), informed consent, unforeseen complications with longer follow up, and the addition of greater scientific rigor in the interpretation of HCV transplantation results—a degree of rigor that seems inconsistent with available studies performed with pharmaceutical sponsorship.

A Disconcerting Impasse: DAA Availability

The consensus conference,¹⁶ as well as others,¹⁷ have identified a critical patient safety concern. DAAs should be uniformly available and initiated early after transplant in all HCV-negative recipients of HCV-positive organs. They should also be accessible later after transplant if they are deemed necessary. The "whys" for this recommendation and research compliance with the guideline will be detailed.

Sise and company have said: "Ensuring access to direct acting antiviral therapy in the first week post-transplant is an extremely important safety consideration."¹⁸ Shetty and coworkers likewise observed: "Results . . . suggest that the use of HCVpD [hepatitis C-positive donor] grafts is not completely risk free and can result in HCV infection and HCV hepatitis with progression to advanced fibrosis. However, with the help of DAA, we can overcome this drawback with early treatment of these grafts before HCV-related hepatitis or fibrosis occurs."¹⁹ Although early DAA treatment is ideal, to date it has been running a dangerous gauntlet in the real world.

Goldberg and Reese expand upon this caveat.²⁰ Published trials implementing early DAA treatment have typically accessed the DAAs through donations from a pharmaceutical company. Otherwise, these expensive drugs must be subsidized by investigators, third-party payers, or be reimbursed by the patients themselves. But therein lies the rub. Certain third-party payers (in 2017, 65% of state Medicaid programs had hepatic fibrosis restrictions for approval of DAA therapy) will either not approve “early” (that is prior to explicit HCV injury) treatment (and so they require documentation of specific pathologies that occur later with chronic HCV infection) or approve DAAs only after a substantial delay.²¹ With approval, co-pays can still approximate more than \$1,000 per month.

From a medical and ethical perspective, what is the onus for early treatment, that is, DAAs, before transmission or damage from HCV are documented? After the consensus report, a study transplanting HCV-positive organs into C-negative individuals exposed a disconcerting reality.²² First, despite the consensus recommendation to classify HCV-positive transplants as experimental, this protocol made the practice “standard” or a “real-world experience.”²³ As Durand and others observed: “Important practical, clinical, and ethical challenges

emerge[ed] from this real-world experience. . . . DAAs were started a median of 76 days post-transplant, a significant delay compared to trials where DAAs were initiated pretransplant as prophylaxis or 3 days posttransplant.”²⁴ The ensuing complications—reflecting recipient infections with HCV—were unacceptable. One patient developed fibrosing cholestatic hepatitis (a serious post-transplant complication), 19% of these organ recipients experienced a tripling of liver enzymes (consequent to liver injury), some acute organ rejection, donor specific antibodies, BK viremia, and/or CMV viremia. It appears that the early development of HCV infection in these recipients not receiving timely DAAs creates an inflammatory environment followed by a cascade of serious and potentially fatal complications.²⁵

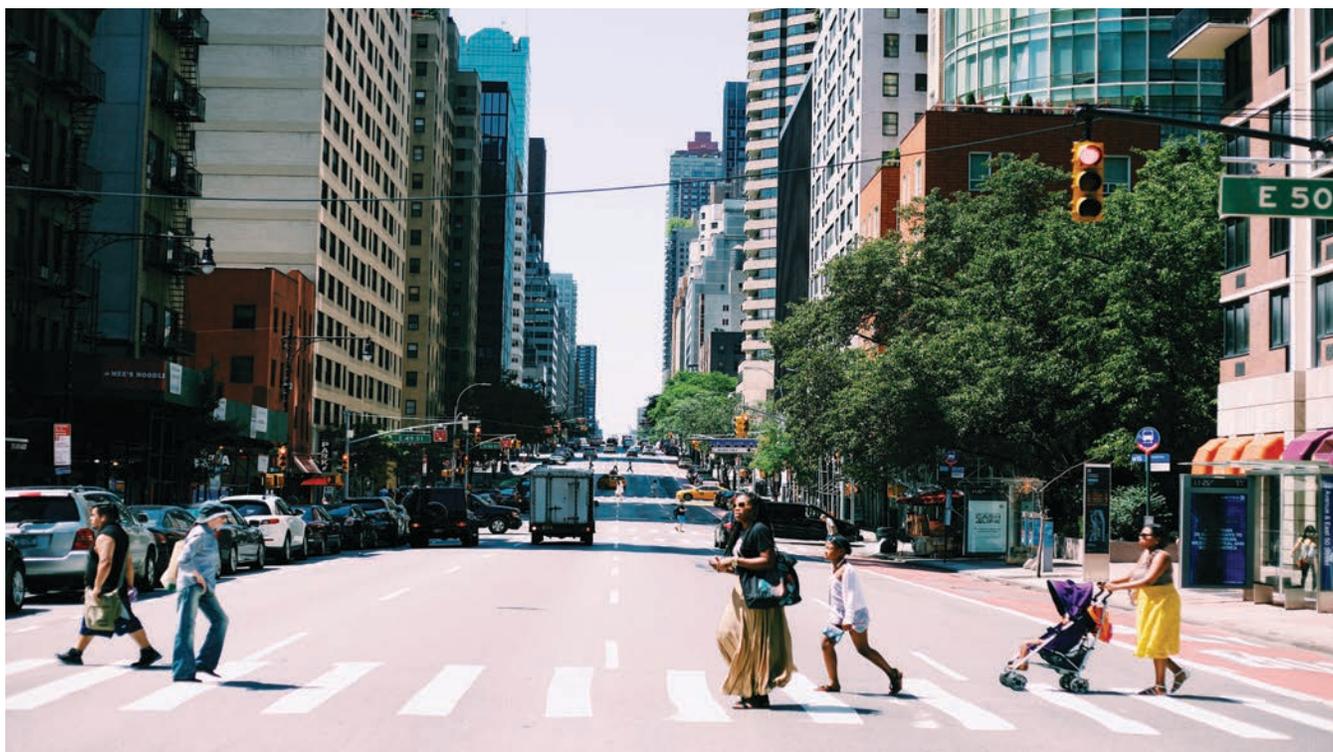
Other investigators likewise highlight possible risks contingent on HCV infection (acquired without the organ transplant) in this demographic. They have reported a 1.56% greater risk of graft loss, a 1.79% relative risk for mortality (specifically in kidney recipients), more frequent rejection episodes compared to HCV-negative controls, chronic allograft nephropathy, diabetes, de novo glomerulonephritis, and fibrosing cholestatic hepatitis.²⁶ If any of these inflammatory complications occur, and DAAs are unavailable, recipients may be seriously

harmed by the HCV-positive organ transplant. Sise and company also specifically express concern regarding the reported risk of focal glomerulosclerosis (FSGS) in recipients of HCV-positive kidneys.²⁷ In fact, in a study wherein a sustained viral response (SVR) was obtained, FSGS occurred six months later.²⁸

An important General Guideline Summary outlining *standard of care* for HCV-infected individuals outside the realm of transplantation succinctly observed that DAA therapy “contribute[s] to dramatic reductions in all-cause mortality.”²⁹ The standard of care cannot and should not be applied to HCV infection in a non-transplant cohort and then jettisoned in a transplant population. Future studies should not proceed without a guarantee of early DAA access. Furthermore, if recurrence of HCV infection or any of the co-inflammatory complications occur later after transplant, DAAs must continue to be readily available and timely.

Whither Goes Informed Consent after Consensus Recommendations?

The consensus committee specifically emphasized the importance of informed consent. Since their opinion was published in 2017, this advice has also gone unheeded in some prominent publications. In the aforementioned study that was compromised by the early



unavailability of DAAs, initial informed consent was by mail only.³⁰ The first face-to-face discussion was not held until the organ offer was made. This is hardly the ideal time to discuss such a complicated issue. Another study, in fact one of the largest (n = 55) specifically addressing liver transplants from HCV-positive donors, did not describe the informed consent process in any detail—merely summarizing that “informed consent was obtained in the office setting,” and any specifics of IRB supervision were ignored in the publication.³¹ Furthermore, in this trial, “selection of antiviral therapy was based on provider preference and payer discretion” in contrast to the consensus committee’s recommendations. Editorials have noticed the same omission in other published studies.³²

The informed consent and IRB shortfalls are becoming “rules” rather than “exceptions.” In another study, there was no IRB-approved protocol and there was no consent document.³³ Again, these investigators relied upon insurance coverage for DAAs without a guarantee.³⁴ The result was a delay in the initiation of DAAs for 43 days. As with the preceding study experiencing a delay in therapy, there were complications that may have been attributable to early HCV infection in the recipients.

On another level, how “informed” can the consent process be? Follow-up in most previous studies has been limited (usually in the range of six months to a year). Predicting later complications is therefore impossible. Further limiting accuracy, the studies are disparate in design. DAA administration has been prophylactic, in some instances given early after transplant or occasionally later, and then of variable durations. Valid consent has to emphasize complications incurred if DAAs are not administered early. As the consensus panel wrote: “If treatment is delayed beyond the early post-transplantation period, protocols that monitor infection, new-onset diabetes mellitus, glomerulonephritis, and severe chronic cholestasis should be put in place.”³⁵ To date, that important recommendation has been enforced

inconsistently. A major study published in *The New England Journal of Medicine* decided to administer DAAs as a short course only.³⁶ What would have happened if an SVR was not achieved with this approach? The heterogeneity of studies to date precludes comprehensive counseling as to a veritable unlimited list of potential complications. If this complexity is confronted by a stressed patient and family for the first time when the organ is offered, is the process consonant with valid informed consent? With the lack of standardization and extreme variability of design in the published studies, “patient consent assumes a level of understanding about HCV infection that may not currently exist.”³⁷

What Are Potential Complications Later?

As alluded to above, the expense of research and DAAs in the area of HCV-positive to negative transplants have affected study designs. Not only has DAA access been a victim, but expense has also limited the duration of patient follow-up as noted in the previous section. As a result, potential immunological consequences of acute donor-derived HCV that may occur at a later date require further elucidation. As mentioned earlier, HCV infection has been associated with transplant glomerulopathy and chronic rejection. Alloimmunity is heightened by the viral infection.³⁸ Since chronic Hepatitis C infection is also associated with diabetes mellitus, glomerulonephritis, and liver cancer, rigorously performed clinical trials of appropriate design and duration are an ethical imperative.³⁹ Who is going to sponsor these “rigorous,” and therefore more expensive, trials? Are the designs again going to be disparate—as has been the model to date—so that firm conclusions and comparisons are precluded? The follow-up interval after transplant has to be extended considerably and the number of patients enrolled far greater. With these constraints, what else might be discovered later?

For example, it has been demonstrated that after transplant, the HCV virus can undergo a genotype change.⁴⁰ Thus

far, this has not caused a problem with “pan-genotypic” DAAs. But will the safety in this regard be durable?

Goldberg and Reese also inquire as to whether other previously experienced HCV-mediated complications, such as immune related damage in the form of acute transplant glomerulopathy or acute and chronic vascular rejection can surface later.⁴¹ If they do, will they be amenable to treatment? Will treatment even be available? Who is going to incur the cost? The same authors question whether the presence of tubuloreticular inclusions in HCV-transplanted kidneys may be a harbinger of untoward consequences in the transplanted organs at a later date—after the six months to a year interim typical of prior studies.

Finally, previous trials of HCV-positive heart transplants have been associated with graft coronary artery disease. This complication could be an issue long *after* the short follow up provided in extant trials for HCV-positive organs utilized for transplant.⁴²

Does the Data Available Pass Muster at Journal Club?

Since the HCV-positive to negative transplant endeavor is experimental, it is on an evidence-based journey to verify safety and efficacy. Therefore, all data must be evaluated in an atmosphere of transparency—according to “Journal Club Rules.” How does the data to date fare under this scrutiny?

Blumberg mitigates some of the optimistic conclusions that have been drawn from a prominent study by Woolley and others. She then moves on to more general “evidence-based” considerations.⁴³ After noting that “early results are promising, with a 100% sustained viral response and generally excellent patient and allograft outcomes,” she says: “This trial has some unique features that must be considered.”⁴⁴ She infers that the excellent outcomes may reflect beneficial characteristics in both the donors and recipients that are absent in the typical transplant population. These include younger donors and recipients. Her

critique suggests that current optimism regarding hepatitis C-positive to negative transplants may be based on a selected cohort of younger individuals in both the recipient and donor groups. The donors were “surprisingly young.”⁴⁵ Since they represent donors usually dying from overdoses this is not unusual.

Recipients were also less critically ill, with shorter lengths of stay in the ICU and a cohort with better kidney function. As a result, Blumberg concludes, “there is still a lot to learn.”⁴⁶ Right now, “good” results are being garnered in a “healthier” donor and recipient population. However, comparing this cohort to a general transplantation demographic would be somewhat disingenuous. She also cautions that although an SVR has been obtained on short-term follow-up, a recently published report described a patient who later experienced a “severe relapse of HCV.”⁴⁷ Who would be responsible for this individual’s DAA costs? Firm scientific conclusions are being drawn with an inadequate number of subjects and a cohort that is different and healthier than a general transplant population.

Lastly, pharmaceutical sponsorship may place the proverbial “fox in charge of the chicken coop.” Two studies may be reviewed as examples. Pharmaceutically funded studies tend to be one-dimensional in that the company’s DAA drug efficacy and safety appear to be the

primary endpoints of the study. This choice of endpoints may lead to the potential exclusion of other important outcomes. The first of the 2 studies offered the following conclusions: “Pre- and post-transplantation HCV treatment was safe and prevented HCV infection in HCV D+/R- kidney transplant recipients. . . . This strategy should markedly expand organ options and reduce mortality for kidney transplant candidates without HCV infection.”⁴⁸ However to their credit, the authors were also frank about the study’s significant shortcomings as well. It was a single-center, non-randomized trial. There were few participants. Those recipients were older, predominantly male, and white, atypical for the transplant demographic at large. The trial follow up was limited to 12 weeks.⁴⁹ What about the myriad other potential complications heretofore mentioned? The second trial (with only 2 cohorts of 10 patients enrolled for a total of 20) observed: “The primary outcome was HCV cure.”⁵⁰ These trials were sponsored by pharmaceutical companies that stand to profit from DAA sales, so one may question whether they were primarily designed to look mainly at SVR from a patented DAA, minimizing other critical factors. Yes, SVR is important, but so are a myriad of other outcomes.

Conclusions

Unfortunately, the 2017 template

proposed by the American Society of Transplantation Consensus Conference—regarding research conduct for safe and ethically sound practices with HCV-positive organs donated for transplantation—has been frequently ignored. What utility does a consensus have—reached by respected individuals in the field—if reasonable recommendations are repeatedly ignored or manipulated?

Future research—illuminated by a *yellow light*—has to be “centralized,” with standardized IRB guidance that is uniform for all trials. A different, or occasionally absent, IRB protocol for each and every small study is unacceptable. The process has to be face-to-face and iterative, evolving with data on more patients with longer follow-up. Early DAAs have to be de rigueur and guaranteed at no cost to the patient. Further delineation of short course options has to be studied. A safety monitoring committee has to be in place to report untoward issues from every center enrolling patients.

This author is optimistic that the future of HCV-positive donors may provide a “gift of life” for countless persons. However, if the present laxity in clinical research is allowed to continue unchecked, a red light may preclude innumerable benefits later for an extremely vulnerable population. ●●●

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09

Never Go Wrong: A Christian Hierarchy of Bioethical Principles in 2 Peter

Robert T. Lawrence, MD, MEd | Guest Contributor

Introduction to the Ethical Terms of 2 Peter

Though any number of New Testament passages could inform the way Christians approach bioethics, the ethical terms found in the Second Epistle of Peter resonate with the language of modern bioethics in a way that other parts of Scripture do not. The writer of 2 Peter seems to anticipate modern conflicts among the moral principles of autonomy, beneficence, non-maleficence, utility, and justice.¹ Then, by placing these principles along a logical progression, the writer gives these moral principles a foundation and a meaningful end, a *telos*. A philosopher who reads 2 Peter for the first time may feel like a chef who, being familiar with only a few ingredients of an enviable entrée, stumbles upon the original recipe with a step-by-step description of how to make

precisely what is desired.

To demonstrate how the ethical list of 2 Peter 1:3–10 informs modern bioethics, it is helpful first to review the whole passage and then its individual ethical terms:

Everything for life and godliness, his divine power has given us through the knowledge of him who called us by his own glory and virtue . . . By this then, earnestly strive to add to your *faith, virtue; to virtue, knowledge; to knowledge, self-restraint; to self-restraint, enduring resistance; to enduring resistance, reverence; to reverence, beneficence; and to beneficence, love.* . . . for if you do these things, you will not go wrong, ever.²

Ethical lists were a common rhetorical tool among ancient Greco-Roman philosophers. In the *Nicomachean Ethics*,

Aristotle places virtue at the head of an ethical list when he writes “It is not possible to be good in the true sense without Prudence, nor to be prudent without Moral Virtue (*arêtes*).”³ Aristotle’s list adds to virtue, prudence; and then to prudence, goodness. The list is both logical and hierarchal.

Unlike Aristotle’s list, most ancient lists do not follow a rigid hierarchal format whereby one virtue is built upon another leading to an ethical climax. Especially among the Stoics, lists of vices and virtues were thematic; each served to highlight a particular topic. The lists were not all inclusive and did not usually exhibit a logical progression.⁴ The inclusion of particular vices or virtues merely reflected a desired emphasis,⁵ such as when Plato develops four virtues in no particular order—courage, prudence, self-restraint, and justice—and designates these as the cardinal virtues.⁶ Many lists of the New Testament follow thematic style.⁷

Paul’s writings include collections of

Robert T. Lawrence, “Never Go Wrong: A Christian Hierarchy of Bioethical Principles in 2 Peter,” *Dignitas* 27, no. 1–4 (2020): 9–15.

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vices and virtues presented in no logical hierarchy. The works of the flesh when compared to the fruit of the Spirit in Galatians 5:19–23 or the list of vices resulting from an untested mind in Romans 1:29–32 is not intended to be comprehensive or logically ordered. Like other ethical lists found in the New Testament, Paul’s lists serve to emphasize a theme; and like other New Testament lists, the elements are not progressive. For New Testament writers, *euphonia*, the pleasant combination of sounds, rather than logic determines the selection and placement of a word in a list.⁸ Second Peter provides the one exception. The writer of 2 Peter uses the language of Hellenistic ethical philosophy to convey a hierarchical list of virtues (1:5–7). The Petrine list is similar to Aristotle’s in that it is logically ordered, but it is built on a Christian understanding, rather than a pagan or secular understanding, of moral terms. Based on the context, we can see that the foundation of the Petrine list is faith, particularly the firm conviction in the righteousness of God (2 Pet 1:1) and the truth of the power and coming of Jesus Christ (2 Pet 1:16). Upon this foundation is assembled a list of virtues capped by *agapē* as an end or a *telos*, the mature disposition into which human beings are intended to be transformed.

A teleological understanding of ethical concepts grows out of ancient Hellenistic philosophies, like those preserved in the works of Aristotle that inspired modern versions of virtue ethics.⁹ Aristotle viewed human beings as “having a *telos*, a final end, goal, purpose, or true nature toward which they naturally tend.”¹⁰ The *telos* of the Petrine list is love, specifically *agapē*, or unconditional, sacrificial love. Using this focus on the ultimate moral virtue, *agapē*, around which Jesus centered the moral life, 2 Peter points us toward the one virtue from which every other virtue derives meaning.¹¹ Even after two millennia, this list of virtues, built on a foundation of faith aimed at *agapē*, informs a Christian approach to modern bioethics.

Second Peter’s Ethical List as an Application of Virtue Theory

The Petrine list may be thought of as an application of virtue ethics that anticipates insufficiencies found in other major ethical theories. Virtue ethics in general provides a foundation of morality, moral virtue, found lacking in utilitarianism and deontological theories.¹² While consequential theories and emphasis on duty may speak to competence in the biomedical professions, virtue theory incorporates the essential prerequisite of character.¹³ Second Peter provides an example of this point. By ordering a list of virtues aimed at *agapē*, 2 Peter incorporates ethical concepts first used by Hellenistic philosophers into a virtue-based stepwise building of character.

The Petrine list may also fill in what is missing in principlism. Danner Clouser and Bernard Gert criticize the modern use of principles such as autonomy, beneficence, non-maleficence, and justice because “the principles lack any systematic relationship to each other, and they often conflict with each other.”¹⁴ Conversely, 2 Peter orders the principles into a systematic relationship with the fixed, well-defined goal of *agapē*.

Virtue theory is not without its deficits. As Alasdair MacIntyre laments: “What is lacking . . . is any clear consensus, either as to the place of virtue concepts relative to other moral concepts, or as to which dispositions are to be included within the catalog of the virtues or the requirements imposed by particular virtues.”¹⁵ According to Edmund Pellegrino, this is the most serious conceptual task facing biomedical ethics: the development of a unifying system within which the ethical principles of autonomy, beneficence, and justice can link principles with insights from other sources.¹⁶ Rather than abandon the principles, Pellegrino argues that virtue theory, among other insights, provides a unified grounding for principle-based ethics.¹⁷

On this point, Pellegrino seems to do something similar to what 2 Peter does when compiling an ethical list. Pellegrino

adopts the language of modern ethics to ground the medical profession in a *telos* which, though not exclusively Christian, is founded on a distinctively Christian concept of love.¹⁸ In the same way, 2 Peter adopted language common to the first and second century—terminology used by Stoic, Epicurean, and Hellenized Jewish philosophers—to fashion a distinctively Christian catalog of virtues aimed at the Christian concept of *agapē*.¹⁹

Thomas Aquinas,²⁰ and Augustine before him,²¹ reached the same conclusion. For each of them, *agapē*, also called charity, was the highest virtue. But the writer of 2 Peter went one step further. He not only named *agapē* as the destination virtue; he provided a roadmap to get there. Using the language of Hellenistic philosophers, he demonstrates how a person logically makes the stepwise progression from faith to love. In doing so, the writer does something uncanny. Though 2 Peter was written to a first- or second-century Christian audience, the letter’s ethical catalog speaks across two millennia and touches a felt need in modern bioethics. The ethical catalog of 2 Peter, almost as if anticipating the terms used in modern bioethics, incorporates ancient forms of the modern ethical principles of autonomy, beneficence, and justice; but more than just list them, the writer aligns them along with other principles into a unified guide to action.

The Ethical List of 2 Peter

In 2 Peter, the word “faith” appears only two times (2 Pet. 1:1, 5). The second occurrence is contextually linked to the first. In both instances the term appears to carry the same meaning, common throughout the New Testament, of loyalty born out of trust within the setting of a relationship between human beings and God.²²

The early Christian concept of *pistis* is distinct from other meanings of the term “faith” such as assent to creedal dogma or acceptance of a proposition despite a lack of evidence.²³ To early Christians, *pistis* meant a firm conviction in the truth of something precisely because of

the evidence. Plato used *pistis* to mean proof for an argument and Aristotle develops the idea that rhetorical persuasion requires a mastery of the forms of *pistis*.²⁴ The term was used in this way by secular as well as religious writers of the early Christian period. *Pistis* meant evidence on which confidence in the truth of something was based.²⁵ It is in this sense that Paul, speaking with ancient philosophers, uses the term in presenting the case for God's judgment when he says that God "has supplied everyone with proof (*pistin*) of this by raising him from the dead" (Acts 17:31).

In the same way, 2 Peter begins with "to those who have received a faith (*pistin*), equal in value to ours, in the righteousness of our God" (2 Pet 1:1). Jerome Neyrey has pointed out that the entire letter is likely an apologetic response to the Epicurean charge that injustice is an argument against the providence of God.²⁶ The Petrine reply begins with a counter claim. According to the writer, it is precisely the justice of God upon which the confidence in the truth of God's providence can be based.

The subsequent ethical list is built on this understanding of faith. Faith is not the blind acceptance of creedal dogma nor assent to unfounded assertions; rather, faith is the firm conviction in the righteousness, or justice, of God. Upon this understanding of faith, the writer proceeds to the other moral dispositions, "Earnestly strive to add to your faith

(*pistei*), virtue (*arête*)" (2 Pet 1:5).

Aristotle understood moral behavior to be the product of virtue, or *arête*, often translated as "excellence." For Aristotle, moral character is not something legislated; it is cultivated.²⁷ *Arête* is like a seed that, when nurtured by *phronesis* (prudence), grows into *eudaimonia* or human flourishing.²⁸ According to Aristotle, "excellence or virtue in a man will be the disposition which renders him a good man and also which will cause him to perform his function well."²⁹

Propagated by Stoic teaching, *arête*, as used in the early Christian period, came to be applied most often within the domain of ethics.³⁰ The use of *arête* in 2 Peter reveals this shared moral grammar, resulting from an interaction between Stoic and early Christian world views.³¹ The writer retains the ancient dimensions of virtue: "It is a character state, habit, or disposition; it involves a judgment of truth and choice of action; and it lies in a mean between excess and defect."³² However, unlike the Stoic contention that moral excellence resulted from human achievement or the right actions of human beings, 2 Peter places *arête* on the foundation of faith in the righteousness of God.

Furthermore, for the Christian *arête* was not understood as an end in itself. This is an important distinction from Stoic thought. As MacIntyre has argued well, wherever the concept of a teleology—an

intended kind of human life—is abandoned, philosophers revert to some form of Stoicism where *arête* serves as its own end.³³ However, 2 Peter has in view something beyond mere virtue. *Arête* is not an end but a foundational link between faith and a series of greater dispositions beginning with knowledge.

Knowledge (*gnōsis*) is a logical extension of *arête*. This again borrows ethical language common among philosophers of the time. Stoic philosophy is built upon an inseparable link between *arête* and *gnōsis*.³⁴ As with the term "virtue," or *arête*, 2 Peter incorporates the term "knowledge" into the ethical list in a way that shows both an intersection with and a distinction from the Stoic writers.

The Stoic philosophers viewed knowledge as entailing logic, physics, and ethics.³⁵ According to Stoic teaching, knowledge in any of these three areas is futile unless the knowledge is put into practice.³⁶ Just as the New Testament epistle of James links faith and works, the Stoic philosophers would say that knowledge without works is disgraceful. The Stoic Epictetus, writing in the same period as 2 Peter, insists that those who learn philosophy must put it into practice: "Show us these things that we may see that you have in truth learned something from the philosophers."³⁷

Unlike the Stoics, however, the Petrine writer views knowledge as an extension of faith and virtue, not the foundation by



which virtues are acquired. Furthermore, the term *gnōsis* in 2 Peter has a focus beyond logic, physics, and ethics. For example, the letter ends with a charge for recipients to increase in the knowledge of Jesus Christ (2 Pet 3:18). The desired result is not acquisition of information about a person; it is the strengthening of a relationship. In this way, 2 Peter uses the term “knowledge,” a virtue going beyond mere cognitive ascent, to show two things: first, that in a Christian sense, virtuous knowledge extends from a faith in the justice of God and expands in a knowledge of Christ; and second, in a shared connotation with the philosophical grammar of the time, that knowledge progresses to something more, a practical application of knowledge, which in this case is self-restraint.

Stoics held self-restraint, *egkrateia*, as a cardinal virtue, largely following the understanding of Socrates and Aristotle.³⁸ In the *Nicomachean Ethics*, Aristotle contrasts *egkrateia* with its opposite vice, unrestraint, writing that “the unrestrained man does things that he knows to be evil, under the influence of passion, whereas the self-restrained man, knowing that his desires are evil, refuses to follow them on principle.”³⁹ Aristotle thus describes self-restraint as the ability to refuse to follow desire. This ability to impose a law upon oneself, in spite of pressure from the passions, is what led to the modern concept of moral autonomy.⁴⁰ Though the term “autonomy” has an alternate, popular connotation, often alluding to personal independence, the term as used by Kantian and utilitarian philosophers more closely aligns with the ancient understanding of self-restraint.⁴¹ Autonomy, in the sense of a self-law, became the cardinal focus of Kant’s moral imperative.⁴²

The Petrine writer would not disagree with Kant’s definition of autonomy, because it aligns with the ancient variant, *egkrateia*, but whereas Kant makes autonomy the basis of moral decisions, 2 Peter makes self-restraint an extension of faith, virtue, and knowledge in the progression toward something higher. Similarly, the power and motivation of

the Petrine use of *egkrateia* is distinct from its Stoic counterpart. The law to which one restrains oneself is not self-made but providentially established. As Daryl Charles has pointed out: “Law to the virtuous pagan is autonomic, while law for the Christian is theonomic.”⁴³ Nonetheless, the Petrine and Stoic understandings of self-restraint share common ethical ground.⁴⁴ In fact, much of 2 Peter addresses the moral depravity of the period from which readers are instructed to remain on guard (2 Pet 3:17). This clarifies why the logical next virtue in the Petrine list is a form of brave resilience. Whereas self-restraint is a form of internal resistance; it is incomplete without *hypomonē*; a resistance against the effects of external pressures.

Often translated as “patience,” “endurance,” or “perseverance,” the term *hypomonē* in its classical usage meant “honorable resistance.”⁴⁵ For the Stoics, *hypomonē* was the virtue that underpins heroism or courage.⁴⁶ In Christian writings, the term referred to the quality of bearing up under persecution or trial without being moved. *Hypomonē* was not a passive virtue, as when inactively resisting a social trend. On the contrary, it called to mind the active performance of the right action in the face of resistance.⁴⁷ Jeffery Meyers argues that the term should be translated in the New Testament as “enduring resistance.”⁴⁸ The context of 2 Peter fits this understanding of *hypomonē*. It is enduring resistance against pressure to bend to societal trends that results from a firm conviction in the truth of God’s justice.

For early Christians, the result of *hypomonē* was logically a life characterized by actions that show a reverence for God and his will. The virtue behind this laudable behavior was called *eusebia*. The term *eusebia* is not distinctively Christian, nor is it inherently religious. In late Hellenism, it expressed a general piety or reverence in both religious and nonreligious settings.⁴⁹ It is important to clarify that while *eusebia* itself did not refer to the acts of religious observance, it referred to an inner reverence for God that resulted in distinctively right behavior in

2 Peter.⁵⁰ Second Peter includes *eusebia* as a logical link between the unflappable nature of Christians, *hypomonē*, and the active expression of care for other human beings encompassed in the distinctively Christian form of love for the family of God, *philadelphia*.

The term *philadelphia*, or its synonym *philanthropia*, is linked to *egkrateia* and *eusebia* by Philo;⁵¹ the term *philadelphia* is otherwise unknown outside ancient Christian literature.⁵² It is interesting then how the principle grew, albeit under a different name, to become a fundamental concept in secular ethics, one held to be central by Hume, Mills, and Kant. In contemporary terms, the principle is known as beneficence, which according to Tom Beauchamp means “a normative statement of a moral obligation to act for the others’ benefit, helping them to further their important and legitimate interests, often by preventing or removing possible harms.”⁵³ This is precisely the meaning of *philadelphia* when used in 2 Peter. But unlike Beauchamp, the ancient writer anchored beneficence in another principle, justice, specifically the justice of God. Though *philadelphia* means affection toward family members and others in general,⁵⁴ it takes on its fullest meaning when, in a Christian context, the recipient of a beneficent act is one for whom Christ died (Rom 14:15; 1 Cor 8:11). Therefore, the virtue of *philadelphia* logically progresses to the final and highest virtue, *agapē* (cf. 1 Pet 1:22).

For early Christians, *agapē* came to mean “a love that does not desire but gives.”⁵⁵ Augustine writes that any known virtue, be it justice, fortitude, temperance, or prudence, is a manifestation of this form of love: “I would say that virtue is absolutely nothing but the highest love of God.”⁵⁶ It is this virtue, *agapē*, that distinguishes a Christian moral system from all others. This has been true since antiquity. Philip Esler, in comparing Paul’s writings to the Stoic philosophers, says “Paul’s paramount concern with the nature of face-to-face contacts between Christ-followers, who must treat one another with *agapē* and put the interests of others ahead of their own, is so radically

different from anything in Stoic thought that it brings into sharp focus his distinctive vision of moral life in Christ.⁵⁷ Whether or not it is on this term *agapē* that Christian writers diverge from the Stoic worldview is debated.⁵⁸ However, it is clear from the context of 2 Peter that the Petrine ethical list is designed to distinguish the *telos* of a moral system built upon faith from the catastrophic *telos* of a morality founded on false teaching. The former progresses to *agapē*, the latter to utter ruin (2 Pet. 3:7). According to Charles, in achieving a climax in *agapē*, the Petrine list sets the Christian ethos apart from all other systems: “Christian morality is distinctly the morality of charity.”⁵⁹

Discussions

Second Peter presents an ethical list that is both logical and hierarchal; the list is also distinctly Christian. Though it is largely derived from language of the Stoics, the author of the Petrine catalog orders common ethical terms so as to show how virtue founded on faith in the justice of God progresses to the highest virtue of all, *agapē*. The image is that of a jigsaw puzzle completed only when each piece, lowered into the rightful place, reveals the greater picture. The greater picture, from an ethics perspective, is *agapē*. As Pellegrino points out, “the Gospel could not anticipate every possible moral dilemma that might arise in the history of mankind. But it gives us something more valuable. It teaches that Charity is the form of all the virtues, that Charity is the ordering principle of discernment in moral choice.”⁶⁰

Consider how the Petrine catalog might be used to frame a contemporary issue. In November of 2018, Chinese biophysicist He Jiankui reported using gene surgery,⁶¹ CRISPR/Cas9, to perform genetic edits of human embryos resulting in the birth of two girls endowed with at least partial immunity to the human immunodeficiency virus (HIV).⁶² A critical response to the He Jiankui experiment was nearly universal. Bioethicists and scientists were appalled at the lack of respect for bioethical principles. Jennifer

Doudna, a co-discoverer of CRISPR/Cas9, expressed concern about unknown risks of editing heritable traits and lack of informed consent.⁶³ Jennifer Gumer argued that, even if all safety concerns could be eliminated, this application of CRISPR was unethical under the principle of justice; for, as she explains, diversion of attention and resources toward germline engineering creates an unjust monopoly of resources resulting in a reduction in efforts to address the primary, non-genetic, contributors to disease.⁶⁴ Arthur Caplan pointed to a lack of adequate knowledge regarding the effects of genetic editing of human embryos: “A deep understanding of the mechanisms and potential side effects of embryo editing is an absolute prerequisite to any further discussion on its implementation.”⁶⁵ Julian Savulescu and Peter Singer also call He Jiankui’s experiment unethical, “not because it involved gene editing, but because it failed to conform to the basic values and principles that govern all research involving human participants.”⁶⁶ Troubled by the apparent indifference to the principle of beneficence, they contend that He Jiankui exposed the genetically edited girls to great risk, without a proportionate benefit.⁶⁷

Notice how in each critique the application of genetic editing is described as unethical because, from a particular point of view, the research violates this or that ethical principle: one ethicist says the research is unjust; another says the research is not beneficent; or still another says the research does not guard the participants’ autonomy. These conclusions are not wrong; each correctly highlights a lapse in bioethical judgment, but they do seem incomplete. If the foundation of a house is crumbling, pointing out how the roof line sags is not incorrect; however, it misses the underlying issue. Treating an ethical list as a simple collection of virtues whereby each principle is given equal weight relative to the others is not wrong, but selective critique using only this or that virtue increases the risk of missing the foundational issue.

The Petrine list does not allow for the narrow use of individual principles.

Rather, 2 Peter makes it clear that certain virtues are characteristic of a growing individual, each quality aimed at acquiring the highest virtue, *agapē*. In a warning against treating ethical lists in the New Testament as mere formulae for morality, Burton Easton reminds us that “Jesus’ ethical achievement was his centering the moral life around the supreme virtue of love, from which all other virtues derive their meaning.”⁶⁸ The Petrine list provides just this sort of centering. Virtues in 2 Peter are listed not as options in a moral buffet, but as steppingstones in a hierarchal progression from faith to the supreme virtue of love.

Pellegrino has taken the same approach with the principles of modern bioethics. He argues that moral virtues such as justice, beneficence, and autonomy can be ordered under “an agapeistic ethic”⁶⁹ in which charity, or *agapē* love, is the “ordering principle of discernment in moral choice.”⁷⁰ The Petrine list provides a prototype of Pellegrino’s approach. In fact, the writer of 2 Peter demonstrates the logical conclusion of Pellegrino’s argument by placing ethical principles upon one another in a rational order much as a mason lays brick. Upon justice, he places autonomy; upon autonomy he places beneficence; and then upon this foundation of virtues he places *agapē*.

If the gene surgery performed by He Jiankui should give us pause, it is in the recognition that he used the technology on two human beings who are of such unimaginable worth that Jesus Christ, the only-begotten son of God, would die to redeem them. From a Petrine perspective, the sacrificial manifestation of *agapē* or divine love for those human beings acts as a standard. If the results of the research are not agapeistic, then we can expect examples of corruption throughout the entire endeavor. We might expect to find motives that violate beneficence (*philadelphia*); we might expect actions that fail to show reverence (*eusebia*); we might expect actions which want for enduring perseverance (*hypomonē*) and self-restraint (*egkrateia*); we would expect experiments that expose a lack of knowledge (*gnōsis*), or that foundationally

demonstrate a deficit in virtue. All this we could expect when the entire endeavor is built upon a firm conviction (*pistis*) in something *other* than the justice of God.

Notice how this application of the Petrine catalog is not merely a devotional application of scripture. The Petrine list does not endorse a particular action as ethically permissible or forbidden. In fact, the principles do not apply specifically to research at all. The principles apply to the person doing the research. What differentiates science as an instrument for good from technologies used for evil or selfish gain are virtues such as those listed in 2

Peter: integrity versus deception; wisdom versus imprudence; perseverance versus impatience; and compassion versus avarice. These virtues cannot result from scientific inquiry; they precede and supersede the appearance of scientific inquiry in human history. For all the wonders of science as a discipline, science remains dependent on the integrity of the hand into which it is laid.⁷¹

In this sense, 2 Peter provides the scientist, as well as all humankind, with a recipe for the formation of good character. This is not to say that the Petrine ethical catalog serves as a universal or secular code of ethics; the Petrine catalog

remains distinctively Christian. Secular ethicists will find common ground with several of the principles, but it is Christians who will find in 2 Peter a refreshing ordering of the familiar ethical principles into a logical sequence which informs and gives depth to ethical deliberation. Justice underpins autonomy which underpins beneficence. Virtue, knowledge, perseverance, and reverence are the mortar that hold the principles together. And each of the principles point to *agapē* as the *telos*, the goal. In this regard, like all things God-breathed, the Petrine list is timeless. ●●●

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BIOETHICS IN REAL LIFE: LESSONS WE'RE LEARNING FROM COVID-19

A Recap of The Center's 27th Annual Summer Conference

Bryan Just, MA | CBHD Event & Executive Services Manager

For CBHD, 2020 was a year like no other. With the global COVID-19 pandemic, shutdowns, lockdowns, and calls for physical distancing, it quickly became clear that hosting a summer conference as CBHD had done for 26 years would simply not be possible. This led to a quick pivot, where the planned *Bioethics & the Body* conference was postponed until 2021, and in its place a new conference was proposed: *Bioethics in Real Life: Lessons We're Learning from COVID-19*.

Considering the number of concerns raised by COVID-19, this was a natural topic for a bioethics conference. Issues of triage, resource allocation, personal responsibility, research and vaccine ethics, healthcare disparities, and a host of other topics were brought to the fore by the pandemic, and many were and still are scrambling for answers. With this in mind, CBHD invited a roster of speakers

who could address these burning questions from a Judeo-Christian framework, teasing out their implications for both medical professionals and the general public.

Matthew Eppinette, CBHD's executive director, opened the conference with a roadmap of the following presentations and a meditation on Jesus' parable of the Good Samaritan.¹ The first plenary session was given by Dónal O'Mathúna on the topic of research ethics during a pandemic. He contended that research ethics needs to encompass more than simply IRB approval and study design. O'Mathúna argued for the necessity of performing randomized controlled trials during a pandemic while acknowledging that there are numerous ethical considerations involved that must be taken into account, including prioritization when not everything can be studied at once. He analyzed several studies that were done

during the pandemic and how they did or did not contribute to an ethical furthering of our information on COVID-19 and its potential treatments, and concluded his presentation with reflections on what the Bible has to say regarding research ethics, including several biblical principles that should inform researchers, the most important of which is solidarity—a commitment to justice and equity that goes beyond mere empathy or feelings but encompasses words and actions.²

Faith Fletcher's presentation focused on perhaps the greatest scandal of the COVID-19 pandemic: the health inequalities experienced by minority populations in the U.S., especially African Americans, who have been more likely to contract and die from COVID. Fletcher provided several explanations for these health disparities, focusing especially on social disadvantage—minority populations are more likely to be part of the

“essential” workforce, live in a multigenerational household, and have barriers to practicing preventative measures like physical distancing.

In addition to these, African-Americans also experience healthcare inequities—a lack of access to doctors and facilities, a lack of accurate information, a lack of testing, and a lack of means to pay for treatment. Fletcher described these inequalities as “unjust, unfair, and avoidable.”³ Drawing on her experience working with African-American women who are HIV-positive, Fletcher provided several ways of addressing these issues, both during the COVID-19 pandemic and beyond. She argued that we can address health inequities through better “access, availability, and accessibility” to “information, services, and goods.”⁴ She also pointed out that African Americans tend to have a deep distrust of systems, including healthcare systems. How can we combat this culture of distrust? Through community engagement, which includes better research protocols and a special focus on accounting for vulnerabilities and disparities. Fletcher also provided guidance on how to better engage communities. One example of this is to recognize that people are not inherently “vulnerable” and acknowledge their “strengths, assets, and resiliencies.” She concluded her presentation with an account of the virtual town halls held by her institution, the University of Alabama at Birmingham School of Public Health, which brought multiple community stakeholders to the table, including doctors and faith leaders, in order to educate the community, answer their questions, dispel myths, and build trust. Keeping all of these things in mind can thus create “a more inclusive and community-centered” bioethics agenda.⁵

The next presentation, by Joseph Wiinikka-Lydon, focused on moral distress and injury caused by the pandemic. He defined moral injury as “the way in which one can feel like they are no longer able to strive and be a good person because of what they have done or failed to do.”⁶ Though originally developed in the context of war, this concept has been used to describe the experiences of healthcare professionals. Unlike many

other studies, Wiinikka-Lydon took into account the political dimensions of the pandemic and how these have “conditioned and shaped experiences of moral injury and in which such experiences are inevitably embedded.” Through accounting for these political dimensions, he argued that the concept of moral injury could not only help to describe healthcare workers’ experiences, but also challenge the traditional paradigms on moral injury.

Wiinikka-Lydon covered the causes of moral distress in the healthcare context as well as some of the methods that were suggested pre-pandemic for mitigating moral distress. However, he pointed out the many shortcomings of these suggestions because of the unique factors raised by the current pandemic, and suggested ways of thinking about moral injury going forward, such as viewing moral injury as something more than acute distress becoming chronic (as this places too much blame on the victim for ostensibly handling the stress poorly). He also raised several poignant questions regarding how we think about moral injury: Are there times when injustice is so bad that someone is morally deficient if they do *not* experience moral injury? Can moral injury be an indication that someone is viewing a situation more accurately than those around them? Do we need to develop better diagnostic tools for identifying instances of moral injury, and should those tools focus on diagnosing the individual, or the society that is creating the injury? If moral injury can be seen in a more epistemological frame as providing prophetic insight into the state (and failures) of a culture, what can we do with the insights it provides to bring healing to both the individual and the culture?

Wiinikka-Lydon concluded his talk by providing prospective ways forward for healthcare workers who have suffered a moral injury, arguing that, given the political dimensions of moral injury previously discussed, they may need to find methods of “living out their injuries,” especially in ways that are politically engaging:

But for some, more direct actions will be necessary to get them a sense of agency again. This may

require organizing in networks of solidarity, where healthcare workers work not only to treat the patient in front of them, but to advocate and fight for the budgets and resources that make the best of care possible. . . . When we think then of bioethics and moral injury in the time of COVID, we may need a political vocabulary to add to our clinical and ethical ones, using terms such as “prophetic speech and knowledge,” “solidarity,” “organizing,” “protest,” and even “coercion.” This will allow healthcare workers not just to treat their personal feelings of shame, anger guilt and betrayal, but also feel an empowerment to change the conditions that gave rise to such injury, and perhaps also help us help those in the larger society see some things that they have yet not seen.⁷

This presentation was followed by David Hyams from the U.S. Department of Health & Human Services, Conscience & Religious Freedom Division (CRFD), who overviewed the mission and activities of the CRFD, the relevant U.S. laws governing conscience protections and religious freedom, and select HHS actions during COVID-19. Hyams covered several HHS initiatives in response to the COVID-19 pandemic. In the midst of hospitals closing to visitors, they issued guidelines ensuring that patients still had access to chaplains in compliance with the Religious Freedom Restoration Act (RFRA). They also provided guidance regarding masks, allowing people to have accommodations if their religious beliefs make it difficult to wear certain types of masks. Finally, they provided guidance to faith communities on how to meet as safely as possible in the midst of lockdowns without infringing on their first amendment rights.⁸

As COVID-19 is a global pandemic, CBHD also invited speakers who could provide insight into the course of the pandemic in a non-U.S. setting. Thus, Drs. Ken Muma and Bramwell Wekesa, two Kenyan physicians, spoke on their own Kenyan context and the unique logistical and ethical challenges raised

in it. Muma provided an overview of the situation in Kenya, which included many policies found throughout the world: mandatory quarantine for those infected, mask mandates and hand washing, curfews, travel restrictions, and changes in hospital function such as eliminating elective surgeries and shifting resources towards COVID-19 preparation. They also detailed some of the struggles particular to Kenya, such as a lack of critical care beds, few physicians, a 20% illiteracy rate, and high levels of poverty and unemployment.

One factor that makes the Kenyan experience of the pandemic quite different than that of other countries is the social context, especially the concept of *Ubuntu*. There is no one word for this in English, but the concept reflects the communitarian notion of African life: “Man is a man because of community.”⁹ In this community-oriented society, lockdowns, quarantines, and travel restrictions affect people very differently, and led to anger when they disrupted traditionally communal events such as burials and weddings. Travel restrictions have had severe effects, causing people to stay away from hospitals and drastically increasing the cost and travel time of public transportation (which affects the poor and vulnerable the most).

Muma went on to use several broad categories to group COVID-19 ethical issues in the African context: human dignity and rights (Is it acceptable to limit travel within a country if that ends up restricting access to food and healthcare? What should we make of the government forcing incarcerations under the guise of “quarantine?”); benefits versus harms (Who should benefit from limited resources? Who gets admitted, and what gets funded?); equality, justice, and equity (Can you mandate handwashing when not everyone has access to running water, or wearing a mask when not everyone can afford one? How should policies be framed so that they do not burden the poor and vulnerable in society more than everyone else?); non-discrimination and non-stigmatization (How can we stop communities from rejecting the sick or those working in healthcare out of fear?); and respect for cultural diversity and

pluralism (How does a communal society adjust to the necessity of distancing? How can traditionally communal practices be done safely?). Muma concluded his address with some of the ways his own facility, AIC Kijabe Hospital, had tried to address these issues, especially through working with stakeholders in the local community and making healthcare accessible to the most vulnerable.

Bramwell Wekesa addressed the same African context, but while Muma addressed the issues facing society at large, Wekesa focused much more on the struggles of healthcare workers specifically. After an overview of particular policies and precautions implemented by his hospital, Wekesa outlined four major challenges faced by Kenyan healthcare workers: (1) the fear of putting oneself or one’s family at risk when dealing with patients; (2) the uncertainty caused by the poor understanding of COVID-19 that led to constantly changing safety and treatment protocols; (3) the changes to the physician-patient relationship caused by masks, distancing, and telemedicine, and the reduction of privacy and confidentiality that often accompanies a positive diagnosis; and (4) the harms that have come about as part of the pandemic. These harms include the psychological harm brought about by distancing and lack of contact in a communal culture; the medical harm that comes to patients when healthcare workers are overworked, understaffed, and under resourced; the stigma faced by healthcare workers (as those who are healthy become loath to interact with someone who could have been exposed); and the moral distress that comes from realizing no curative options remain and feeling like they have allowed a patient to die.¹⁰

The next presentation came from Matthew Anderson and was titled “The *Imago Dei* and the Value of a Life (in a Pandemic).” In this address, Anderson considered the toll taken by COVID-19 regulations and how we can determine whether they were “worth it,” as making such a judgment raises questions of how we determine the worth of human life. He pointed out that Christians tend to be averse to such judgments as they view humanity as being made in the

image of God and therefore of infinite worth. However, Anderson argued that “a carefully specified understanding of humanity’s infinite value does *not* entail that each individual has a life of infinite or even maximum duration, and that it permits some comparative judgments in making policies that would save lives in a pandemic.”¹¹

He began his defense of this position with a discussion of the image of God and what we learn about it from the life of Christ. From this, Anderson argued that human value and dignity come from our being a creature loved by God and for whom Christ died. We recognize that as a part of the fallen world human life is limited, and that even death cannot rob people of their dignity and worth. Understanding this has implications for how we deal with topics in healthcare, and Anderson applied it to several situations arising from the pandemic. One example is hospital visitation policies—if the infinite worth of humans means saving every life possible, then visits should always be prohibited for people’s own safety. But, should we recognize that death cannot rob a person of dignity, then we see that there are other goods, such as being physically present with the dying, that can be pursued even if they put some lives at risk.

This balanced view has broad implications for public policy. Since human lives are unique and infinitely valuable, policies should “honor the irreplaceability of each person by seeking to prevent their premature deaths.”¹² This means that the number of lives saved could be an acceptable measure of a policy’s success. What the policy aims for is important, though, and there is a difference between making decisions that strive to balance multiple, conflicting goods and those that deal in strict utility. When resources are scarce, this means that sometimes we will have to choose who to save and who not to save, who to prioritize and who may not get treatment. Anderson’s understanding of dignity means that we can make these kinds of decisions; we do not have to adopt a stance of “zero-risk” for people, and we do not need to expend every resource we possess to save any single person. Nor do we have to resort to random chance as

the only just way of distributing scarce resources. For Anderson, then, a better understanding of the *imago Dei* and the infinite value of a human life should result in better policy.¹³

The final plenary of the conference was given by Cheyn Onarecker, who used the lessons that are being learned from the COVID-19 pandemic to determine ethical “areas of improvement” to be considered before a future pandemic. Throughout his presentation he raised numerous ethical dilemmas grouped around three main principles: the duty to treat, respect for the dignity of all persons, and caring for the caregivers.¹⁴

In the current pandemic many questions have arisen around the responsibilities of healthcare workers to their patients and profession. How much risk should they be expected to take upon themselves during a pandemic? As a physician himself, Onarecker believes that “we have a duty to treat. We are better trained, we have the knowledge and skills to reduce the risks, we have a promise to keep to the ones who have supported our decisions to pursue careers in medicine, and our service is the only appropriate response to God, who loved us and called us to serve.”¹⁵ However, he did not view this

duty as an absolute, and acknowledged there are many situations (such as when a healthcare worker has an underlying condition or has a vulnerable family member at home) where wisdom and prudence should be used to determine the best course of action.

Many questions have also arisen around triage decisions, resource allocation, and crisis standards of care. Onarecker approached these issues within the framework of human dignity, arguing that while these kinds of decisions may be necessary during times of crisis, we must understand why we make them. Simple utilitarian calculus is not enough, and discrimination (whether based on age, disability, wealth, ethnicity, or any other status) must be avoided. Onarecker provided seven principles for making these kinds of decisions to help avoid these pitfalls and ensure that every patient is treated fairly and with dignity. Finally, his third principle was caring for the caregiver. He argued that institutions have four duties towards the healthcare workers they employ: “(1) provide protection for healthcare workers to the extent that protection is possible; (2) furnish the tools necessary to treat the sick; (3) use their community influence

to help support the healthcare worker’s needs during the crisis; and (4) provide appropriate care for healthcare workers suffering from burnout, moral distress, and other mental health disorders.”¹⁶ He concluded with some practical steps that institutions can take in order to better care for their workers during ongoing crisis situations. By heeding Onarecker’s three principles and working through the issues ahead of time, society will be better ethically prepared to handle the next pandemic or public health crisis.

Despite the unusual year, we at CBHD were thrilled with the conference participation and grateful to all those who were willing to adjust to the challenges of an online conference. Due to the timely nature of the conference topic, we are working on creating an e-book based on the presentations given at the conference, which is planned for publication in 2021. And, though it had to be postponed for a year, the *Bioethics and the Body* conference will take place June 24–26, 2021. Speakers include O. Carter Snead, Jeffrey P. Bishop, F. Matthew Eppinette, Donna J. Harrison, Beth Felker Jones, Kimbell Kornu, D. Christopher Ralston, and Peter J. Smith. We hope to see you there! ●●●

1 F. Matthew Eppinette, “Bioethics and Pandemic: Framing the Discussion” (opening address, The Center for Bioethics & Human Dignity’s 2020 Annual Conference, *Bioethics in Real Life: Lessons We’re Learning from COVID-19*, Deerfield, IL, June 26, 2020).

2 Dónal P. O’Mathúna, “Research to the Rescue? Generating Evidence Ethically for COVID-19” (plenary address, *Bioethics in Real Life*, June 26, 2020).

3 Faith Fletcher, “Ethical Engagement of Vulnerable Populations: COVID-19 Pandemic and Beyond” (plenary address, *Bioethics in Real Life*, June 26, 2020).

4 Fletcher, “Ethical Engagement of Vulnerable Populations.”

5 Fletcher, “Ethical Engagement of Vulnerable Populations.”

6 Joseph Wiinikka-Lydon, “Moral Injury in the Time of COVID” (plenary address, *Bioethics in Real Life*, June 26, 2020).

7 Wiinikka-Lydon, “Moral Injury in the Time of COVID.”

8 David Hyams, “Protecting Civil Rights in Time of Pandemic” (plenary address, *Bioethics in Real Life*, June 26, 2020).

9 Ken Muma, “COVID-19: Bioethical Issues in a Low Resource Setting” (plenary address, *Bioethics in Real Life*, June 26, 2020).

10 Bramwell Wekesa, “Resource Allocation Decision Making in Low and Middle Income Countries: Constraints and Solutions in COVID-19 Era” (plenary address, *Bioethics in Real Life*, June 26, 2020).

11 Matthew Anderson, “The *Imago Dei* and the Value of a Life (in a Pandemic)” (plenary address, *Bioethics in Real Life*, June 26, 2020).

12 Anderson, “The *Imago Dei* and the Value of a Life.”

13 Anderson, “The *Imago Dei* and the Value of a Life.”

14 Cheyn Onarecker, “Being Ethically Prepared for the Next Pandemic” (plenary address, *Bioethics in Real Life*, June 26, 2020).

15 Onarecker, “Being Ethically Prepared for the Next Pandemic.”

16 Onarecker, “Being Ethically Prepared for the Next Pandemic.”

20

The Christian and Oral Contraceptives: An Investigation into Moral Permissibility

C. Ryan Fields, PhD | Guest Contributor

Editor's Note: An earlier version of this essay was awarded winner of CBHD's 2020 student paper competition and was presented as a parallel paper at the Center's summer conference.

Pro-life Christians of various stripes have been undeniably united in their opposition to abortion in the post *Roe vs. Wade* era. They have consistently sought to advocate for the unborn by defending the position that human life begins at conception and, because of its inherent value as an image-bearer of the Creator, is deserving of full protection. Yet the solidarity of the pro-life movement is not what it might seem at first glance, for there are several issues upon which pro-life Christians disagree. Speaking of what he sees as the most significant schism within the pro-life camp, Dennis Sullivan sums up the state of the union nicely when he says “[there is] an unresolved debate within the pro-life family about the morality of oral

contraceptives.”¹ Indeed, this unresolved debate has in some instances become more like trench warfare, with neither side budging on what it sees as the terms and central issues of the disagreement. This schism has not just occurred at the popular level but also manifests in deep-seated disagreement amongst Christian physicians, leading Susan Crockett and company to lament that “the controversy regarding the mechanism of action of the commonly used [oral] contraceptives has threatened to split the pro-life medical community.”² The issue of oral contraceptives is thus deeply divisive and must be further addressed in order to develop greater unity within a pro-life movement which cannot afford endless splintering if it is to make a greater

impact upon society at large.³

Additionally, the use of oral contraceptives should be further addressed because, practically speaking, Christian couples face the question of which, if any, contraception to use, and “the pill” is often the default contraceptive of choice. Yet it seems that many Christians are unaware of the issues surrounding oral contraceptives, particularly the striking claim in question that they may have abortifacient effects. Randy Alcorn has done much to bring this concern to the fore, and he summarizes the stakes of the discussion thus:

About fourteen million American women use the Pill each year. Across the globe it is used by about sixty million. The question of whether it causes abortions has direct bearing on untold millions of Christians, many of them

C. Ryan Fields, “The Christian and Oral Contraceptives: An Investigation into Moral Permissibility,” *Dignitas* 27, no. 1–4 (2020): 20–27. © 2020 The Center for Bioethics & Human Dignity

prolife, who use and recommend it. For those who recognize God as the Creator of each person and the giver and taker of human life, this is a question with profound moral implications.⁴

The fact that many Christians are unaware of the possibility that oral contraceptives can act as abortifacients, and the thought that believers are potentially (albeit unknowingly) aborting their unborn children, is enough to convince us that the stakes are indeed as high as Alcorn and others claim. Thus, this article will seek to address this pressing issue for Christian couples and dividing point within the pro-life community by exploring the question: is it morally permissible for the Christian to use oral contraceptives? To anticipate, I will ultimately argue, based on the lack of definitive evidence that oral contraceptives act as abortifacients, that (1) their use is presently morally permissible and (2) their use (or not) ought to be considered an issue of conscience grounded in Christian freedom unless such definitive evidence emerges.

Some Background Information

We must begin with an overview of the pertinent information for understanding the issue. Indeed, much misunderstanding occurs around the issue of oral contraceptives because individuals are misinformed regarding basic terminology and pertinent physiology. First, some key terms: “oral contraceptives” or “hormone

contraceptives” are the medical terms for what is popularly known as “the pill,” that is, the birth control pill. However, the pro-life community has often maintained an important distinction between contraception and birth control: contraception applies only to the prevention of conception, while birth control can refer to any means of preventing the birth of a child (including post-fertilization and post-implantation abortion). This difference in terminology is not without political implications, for whether one refers to “the pill” as a form of birth control or as a contraceptive often reveals which side of the debate one is on (e.g., Alcorn, as an opponent of the pill, refers to it as birth control, while Sullivan, an advocate of the pill, refers to it as a contraceptive). We will primarily use the terminology of “oral contraceptive” here in order not to beg the question at hand and to align with the most common usage within the medical community.

Second, we must distinguish between the various types of “pill” available; indeed, not all pills are created equal. We should say first that the purview of this article involves evaluating oral contraceptives which seek to *prevent conception*; pills such as RU-486 (mifepristone) are deemed ethically unacceptable by pro-life Christians, for they operate with the intention of eliminating an *already conceived and implanted* human being and thus their use is rightly considered a form of abortion.⁵

However, even oral contraceptives which seek to prevent conception are not alike. For one, not all of them are “oral;” the (less common) terminology of “hormone” or “chemical” contraception refers to forms of contraception that seek to influence a woman’s body chemistry in a way similar to the more popular contraceptive pill. These include Lunelle injections, Ortho Evra contraceptive patches, NuvaRings, Depo-Provera, intrauterine devices (IUDs) and progesterone implants (Norplant, Implanon, Jadelle).⁶ Due to space constraints we cannot consider these forms of contraception here, except to say in general that they seem to be less preferable choices for the pro-life Christian than certain oral contraceptives that are available.

Oral contraceptives (proper) are divided into two main categories: combination oral contraceptives (COCs) and progesterone-only pills (POPs). COCs can be further divided into three categories: monophasic, biphasic, and triphasic. These refer to the number of variations in the amount of estrogen and progesterone that the woman takes per cycle (either one, two, or three). For the most part it seems that these three variations of the combination pill have no significance for the question of COCs’ abortifacient possibilities; they should all be evaluated together, for the variations simply have to do with which hormone combination will be best for the woman taking it.⁷ The same cannot be said for the difference between COCs and POPs; the consensus of the pro-life community



at both the popular and medical level is that POPs are “riskier in terms of possible pregnancy or an abortifacient action” than COCs.⁸ This is because POPs “have a considerably higher breakthrough-ovulation rate than combination methods do.”⁹ Since the primary goal of oral contraceptives is to prevent ovulation, COCs have made POPs obsolete; if the Christian is morally permitted to use an oral contraceptive (which is the question at hand), it should be a COC rather than a POP.

This brings us to another important aspect of this article, which is to briefly describe how an oral contraceptive works. As just stated, the primary function of an oral contraceptive is to prevent ovulation. But how is this done? Essentially, it is accomplished by interfering with the natural menstrual cycle which post-pubescent, pre-menopausal women experience around every month, manipulating the amounts and the timing of various chemical releases within the female body (including follicle stimulating hormone, or FSH, luteinizing hormone, or LH, estrogen, and progesterone). The complex chemical intervention of the pill seeks to prevent FSH pulses from being issued by the pituitary gland, which are what develop and release a mature egg into the fallopian tubes for fertilization. In order for this prevention to occur, the women must absorb enough estrogen to prevent FSH release and enough progesterone to stabilize the uterine lining to prevent excessive bleeding (progesterone also blocks the production of LH which can trigger ovulation even in a woman with reduced FSH pulses). Ideally, the pill ensures that the appropriate amounts of estrogen and progesterone are absorbed by the woman’s body to prevent the development and release of eggs—that is, to prevent ovulation. And of course, if there is no ovulation there can be no conception, and thus the contraceptive will have accomplished its task.

However, oral contraceptives have other effects on the woman’s body that lie at the heart of the controversy.¹⁰ For if oral contraceptives only prevented ovulation,

there would be widespread acceptance of their use among the pro-life community, for no eggs would ever be fertilized and thus in danger of abortion. But the chemical intervention of the pill causes the woman’s body to respond in other ways, and because oral contraceptives sometimes fail in their effort to prevent ovulation (in what is known as “breakthrough-ovulation”), these other effects are relevant.

The effect that forms the center of the controversy and delineates the two sides of the debate is the reduced uterine lining (endometrial tissue) that is caused by the low levels of estrogen in the woman’s body. Normally when an egg is fertilized and a woman becomes pregnant, estrogen levels skyrocket, causing the uterine lining to grow into a lush landing pad where the developing embryo can effectively implant. An oral contraceptive keeps estrogen levels consistent, but lower than normal pregnancy levels. If there is no fertilized egg (because ovulation has been prevented, or because sperm are unable to reach an egg that has broken through), this is no problem for those with pro-life concerns. But in the case of breakthrough ovulation where sperm are able to make it through the hostile cervical environment (which can happen, evidenced by the fact that, on occasion, women who are consistent in taking oral contraceptives become pregnant), this reduced uterine lining becomes a major concern for those with pro-life convictions, for the embryo may not be able to implant due to human intervention (and thus oral contraception would have an indirect abortifacient effect). William Cutrer and Sandra Glahn pose the concern well: “Does this [reduced uterine lining effect] mean the developing embryo will find a hostile landing zone once it reaches the uterus? This is an important question. And Christian experts in many fields differ on the answer.”¹¹

Opposing Positions

This leads us, then, to the two positions currently vying for acceptance or rejection of oral contraceptives within

the pro-life camp. The *first position* is that oral contraceptives are morally permissible for the Christian because the evidence that oral contraceptives act as abortifacients is ultimately *inconclusive*. The typical starting point, as articulated by Sullivan, is that “the scientific evidence for an abortifacient effect of [oral] contraceptive agents . . . concludes that such an effect is yet unproven.”¹² Representatives of this position tend to argue that, while more research needs to be done, the evidence points in the direction that the reduced uterine lining (which is an empirical fact) may not actually have an abortifacient effect for eggs fertilized after breakthrough-ovulation.

Along these lines, Cutrer and Glahn raise concerns with the abortifacient theory on two levels. On one level, they argue that a thinner endometrium does not automatically mean an abortifacient effect is present; the fact that embryos implant in other structures that have no endometrium (e.g., fallopian tubes) demonstrates that an endometrium of a certain thickness is not necessary for successful implantation. On the other level, they argue that current research does not “support . . . the hypothesis that [oral contraceptives] cause a thinning effect on the uterine lining *even when breakthrough ovulation occurs*.”¹³ They ask: “if enough messenger hormone gets through to cause ovulation in the first place, won’t enough estrogen . . . and enough progesterone be released after ovulation to counteract the pill’s negative effect on the uterine lining?”¹⁴ And, of course, the greatest evidence that they see against the abortifacient theory is the fact that “most obstetricians have delivered babies that were conceived while the mothers were taking [oral contraceptives].”¹⁵

Crockett and company concur with these lines of argument, noting in summary fashion that “the abortifacient theory [regarding oral contraceptives]. . . fails to account for the essential information about ovulation and its effect on the uterine lining. The concept of ‘hostile endometrium’ is contrary to the known

physiologic effect of ovulatory estrogen and progesterone on the uterine lining.”¹⁶ Sullivan, taking a more statistical approach, concludes his survey of the literature by noting that opponents of oral contraceptives

must make a difficult statistical case: (1) In instances of breakthrough ovulation (a rare event), a significant number of sperm must penetrate the thickened cervical mucous (presumably a rare event) . . . and (2) If fertilization does occur, an embryo must fail to implant in an endometrium at least somewhat prepared for it, or if it implants, fail to continue to term, and this failure rate must be greater than the 70% that occurs naturally.¹⁷

Now we turn to the *second position*, which interestingly argues from the same starting point (evidence that oral contraceptives can act as abortifacients is ultimately inconclusive) but concludes that oral contraceptives are *not* morally permissible for the Christian. Representatives of this position tend to argue that, while more research needs to be done, research to date seems to point in the direction that reduced uterine lining is likely to have an abortifacient effect on eggs fertilized after breakthrough ovulation. So, for instance, John Wilks cites research establishing that “there is a critical thickness of the endometrium needed to sustain implantation of a human embryo” and that “if breakthrough ovulation were to occur, implantation might fail, because of an endometrium that is too thin.”¹⁸ Walter Larimore, after citing the FDA approved *Physician Desk Reference* which states that “although the primary mechanism of action is inhibition of ovulation, other alterations include . . . changes in the endometrium which reduce the likelihood of implantation,” notes that opponents of oral contraceptives view this as “an FDA admission of the abortifacient effect of the pill.”¹⁹

In the midst of scientific evidence that is often overwhelmingly difficult to integrate and interpret, pro-life opponents of the

pill insist that in these kinds of scientific gray areas we must always “err on the side of life,” believing that inconclusive evidence means we should discontinue use of oral contraceptives until evidence definitively ruling out abortifacient action can be provided. In this sense, oral contraceptives are understood to be “guilty until proven innocent,” and as such those who hold this position urge us to “put away the pill” so that we avoid the “horrid irony . . . [of being] followers of Christ [who] speak out against surgical abortions, yet repeatedly make choices that result in chemical abortions of [our] own children.”²⁰ Continuing with the vivid imagery, Larimore concludes his article by posing a thought experiment that consolidates the concerns of this second position:

It is reasonable to hypothesize that if the Pill was in development today and if the preborn child was considered truly human under the law, then it would be unlikely that the FDA would allow the Pill to be approved for public use until the manufacturers had studied and established whether or not (and, if so, how often) the Pill causes the death of preborn children.²¹

Key Doctrines and Resources

Before we can attempt to offer a perspective on the debate, we do well to acknowledge what key doctrines might further influence our understanding of this important question. Our work in this article is explicitly and unapologetically theological, for as with many bioethical issues concerning the beginning (and end) of life, we must ground our presuppositions and methodology theologically, allowing the Word of God to shape our understanding of the question and point the way toward an answer. David VanDrunen rightly insists that “the bioethical decisions that [Christians] make . . . ought to reflect a proper understanding of the truths and way of life revealed in Scripture” and that bioethical issues such as this one not be treated as “isolated moral problems” but instead “in the context of broader

Christian faith and life.”²²

One such doctrine that is quite relevant but perhaps underleveraged would be our doctrine of sin. Pro-life Christians are often united in expounding a robust doctrine of creation which understands everything that exists as “good” and as belonging to the One who made it all *ex nihilo*. They are relatively consistent in applying their theological anthropology which affirms that humanity has been uniquely created in the image of God and is thus of inestimable, inherent worth. But when it comes to tracing out the implications of the fact that this world, in the words of Cornelius Plantinga, is no longer “the way it’s supposed to be,” there is often much less consistency and thus much less clarity about how we ought to live in this good-*yet-fallen* world (and how we ought to act amidst the innumerable moral quandaries we will inevitably find ourselves in because of its, and our, fallen nature).²³ I believe more work needs to be done in further understanding how the noetic effects of sin are at play as we attempt to address bioethical issues such as this one; particularly, we need to better recognize where we might be blind to the truth of the matter because our minds (along with our hearts, bodies, and the entire world around us) are under the curse of sin. Especially pertinent would be a greater articulation of how to distinguish between issues of sin and issues of conscience (“disputable matters” among believers). For instance, although sections of Romans 14–15, 1 Corinthians 8–10, and 1 Timothy 4 (among other places) make it clear that there are non-sinful but disputed behaviors in which Christians can engage because of their freedom in Christ as dictated by their conscience, it is not as clear that the category of “issues of conscience” has played a central enough role in helping Christians think through the bioethical issues of our time.

One resource that might assist us in bringing “issues of conscience” more to the fore is the tri-perspectival framework of John Frame, who in his *Medical Ethics* proposes that bioethical issues (as with all ethical issues) require us

to see the interrelations between three perspectives: the normative (God's Word), the existential (the human person), and the situational (contours of the world). He argues that while non-Christians are unable to hold all three perspectives together (and thus tend to fixate on one of them), Christians have a God "who guarantees the coherence of His Word with His creation and with the needs of persons made in His image."²⁴ This perspective can help nuance the discussion between pro-life Christians regarding oral contraceptives, one that often becomes polarizing because the complexities of the issue are not fully acknowledged and because the possibility that it may not be a sin issue has not been sufficiently reckoned with. Evangelical debate on oral contraceptives has tended to become fixated on the normative perspective (though, as we have acknowledged, there are still more depths of Scripture to plumb) while neglecting the existential (e.g., decisions regarding the pill are issues of conscience which will differ from Christian to Christian based upon various formative life experiences) and the situational (e.g., inconclusive evidence should generate both further inquiry as well as respect for those whose interpretations of the currently available evidence differ from our own). We would do well to take Frame's advice and ensure that all three perspectives are being brought to bear on our deliberation of the pill's moral permissibility.

But further grappling with our doctrine of sin and the importance of conscience

issues leads us to recognize a second doctrine to greater leverage in this debate: our doctrine of the church. Though Roman Catholic pro-lifers are often well informed by a robust ecclesiology (and often express opposition to *any* forms of artificial contraception based on magisterial teaching), evangelicals often find themselves with a rather anemic ecclesiology that fails to help them see how the bioethical issues that they are facing should be framed by their participation in the Body of Christ. Ben Mitchell has done much to make the case that this evangelical lacuna must be remedied, arguing that "a theological medical ethic which neglects the role of the church neglects God's primary instrument for the care of his people."²⁵ This conviction prompts his assertion that "part of the task of the church is to create a moral community and, beacon-like, display to the world what such a community looks like."²⁶ Yet, many believers face the complex scientific data and moral labyrinth of oral contraceptives alone, failing to consult the community of faith (e.g., pastors, small group leaders, better-informed brothers and sisters in their congregation, including physicians) or think about the implications of their decision for the church's witness to the world.²⁷ Pastor and academic theologians alike must lead the charge by modeling this community orientation for their churches, bringing (often unspoken) issues such as oral contraceptives out in the open to be elucidated, discussed, evaluated, and prayed over with the collective wisdom of the church.

Here we might point particularly to the work of VanDrunen (especially his *Bioethics and the Christian Life*), whose ecclesial-centric advocacy of the virtues within evangelical ethics provides a much-needed complement to a more individualist "case-studies" approach. VanDrunen's work sheds light on how the conundrum that the issue of oral contraceptives poses to pro-life Christians points to a greater need for our theological ethics to be more informed by the insights of virtue ethics exercised in community, particularly its emphasis on formative *telos* over methodological *techné*. This perspective rightly emphasizes the need for believers to be better formed into the kind of people who make wise, God-honoring decisions no matter the complexity of the ethical quandary before them. VanDrunen's proposal that *wisdom*, rather than mere information, come more to the fore as we engage complex bioethical issues cannot be seconded enough; indeed, the capacity "to perceive how one's virtues and principles can come to proper expression in particular circumstances" has been conspicuously absent in recent attempts to provide moral guidance regarding the pill.²⁸ There is no better context to increase in that perception than the community of God's people gathered under the Word and called to patiently grow in grace and truth together. Pressing into such a context may not only help us better discern the pertinent content necessary for deciding the moral permissibility of oral contraceptives; it might also help us to recognize the extent of legitimate disagreement which can occur between



Christians seeking to faithfully live out a biblical ethic.

Conclusions

Now that the issue has been introduced, the opposing sides stated, and key doctrines and resources identified, what may we conclude in seeking to further resolve the disputed question of the moral permissibility of oral contraceptives? The challenge to answering this question is obvious: two pro-life positions regarding oral contraceptives look at the same (often convoluted) evidence and come to very different conclusions. Linda Bevington (in my view, rightly) attributes this divide and the ethical complexities we have come to associate with the pill as stemming from the fact that the essential scientific information regarding this issue is *firmly in dispute*. This leads her to ask: "How should we develop an ethical position on a life-or-death issue when the scientific data required to draw a definitive conclusion is controversial or not yet available?"²⁹ One camp answers that until all the data is available and definitive, we must abstain from using oral contraceptives; the other camp argues that the lack of definitive evidence allows the Christian to proceed with its usage. One camp says that the pill is "guilty until proven innocent," while the other camp insists that it is "innocent until proven guilty." Which one is right, and how should we proceed and advise believers when it comes to this crossroads of perspectives and the question of the pill's moral permissibility?

First, it is important to emphasize that any conclusions we come to in this regard are tentative because, as both parties recognize, there is more research that still needs to be done. We thus affirm with Cutrer and Glahn that "we have a responsibility to be informed [and] prayerful . . . Those who choose to use the pill need to keep up with any new information that might either reveal new concerns or lay to rest current fears."³⁰

Second, we note that while the nature of the evidence is currently inconclusive regarding whether oral contraceptives

ever act as abortifacients, there is increasing reason to question the legitimacy of the theory that the reduction of uterine lining associated with oral contraceptive use actually harms the fertilized egg. Sullivan, for instance, while admitting that the endometrium is thinner during use of oral contraceptives, calls into question whether this would be the case by the time that a breakthrough fertilized egg implants (which typically happens around six days or so after fertilization). He makes his case by granting, for the sake of argument, that a thinner endometrium is less hospitable for implantation, but then goes on to note that "if [breakthrough] ovulation takes place, a completely different hormonal milieu comes into existence [because] ovulation leaves behind the corpus luteum, a rich source of estrogen and progesterone. After the six days required for the embryo to travel down the uterine tube into the uterus, these hormones [would] have transformed the endometrium, [making it] receptive for implantation."³¹ In short, Sullivan argues that we have good reason to think that the "hostile endometrium" pointed to by the pill's opponents is, by the time of implantation, actually transformed into a sufficiently "hospitable" one.

Murray Casey and Todd Salzman make the same case but with even more precision, at one point following Sullivan's tactic of granting for the sake of argument that "the endometrium [of a user of the pill] would likely be unreceptive to implantation of a conceptus" only to remind us that even if that were the case "COC[s] taken cyclically are so strongly contraceptive [that] fertilization rarely if ever occurs."³² But, significantly, they go on to argue that there is actually *not* sufficient evidence to verify this negative effect on the endometrium in the first place, surveying several studies to conclude that "with respect to short-term endometrial effects, evidence is lacking as to whether therapeutic courses of either monophasic or multiphasic COC[s] . . . enhance endometrial integrity and stability or conversely render the endometrium unfavorable

for implantation of early conceptuses if ovulation and then fertilization might rarely happen."³³ Their contention, if true, takes the wind right out of the sails of oral contraceptive opponents, for any concern about its abortifacient effects lies squarely with the (supposedly hostile) condition of the endometrium at the time of implantation. Casey and Salzman go on to assert that the "the paucity of evidence for ovulation, conception, and abortifacient activity when COC[s] are used faithfully and consistently" and the fact that "evidence for fertilization and pregnancy losses is insignificant or nil when monophasic COC formulations with at least 35 mg ethinyl estradiol are properly used" leads them to conclude that it is a "reasonable judgment based on presently available laboratory and medical science and high standards of clinical practice" that women may take COCs of the specific variety mentioned above without violating a pro-life conscience.³⁴

Thus, while we are in agreement with the Christian Medical and Dental Associations' statement that "current knowledge does not confirm or refute conclusions that routine use of hormonal birth control causes abortion," it is reasonable to assure believers that the burden of proof lies with those who claim that oral contraceptives have abortifacient capacity, for at this point it seems to be a safe assumption that they have the onus of proving that a "hostile endometrium" is indeed caused by COCs and remains hostile at the critical moment of implantation.³⁵ This is because, in the words of Jeffrey Lewis and Dennis Sullivan, "the prevailing scientific conclusion about compliant COC use is that such agents do not have a measurable post-fertilization effect, and that moral concern over their abortifacient potential (even in light of the conception view of personhood) is unwarranted."³⁶

It is this "unwarranted" determination that allows us to place use of oral contraceptives tentatively in the category of "issues of conscience" rather than "issues of sin." As stated above, such a distinction is vital to navigating life

in a fallen world where we do not have access to all the evidence (i.e., we do not have exhaustive knowledge) and where Christians will come to varying opinions about the best course of action in a particular circumstance and what it looks like to live wisely in this good-yet-fallen world. Opinions which vary from God's definitive statement in his Word regarding what is sin are to be rejected; opinions on those matters on which God has not spoken directly and which vary from believer to believer according to their differing consciences grounded in the freedom that is theirs in Christ are to be given space to operate.

Indeed, it is critical that we help believers better understand and discern the difference between sin issues and conscience issues amidst bioethical questions such as this one. Sullivan is right to note in this regard that when the evidence is underdetermined "ethical decisions should be based on personal convictions combined with the best possible scientific evidence . . . Scripture would call on all participants in this discussion to mutual respect and peace, and to apply the principles of Romans 14 as a guide to disputable matters."³⁷ Farr Curlin helps us envision what this

looks like by framing the use of oral contraceptives as a conscience issue where "the work of the conscience is much like the work of a jury . . . [taking] into account the available evidence and the accompanying arguments in order to make a reasoned judgment . . . [which] can be reconsidered in light of new evidence and new arguments."³⁸ Until that definitive evidence is offered which can meet the necessary burden of proof that oral contraceptives do, in fact, have abortifacient effects, we are in a good position to leave the decision to use oral contraceptives (or not) up to the constraints of conscience.³⁹

Of course, as an issue of conscience, Scripture calls us to show deep respect to believers who interpret the evidence in such a manner as to make oral contraceptives morally impermissible *for them* (due to the convictions of their conscience). Indeed, we must remember as we seek truth that we are also called to seek unity with one another in the Body of Christ, even as we disagree about extremely important matters. A responsible monitoring of the literature, an engaged tri-perspectival framework, a mind that is guided by our theology (particularly our hamartiology and

ecclesiology), a searching out of the collective wisdom of the church on how to live virtuously in our fallen world, and a prayerful heart that humbly interacts with and learns from others will all be required as we proceed. By seeking truth while respecting our brothers and sisters in Christ who come to different conclusions from ours, we will be formed more and more into the image of Christ, better enabled to (re)determine the moral permissibility of oral contraceptives as new evidence arises. After all, it is one of a myriad of ethical quandaries that the Christian will face in the "brave new world" of the twenty-first century with its rapidly advancing biotechnologies. But, as this article has attempted to show, it is a significant one for the unity of the pro-life movement, for Christian couples seeking wisdom and guidance in contraceptive use, and for demonstrating the particular importance of the category of "issues of conscience" grounded in Christian freedom. Further sharpening this "tool" in our Christian bioethical "tool belt" might be one of the ways we can better determine the moral permissibility (or lack thereof) of many ethical issues while we are only able to see "as through a glass darkly." ●●●

1 Dennis M. Sullivan, "The Oral Contraceptive as Abortifacient: An Analysis of the Evidence," *Perspectives on Science and Christian Faith* 58, no. 3 (2006): 189.
 2 Susan A. Crockett, Joseph L. DeCook, Donna Harrison, and Camilla Hersh, "Using Hormone Contraceptives is a Decision Involving Science, Scripture, and Conscience," in *The Reproduction Revolution: A Christian Appraisal of Sexuality, Reproductive Technologies, and the Family*, eds. John F. Kilner, Paige C. Cunningham and W. David Hager (Grand Rapids, MI: Eerdmans, 1999), 196.
 3 This essay will not be considering the ethics of contraception itself. For a recent assessment of the same from an evangelical Protestant vantage point see Dennis P. Hollinger, "The Ethics of Contraception: A Theological Assessment," *Journal of the Evangelical Theological Society* 56, no. 4 (2013): 683–96 and W. Ross Blackburn, "Sex and Fullness: A Rejoinder to Dennis Hollinger on Contraception," *Journal of the Evangelical Theological Society* 58, no. 1 (2015): 117–30.
 4 Randy Alcorn, *Does the Birth Control Pill Cause Abortions?* 7th ed. (Sandy, OR: Eternal Perspective Ministries, 2004), 8. Undoubtedly those numbers have increased since this edition's publishing.
 5 This is not to be confused with the "morning after pill," most commonly Plan B One-Step®, which is a high dose of levonorgestrel used as emergency contraception. There is growing evidence that Plan B is not abortive in its action; even if taken after fertilization has occurred, it does not appear to interfere with implantation. For a Christian pro-life perspective on the morning after pill, see Jeffrey D. Lewis and Dennis M. Sullivan, "The Abortifacient Potential of Emergency Contraceptives," *Ethics & Medicine* 28, no. 3 (2012): 113–20.
 6 For a very helpful introduction to each of these forms of contraception, see William R. Cutrer and Sandra L. Glahn, *The Contraception Guidebook: Options,*

Risks, and Answers for Christian Couples (Grand Rapids, MI: Zondervan, 2005), 113–27. I agree with their evaluation that each of these contraceptive options ought to be considered with extreme caution due to their greater potential for abortifacient action than the combination oral contraceptives. options ought to be considered with extreme caution due to their greater potential for abortifacient action than the combination oral contraceptives.
 7 Cutrer and Glahn, *The Contraception Guidebook*, 92–93.
 8 Cutrer and Glahn, *The Contraception Guidebook*, 100.
 9 Cutrer and Glahn, *The Contraception Guidebook*.
 10 Some effects such as cervical mucus thickening (which make it more difficult for sperm to survive and enter the uterus) and a change in cilia movement within the fallopian tubes (affecting egg transport) further serve the purpose of preventing conception. These well documented effects are thus of no ethical concern. It is only those effects which interfere with implantation of a fertilized egg that need to be considered in terms of any abortifacient capacity of oral contraceptives. See Gary P. Stewart et al., *Basic Questions on Reproductive Technology: When Is It Right to Intervene?* (Grand Rapids, MI: Kregel, 1998), 67.
 11 Cutrer and Glahn, *The Contraception Guidebook*, 103.
 12 Sullivan, "The Oral Contraceptive as Abortifacient," 189.
 13 Cutrer and Glahn, *The Contraception Guidebook*, 107 (emphasis original).
 14 Cutrer and Glahn, *The Contraception Guidebook*, 103.
 15 Cutrer and Glahn, *The Contraception Guidebook*, 108.
 16 Crockett et al., "Using Hormone Contraceptives is a Decision Involving Science, Scripture, and Conscience," 193–94.
 17 Sullivan, "The Oral Contraceptive as Abortifacient," 192.

- 18 John Wilks, "The Impact of the Pill on Implantation Factors—New Research Findings," *Ethics & Medicine* 16, no. 1 (2000): 19.
- 19 Walter L. Larimore, "The Abortifacient Effect of the Birth Control Pill and the Principle of 'Double Effect,'" *Ethics & Medicine* 16, no. 1 (2000): 24–25.
- 20 Walter L. Larimore and Randy Alcorn, "Using the Birth Control Pill is Ethically Unacceptable," in *The Reproduction Revolution*, 190.
- 21 Larimore, "The Abortifacient Effect of the Birth Control Pill and the Principle of 'Double Effect,'" 29.
- 22 David VanDrunen, *Bioethics and the Christian Life: A Guide to Making Difficult Decisions*, (Wheaton, IL: Crossway Books, 2009), 39, 67.
- 23 Cornelius Plantinga, *Not the Way It's Supposed to Be: A Breviary of Sin* (Grand Rapids, MI: Eerdmans, 1995).
- 24 John M. Frame, *Medical Ethics* (Phillipsburg, NJ: P&R, 1989), 6.
- 25 C. Ben Mitchell, "Bioethics and the Church," in *Bioethics and the Future of Medicine: A Christian Appraisal*, eds. John F. Kilner, Nigel M. De S. Cameron, and David L. Schiedermayer (Grand Rapids, MI: Eerdmans, 1995), 124.
- 26 Mitchell, "Bioethics and the Church," 132.
- 27 Pertinent sections of Romans 12, Ephesians 4–5, Colossians 3 and 1 Peter 2 exhort us to live out every aspect of our lives (including making difficult bioethical decisions) in the context of the community of faith.
- 28 VanDrunen, *Bioethics and the Christian Life*, 92.
- 29 Linda Bevington, "Introduction," in *The Reproduction Revolution*, 178.
- 30 Cutrer and Glahn, *The Contraception Guidebook*, 108.
- 31 Sullivan, "The Oral Contraceptive as Abortifacient," 191-92.
- 32 Murray Joseph Casey and Todd A. Salzman, "Therapeutic, Prophylactic, Untoward, and Contraceptive Effects of Combined Oral Contraceptives: Catholic Teaching, Natural Law, and the Principle of Double Effect When Deciding to Prescribe and Use," *The American Journal of Bioethics* 14, no. 7 (2014): 24, <https://doi.org/10.1080/15265161.2014.919364>.
- 33 Casey and Salzman, "Therapeutic, Prophylactic, Untoward, and Contraceptive Effects of Combined Oral Contraceptives," 25.
- 34 Casey and Salzman, "Therapeutic, Prophylactic, Untoward, and Contraceptive Effects of Combined Oral Contraceptives," 26, 29.
- 35 Board of Trustees, "Possible Post-fertilization Effects of Hormonal Birth Control," Christian Medical and Dental Association, September 1998, <https://cmda.org/position-statements/>.
- 36 Lewis and Sullivan, "The Abortifacient Potential of Emergency Contraceptives," 114.
- 37 Sullivan, "The Oral Contraceptive as Abortifacient," 194.
- 38 Farr A. Curlin, "Caution: Conscience is the Limb on Which Medical Ethics Sits," *The American Journal of Bioethics* 7, no. 6 (2007): 31, <https://doi.org/10.1080/15265160701347429>.
- 39 John and Paul Feinberg helpfully provide a short introduction the importance of issues of conscience grounded in Christian freedom for bioethics, including eight questions that can guide the believer in discerning whether their conscience is "clear" regarding a particular course of action. See John S. Feinberg and Paul D. Feinberg, *Ethics for a Brave New World* (Wheaton, IL: Crossway, 1993), 43–45.

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Embryo Adoption: A Radically Counter Cultural Act of Mercy

Christopher M. Reilly, MPIA, MA | Guest Contributor

Moral theology, along with bioethics and moral philosophy, focuses on the principles, reasoning, and practice of good behavior. When taking or integrating a Christian theological approach, as in this article, such goodness includes the obligations, virtues, and realization of a human teleology that reflect the truth of the revelation of Christ. In order to identify good behavior, however, there must be some insight into evil; acts that are evil are possible and opposed to goodness, particularly as they inhibit or undermine the pursuit of grace and everlasting life in the vision of God. A full moral theology and integrated bioethics will therefore prohibit evil acts just as it encourages good acts. It all seems rather simple.

What do we do, however, when certain

characteristics of an act seem, perhaps erroneously or injudiciously, to be evil and therefore cause us to question what is good? Not only might confusion reign, but our enthusiasm for what is, in its essence, a good act will be suppressed. Some ardent moralists might even judge those who practice the good act to be committing a grievous sin. This kind of situation can have tragic consequences, for suppression of positive moral behavior can be in itself one of the worst kinds of evil.

This dilemma is one that Christians must wrestle with periodically in the field of bioethics. This essay will consider a bioethical topic where an essentially good act appears to be actively suppressed by some moral theologians: the practice of embryo adoption, in which a previously frozen

(cryopreserved) human embryo is transferred into a woman's uterus, and the woman and her spouse gestate, nurture, give birth to, and raise the child as their own. These adopted embryonic persons were conceived when another couple engaged in vitro fertilization (IVF), causing the merger of sperm and egg in a laboratory for the sake of producing multiple embryos for transfer into the IVF-engaged woman's uterus and possible pregnancy. Because most IVF clinics will test the produced embryos and select only those that are considered healthy, likely to survive, and desirable according to varying physical, cognitive, gender, and aesthetic characteristics, and because some embryos may not implant or survive to birth, the IVF process typically includes the production of many such embryos (a target rate for retrieval of a woman's eggs is around 12–18, not all of which will be successfully fertilized). Those that are not implanted will often be frozen through a cryopreservation process and

stored for potential future use by the IVF-engaged couple. Nearly all of those frozen embryos are destined for years or even decades in that state, released only by their eventual death through natural expiration or active destruction. While embryos cannot suffer nerve-based pain, they do suffer—to an extent rarely experienced by any human being—indignity and severe harm to their health, peace, security, freedom, growth, spiritual destiny, and eventually their lives.

There are, at the least, hundreds of thousands of such embryonic persons frozen in the United States; such data is difficult to ascertain. We can arrive at a good estimate, however, from data reported by the U.S. Centers for Disease Control and Prevention in 2018 that over one-third of attempts at assisted reproduction technology (ART) involved the intention of freezing the embryos. There are more than 300,000 attempts at ART each year in the United States and 1.5 million worldwide, with many embryos conceived per attempt. Such data suggests that there are several hundred thousand frozen embryos added to storage every year in the United States alone.

For the Christian, Jesus' unambiguous command to love one's neighbor and his consistent teaching about the goodness of and responsibility for extending mercy to the most needy, suffering, and downtrodden members of society seem to favor consideration of embryo adoption as a loving and sacrificial act of mercy. On the other hand, there are aspects of embryo adoption that may give at least some moralists pause, and at times spark outright condemnation of the act. Does participation in embryo adoption involve real or implied complicity in the prior act of IVF, which is in itself considered a grievous sin by Catholics and many other Christians? Is embryo adoption too similar to surrogate motherhood, also considered by many to be sinful? Is the act of transferring a genetically unrelated embryo to

the uterus of the adoptive mother an unacceptable indignity to the sanctity of the womb and of motherhood, or a matter of technological domination over the dignity of the nascent embryonic person? In this article, I argue that, despite such considerations, embryo adoption is not only morally permissible but laudatory.

The Moral Case for Embryo Adoption

Whether embryo adoption is cooperation with a prior sinful act depends, of course, on whether one considers IVF to be sinful. There is debate on this topic among Christians. The production of multiple embryonic persons in the process and the freezing or destruction of many of them is a strong reason to consider IVF to be a moral evil; it is a brutal and callous way to treat multitudes of early-stage human beings that are produced, stored, and packaged as if they were mere consumer goods. IVF also involves producing a human being in the technologically dominated environment of the laboratory and clinic, followed by a technician's insertion of the chosen embryos into the uterus of the intended mother. This is a matter of asserting significant human control over an otherwise intensely meaningful, interpersonal, and natural act of procreation between a married couple who are naturally open to the providential involvement of God in the possible creation of a new person. One might consider such human arrogance in the very creation of a new person to be an affront to God and a considerable indignity to the person formed. Even for those who have trouble accepting that a human embryo is a morally dignified person with basic rights, the highly technical production of new human beings in laboratories, the consumer-like acquisition of a family member by IVF-engaged couples, the profit-driven hunger of IVF clinics for more clients and more efficient processes, and the widespread freezing, storing, and destruction of human embryos might all encourage a morally relevant feeling of

disgust or disillusion.

Embryo adoption is not, however, morally illicit cooperation with the evils of IVF, because the object and effect of the adoption is, primarily, rescuing the frozen embryo. The adoption thereby resolves one aspect of the physical and moral evil produced by IVF, which is sequentially prior to the adoption. The adoptive couple does not, by their action, encourage IVF or its participants, for their act is an extraordinary and visibly pro-life one that highlights the terrible plight of frozen human embryos. In fact, it is a radically countercultural, loving, and generous demonstration that challenges others to recognize the human embryo as a dignified child of God. There may be some similarity in the desires of both the adoptive couple and the IVF-engaged couple to acquire a new child for their family, but the adoptive couple's object is fundamentally different in its focus on improving the welfare of an already living human being.

Embryo adoption also does not bear the same moral flaws as does the practice of surrogate birth and motherhood. In the practice of surrogacy, a couple solicits and usually pays for the conception of the child outside the marriage, and the gestational mother is a contractual agent in a willful transaction among all parties. The couple willfully uses the creation of a child and the gestational "services" of the birth mother selfishly and with highly meaningful disrespect for the child and the birth mother. In embryo adoption, there is no encouragement of, or cooperation with, IVF; no cooperation or solicitation of third parties to engage in a sinful act; and no focus on creation of a new child at all—only the rescue of an already conceived, dignified child.

While a woman's uterus has a central role in a marriage as the site of implantation, pregnancy, gestation, and nurturing of a new child, some moralists go too far in arguing that the uterus is sacrosanct and therefore its use to

nurture a non-genetically related child is a grievous violation of the natural law. Such logic is too similar to animism or idolatry, for it attributes to an organic substance an uncompromising and inherently divine status. Because humans are created in the image of God, every part of the human body is oriented to that person's true, final good; that which adheres to the vision of God and the life lived in imitation of Christ. This includes the call to mercy and sacrifice for the sake of the other. Consider that very few moralists would argue that it is fundamentally unacceptable for a person to put their very life in danger to save the life of someone else. If risking one's life can be acceptable to save another, why should we consider it a sin for a mother to offer her womb to save an embryonic person?

Adoption has traditionally been considered by the Christian community to be a loving fulfillment of a mother's natural and marital role. The presence of a genetically unrelated child in the adoptive mother's uterus does not undermine the marital covenant, for the husband is a consenting, co-adoptive parent, and he is no more relationally excluded from the gestation of the new family member than he is from the mother's independent breastfeeding, cuddling, or otherwise nurturing a child. There is a special intimacy involved in the joint decision to adopt and the care given by the father to the adoptive mother as she experiences pregnancy. Most importantly, embryo adoption does not substitute in any way for natural procreation, for it is not creation of a child, and even conjugal relations can continue for much of the pregnancy.

Although there is an important technical aspect to the procedure of transferring a frozen and thawed embryo to the adoptive mother's uterus, this is not a matter of undignified technological domination over the creation of human life. In fact, there is no life created, but only a life saved. It is a medical procedure that removes a

critically harmed human being from peril, and is therefore a caring, life-fulfilling act that not only respects but actively supports the dignified integrity of the patient.

In evaluating the goodness of embryo adoption, we might apply the principle of double effect, which is a means to evaluate the morality of an act when there is a mix of good and bad circumstances and consequences of the act. Therefore, in the case of frozen embryo adoption, the object of the act, which is clearly to rescue the frozen embryo, is good. There is no intention to obtain anything other than the good effect if the adopting parents are seeking the welfare of the child (as opposed to merely seeking acquisition of a new child). The good effects of embryo adoption are not caused by the bad, and the rescue of a dignified human life overwhelms proportionally any potential bad effect. The good effects proceed at least as immediately as any bad ones, and the good effects are related certainly to the act of embryo adoption, while any bad effects are merely possible or unlikely.

The Catholic Debate

In the Roman Catholic Church's document *Dignitas personae*, authored by the Congregation for the Doctrine of the Faith (CDF) in 2008, the CDF recognized the good intentions behind rescuing frozen human embryos but cited some important concerns. The document did not declare embryo adoption to be morally illicit as it clearly indicated for a number of other acts. In fact, according to its 1987 document *Donum vitae*, which must be recognized as the continued authoritative teaching of the Catholic Church, the embryonic person must be "defended in its integrity, tended and cared for, to the extent possible, in the same way as any other human being as far as medical assistance is concerned," and Catholics cannot deliberately "expose to death human embryos obtained 'in vitro.'" The CDF declared that "courageous

opposition to all those practices which result in grave and unjust discrimination against unborn human beings" is a duty for all. Pope Benedict XVI stated that "life is the first good received from God and is fundamental to all others; to guarantee the right to life for all and in an equal manner for all is the duty upon which the future of humanity depends." Pope John Paul II wrote that concern for the child at any stage of development "is the primary and fundamental test of the relationship of one human being to another."

Understanding the CDF's concerns about embryo adoption requires paying close attention to the significant difference in object between "treatment for infertility" and rescuing the frozen embryo "solely in order to allow human beings to be born who are otherwise condemned to destruction." By "treatment for infertility," the CDF was referring to the possibility that a couple might engage in embryo adoption primarily for the purpose of adding a new member of their family, rather than as a merciful sacrifice for the sake of the embryo's welfare. The CDF counseled that "treatment for infertility is not ethically acceptable for the same reasons which make artificial heterologous procreation illicit as well as any form of surrogate motherhood; this practice would also lead to other problems of a medical, psychological and legal nature." In short, merely using embryo adoption to acquire a new child involves cooperation with the immoral act of IVF by carrying forward the original object of acquisition of a child and selfishly using the morally prohibited act of IVF as well as the IVF-engaged couple's participation to achieve a personal objective. To be clear, such an object is much different than the object of rescuing the child, which is not at all maligned by the CDF in this document.

The CDF also expressed its worry that Catholics might inappropriately view the practice of embryo adoption as an adequate resolution of the moral and other problems associated with the

widespread practice of IVF. *Dignitas personae* indicates that “the thousands of abandoned embryos represent a situation of injustice which in fact cannot be resolved”—the Italian meaning is closer to irreparable—and the document quotes Pope St. John Paul II’s prior statement that “there seems to be no morally licit solution” to such a problem. It is therefore clear that the evils of IVF extend beyond the plight of frozen embryos, and that even adoption of every single frozen embryo would not “resolve” the injustice and immorality that characterize participation in IVF by couples, technicians, and corporations. While embryo adoptions will virtuously save the lives of embryonic human beings, the scourge of IVF can only be resolved when the practice of IVF is ended entirely.

The Positive Obligation and Opportunity for Mercy

Jesus taught that we have an obligation of mercy toward our neighbor in need: “[The king] will answer them, ‘Amen, I say to you, what you did not do for

one of these least ones, you did not do for me’” (Matt 25:45–46, NABRE). The parable of the Good Samaritan in the Gospel of Luke dramatically contrasts the merciful works of the Samaritan, who will be rewarded with eternal life, with the inaction of the priest and Levite, who resorted to excuses drawn from otherwise holy law and tradition. This parable is not merely an example of good action, but a strong warning to all of us who look to moral law as a means of apparently reducing the primacy of loving mercy. Jesus was consistent in his harsh condemnation of the obedient scribes and the Pharisees who “neglected the weightier things of the law: judgment and mercy and fidelity” (Matt 23:23).

Even more than an obligation, our merciful behavior toward others is a matter of deepening our relationship with Christ himself. “For I was hungry and you gave me food, I was thirsty and you gave me drink, I was a stranger and you made me welcome” (Matt. 25:35). This teaching is embedded in Jesus’ warning of the final judgment (Matt. 25:31–46) and is repeated elsewhere in

the New Testament, for “If someone who has the riches of this world sees his brother in need and closes his heart to him, how does the love of God abide in him?” (1 Jn. 3:17). It is important to note that such teachings are presented without qualification by the ethical tenets of the Law or any other consideration.

In regard to embryo adoption, it should be seen as a grace-filled opportunity to extend mercy and love to a neighbor in dire need. It is not only a fulfillment but an enhancement of the marital covenant, for it is a consensual and highly intimate act—emotionally, relationally, and biologically—of entering into parenthood. Importantly, those who wonder about the intricacies of moral law and its application to embryo adoption should at least be particularly careful not to enter into a pharisaical condemnation of what is, in its essence, a powerfully good act. The “Good Samaritans” of our world need all the encouragement they can get. ●●●

- 1 Nicanor Austriaco, “Embryo Transfer and the Extended Inseparability Argument,” *National Catholic Bioethics Quarterly* 21, no. 1 (2021): 29–35; Tadeusz Pacholczyk, “On the Moral Objectionability of Human Embryo Adoption,” in *The Ethics of Embryo Adoption and the Catholic Tradition: Moral Arguments, Economic Reality and Social Analysis*, ed. Sarah-Vaughan Brakman and Darlene Fozard Weaver (Berlin: Springer, 2007), 71; Charles Robertson, “A Thomistic Analysis of Embryo Adoption,” *National Catholic Bioethics Quarterly* 14, no. 4 (2014): 673–97, <https://doi.org/10.5840/ncbq201414470>; Elio Sgreccia, *Personalist Bioethics: Foundations and Applications*, trans. John A. DiCamillo and Michael J. Miller (Philadelphia, PA: National Catholic Bioethics Center, 2012), 526–27; Thomas K. Nelson, “Personhood and Embryo Adoption,” *Linacre Quarterly* 79, no. 3 (2021): 261–74, <https://doi.org/10.1179/002436312804872767>; and Mary Geach, “Are There Any Circumstances in Which It Would Be Morally Admirable for a Woman to Seek to Have an Orphan Embryo Implanted in Her Womb?” in *Issues for a Catholic Bioethic: Proceedings of the International Conference to Celebrate the Twentieth Anniversary of the Linacre Center*, ed. Luke Gormally (London: Linacre Center, 1999), 341–46.
- 2 Although embryo adoption can certainly be enacted by a single mother or unmarried couple, there are more complex moral considerations for such circumstances. In order to keep the focus on moral objections to embryo transfer in itself, this article’s consideration is restricted to embryo adoption by married couples.
- 3 Yin Jun Law et al., “Is There an Optimal Number of Oocytes Retrieved at which Live Birth Rates or Cumulative Live Birth Rates per Aspiration Are Maximized after ART? A Systematic Review,” *Reproductive BioMedicine Online* 42, no. 1 (2021): <https://doi.org/10.1016/j.rbmo.2020.10.008>.
- 4 David I. Hoffman et al., “Cryopreserved Embryos in the United States and Their Availability for Research,” *Fertility and Sterility* 79, no. 5 (2003):1063–69, [https://doi.org/10.1016/S0015-0282\(03\)00172-9](https://doi.org/10.1016/S0015-0282(03)00172-9).
- 5 Centers for Disease Control and Prevention (CDC), “Assisted Reproductive Technology,” CDC.gov, April 20, 2021, <https://www.cdc.gov/art/artdata/index.html>.
- 6 CDC, “Assisted Reproductive Technology,” European Society of Human Reproduction and Embryology, “ART Fact Sheet,” ESHRE.eu, accessed July 14, 2021, <https://www.eshre.eu/Press-Room/Resources>.
- 7 Rachel Strodel, “Fertility Clinics Are Being Taken Over by For-Profit Companies Selling False Hope,” *Think*, March 1, 2020, <https://www.nbcnews.com/think/opinion/fertility-clinics-are-being-taken-over-profit-companies-selling-false-hope-ncna1145671>; Rebecca Robbins, “Investors See Big Money in Infertility. And They’re Transforming the Industry,” *STAT News*, December 4, 2017, <https://www.statnews.com/2017/12/04/infertility-industry-investment/>; ReportBuyer, “The Global IVF Services Revenue Market Generated \$12,505 Million in 2018 and Is Projected to Reach \$26,376 Million by 2026, Growing at a CAGR of 9.8% from 2019 to 2026,” PR Newswire, July 19, 2019, <https://www.prnewswire.com/news-releases/the-global-ivf-services-revenue-market-generated-12-505-million-in-2018-and-is-projected-to-reach-26-376-million-by-2026--growing-at-a-cagr-of-9-8-from-2019-to-2026--300881817.html>.
- 8 It is crucial here to distinguish between the object, or moral purpose, and the circumstances. If the object is to save the embryo, the circumstances will most certainly include the joy of adding a new member to the family and raising the child, and those are good circumstances. If the object, however, is primarily to add a child to the family rather than to save a distressed person, this is a more narrowly self-interested purpose that cooperates with the purpose of the IVF, which is to obtain a child; mercy and charity in such an object are minimized or may not be considerations at all.
- 9 We might even consider the embryo adoption to be a redemptive act that counters the social sin of the prior IVF. I do not make this argument here, but it seems to be worth consideration and further discussion.
- 10 Steven A. Long, “An Argument for the Embryonic Intactness of Marriage,” *The Thomist* 70, no. 2 (2006): 267–88, <https://doi.org/10.1353/tho.2006.0019>.
- 11 For such an argument against embryo adoption, see Tadeusz Pacholczyk, “On the Moral Objectionability of Human Embryo Adoption,” 78.

- 12 Levi Bareither, "Orphan Care and the Early Church," Story International, January 31, 2019, <https://www.storyintl.org/blog/orphan-care-and-the-early-church>; "The Theology and Practice of Adoption," FBC Durham, accessed August 13, 2021, <https://www.fbcdurham.org/wp-content/uploads/2015/08/Theology-Practice-of-Adoption-1-Biblical-Theology-of-Adoption.pdf>.
- 13 For such an argument, see Mary Geach, "Are There Any Circumstances in Which It Would Be Morally Admirable for a Woman to Seek to Have an Orphan Embryo Implanted in Her Womb?"
- 14 See Joseph T. Mangan, "An Historical Analysis of the Principle of Double Effect," *Theological Studies* 10, no. 1 (1949): 41–61, <https://doi.org/10.1177/004056394901000102>; Edward J. Furton and Albert S. Moraczewski, "Double Effect," in *Catholic Health Care Ethics*, 3rd ed., ed. Edward J. Furton (Philadelphia, PA: National Catholic Bioethics Center, 2020), 3.18–3.23. On dual benefits and intentions, see E. Christian Brugger, "In Defense of Transferring Heterologous Embryos," *National Catholic Bioethics Quarterly* 5, no. 1 (2005): 112, <https://doi.org/10.5840/ncbq20055170>.
- 15 For a much longer analysis of the Catholic debate over embryo adoption, see Christopher M Reilly, "Rescuing the Good Samaritan in Embryo Adoption and Beyond," *National Catholic Bioethics Quarterly* 20, no. 3 (2020): 487–98.
- 16 Congregation for the Doctrine of the Faith (CDF), *Dignitas personae* (Rome: CDF, September 8, 2008), https://www.vatican.va/roman_curia/congregations/cfaith/documents/rc_con_cfaith_doc_20081208_dignitas-personae_en.html.
- 17 CDF, *Donum vitae* (Rome: CDF, February 22, 1987), I.1, I.5, https://www.vatican.va/roman_curia/congregations/cfaith/documents/rc_con_cfaith_doc_19870222_respect-for-human-life_en.html.
- 18 CDF, *Dignitas personae*, n. 37.
- 19 Benedict XVI, "Address of His Holiness Benedict XVI to the Participants in the General Assembly of the Pontifical Academy for Life," Vatican.va, February 24, 2007, https://www.vatican.va/content/benedict-xvi/en/speeches/2007/february/documents/hf_ben-xvi_spe_20070224_academy-life.html.
- 20 John Paul II, *Familiaris consortio* (Rome: November 22, 1981), n. 26, https://www.vatican.va/content/john-paul-ii/en/apost_exhortations/documents/hf_jp-ii_exh_19811122_familiaris-consortio.html.
- 21 CDF, *Dignitas personae*, n. 19.
- 22 CDF, *Dignitas personae*, n. 19.
- 23 For an extended discussion, see William E. May, "The Object of the Acting Woman in Embryo Rescue," in *Human Embryo Adoption: Biotechnology, Marriage, and the Right to Life*, Thomas V. Berg and Edward J. Furton, eds. (Philadelphia, PA: National Catholic Bioethics Center, 2009), 145.
- 24 CDF, *Dignitas personae*, n. 19, emphasis original, citing John Paul II, Address to the Participants in the Symposium on "Evangelium vitae and Law" and the Eleventh International Colloquium on Roman and Canon Law (May 24, 1996), in *Acta Apostolicae Sedis* 88 (1996): 943–44; and Edward J. Furton, "Embryo Adoption Reconsidered," in "Responses to *Dignitas personae*: Part II of II," ed. Edward J. Furton, *National Catholic Bioethics Quarterly* 10, no. 2 (2010): 333.
- 25 Also see John 13:14; Matthew 22:36–40.

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Trying to Live Forever? Christian Views on and Responses to Radical Life Extension

Bryan A. Just, MA | CBHD Event and Executive Services Manager

Introduction

Humanity has long had a fascination with extending life beyond the “normal” human lifespan. In literature as early as the *Epic of Gilgamesh* there are stories of those who seek to attain immortality. Legends of the Holy Grail, the Fountain of Youth, and the Philosopher’s Stone (used to create an elixir of life) have appealed to the imagination for centuries. Even in stories of pure fantasy, such as the popular Harry Potter series, characters such as the evil Lord Voldemort seek for ways to cheat death. Shows such as Netflix’s *Altered Carbon* (based on a novel by the same name) similarly explore what could happen if humanity found a way to collectively overcome biological death.

It is commonly accepted that the upper

limit for a human life is around 120 years.¹ However, there are now numerous attempts to overcome this boundary and achieve radical life extension (RLE)—extending the healthy human lifespan to hundreds or even thousands of years, if not indefinitely. When considering the possibility of radically extending the human lifespan and thereby putting off death, Christians experience an odd tension. On the one hand, we view death as an enemy, a force that, though conquered by Christ at his resurrection, is one to which all people still succumb, and thus one to be fought. On the other hand, death is seen as an inherent part of being an embodied creature, the final step in the journey of life and necessary for bringing us into full communion with our God and creator.²

To further complicate matters, the various methods proposed for achieving

RLE are quite diverse. One method proposes utilizing genetic intervention to identify a “longevity gene.”³ Another method, proposed by Aubrey de Grey, is called SENS (strategies for engineered negligible senescence) and involves reversing aging by halting and preventing the damage that builds up in our cells over time.⁴ Embryonic and adult stem cell research, cloning, organ and tissue replacement, and nanotechnology have all been put forward as potential pathways for ending aging.⁵ All of these lines of research are focused on preserving our physical bodies. But there is also a movement (often referred to as transhumanism) that seeks to use science and technology to improve humanity and the human condition. There are many different schools of thought within the transhumanist movement,⁶ but some of its more radical proponents desire to overcome the limitations of the biological body by merging the human and the machine, with the ultimate goal of separating the mind and the physical

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body entirely.⁷

This paper will explore various Christian responses to RLE. Its aim is not to be comprehensive so much as to be representative of different positions and the reasoning behind them. It will compare these perspectives, noting reasons for acceptance or rejection, and identify common themes raised by those weighing the permissibility of RLE for the Christian.

Classifying Objections

The ethical considerations raised by RLE cover a wide array of issues, from questions of equality of access and level of cost to consideration of whether it would even be good for humans to live significantly longer. Because of the variety of ethical considerations raised by RLE, it is helpful to divide the objections to it into a few categories. This will assist in both clarifying the nature and extent of the concerns and in comparing the various Christian responses.

One possible division is whether an objection is unique to RLE or more generic. Many objections raised against RLE also apply to multiple other (or even all) biotechnological interventions. These are concerns such as the potential expense of a procedure, accessibility of the intervention, difficulties in regulation, etc. These types of objections could also apply to other medical interventions such as surgery or vaccine development—how much will it cost, who gets it, and who decides? In contrast are objections unique to RLE. These include such concerns as whether RLE is consistent with “human nature,” whether it is “natural” for humans to die, or what problems might arise in a society where humans live hundreds or even thousands of years.

The objection that RLE could lead to overpopulation serves as a good example of how to apply this division. In theory, if RLE could be made available to all, and was successful enough to extend life

indefinitely, the earth would eventually become overcrowded and under-resourced. At first, it might seem as if this was an objection unique to RLE, as overpopulation would be a direct result of introducing RLE technology into society. However, though it is being considered as a result of RLE specifically, it is not actually an objection against RLE itself. There are other factors that could lead to overpopulation and lack of resources (and in fact, there are those who already worry that the human population will grow to an unsustainable size even without RLE).⁸ Thus, while this objection arises from a result of RLE, it is not unique to RLE, but one common to other interventions. Alternately, concerns over how the fabric of society would change when people can spend thousands of years accumulating wealth and power *is* unique to RLE. While any new technology can raise concerns about how society will be affected, this objection specifically looks at how extreme longevity affects society.

It can also be useful to divide objections into those that are cautionary versus those that are prohibitive. Cautionary objections are concerned about issues of logistics and are not opposed to RLE *per se* but rather how it might be implemented. For example, concerns about equity of access could be mitigated through universal health coverage or through advances that reduce the cost of an intervention to a manageable level. If a viable solution is presented, the objection is dissolved—i.e., if RLE is available to everyone, then access is no longer an objection. Most of these objections, then, are important to consider and think through but could potentially be overcome.

On the other hand, prohibitive objections typically involve foundational issues or definitions and are indicative of insurmountable problems that necessarily lead to a rejection of RLE. For example, the objection that RLE is contrary to human nature because death is a part of what makes us human leaves no room for solutions to be presented.

Short of a redefinition of the conception of “human,” that objection necessitates rejection of RLE.

At this point two clarifications are helpful. First, difficulty in overcoming an objection is not the same as an insurmountable objection. To return to the question of access, there are no simple solutions to this objection. Healthcare resources are limited, and determining who gets what is a perennial problem. The ultimate goal—ensuring that every person on earth has equal access to life-extending technologies—may be as difficult to achieve as RLE itself. However, even if some solutions to disparities of access are not feasible, they are not necessarily outside the realm of possibility. Thus, equality of access remains a cautionary objection, albeit a strong one.

Second, what is prohibitive for one person may not be prohibitive for another. This is frequently the case for objections that are unique to RLE. Concerns about whether RLE is consistent with one’s account of human nature will vary depending on how exactly one defines “human nature.” Whenever an objection such as this arises from someone’s base definitions and conceptions, it becomes very hard to develop any viable solutions, as most people will not easily alter these most basic beliefs. However, it is also possible for these conflicts to be present in the more general objections as well—for example, individuals will have different thresholds for determining what is enough access or a low enough cost. Thus, especially with the cautionary/prohibitive division, the categories are not concrete.

If the boundaries of the categories are not solid and could vary from person to person, one may question the purpose of having categories at all. Where they are beneficial, however, is in creating a framework for analyzing an individual or group’s reasoning for how they respond to RLE. If someone only puts forward generic objections,

they are likely to be cautious but ultimately accepting of RLE, since there are ways in which their objections can be answered. Alternatively, someone concerned with those objections unique to RLE will be more likely to oppose its pursuit. Even two people who voice the same objections can come to different conclusions if one sees their objections as cautionary while the other views them as prohibitive. The categories' usefulness, then, is best realized in comparing views.

Individual Christian Perspectives

Despite the fact that no technology to allow for RLE yet exists, there are already a number of authors writing from a self-professed Christian perspective on this issue. One of the few book-length treatments, entitled *Should We Live Forever? The Ethical Ambiguities of Aging*, comes from Gilbert Meilaender, a retired professor and former member of the President's Council on Bioethics. In this work, he does not make many definitive statements, but considers aging and life extension from several angles, raising many points for consideration, both positive and negative.

On the positive side, Meilaender recognizes that there are virtuous reasons, such as love for others and for life itself, that could be compelling enough to allow for RLE. Against those who have said that endless extension of life would not be pleasant for humans, he reminds his readers that the Christian does not have to think about this in the

abstract but has a new world with eternal life promised for them. In addition, humanity's ability to even pursue RLE (something unique to them and inconceivable in animals) speaks to some of the traits best associated with being human—creativity and freedom.

On the negative side, Meilaender proposes the prohibitive objection that we should think of a life not as something which should be extended forever, but which has a certain “shape” or “trajectory,” parts of which are aging, passing the torch to the next generation, and eventually dying. Since most forms of RLE seek to mitigate or prevent aging altogether, Meilaender sees these as distorting the natural shape of a human life, and not for the better.

He also has some cautionary worries, such as RLE leading to a diminished desire to procreate. If people cling to their own lives and become unwilling to produce and raise new generations, they disrupt the “succession of generations,” which he views as a key facet of humanity.⁹ Regarding the transhumanist quest to rid itself of the body, Meilaender is staunchly opposed. He also warns against the attitude that the aim of RLE is not to defeat death, but to defeat human contingency. While he writes that “there is in principle nothing wrong with trying to retard aging and extend human life,” he fears that actually doing so could result in humans failing to recognize their limits, experiencing diminished meaning in life, and ceasing

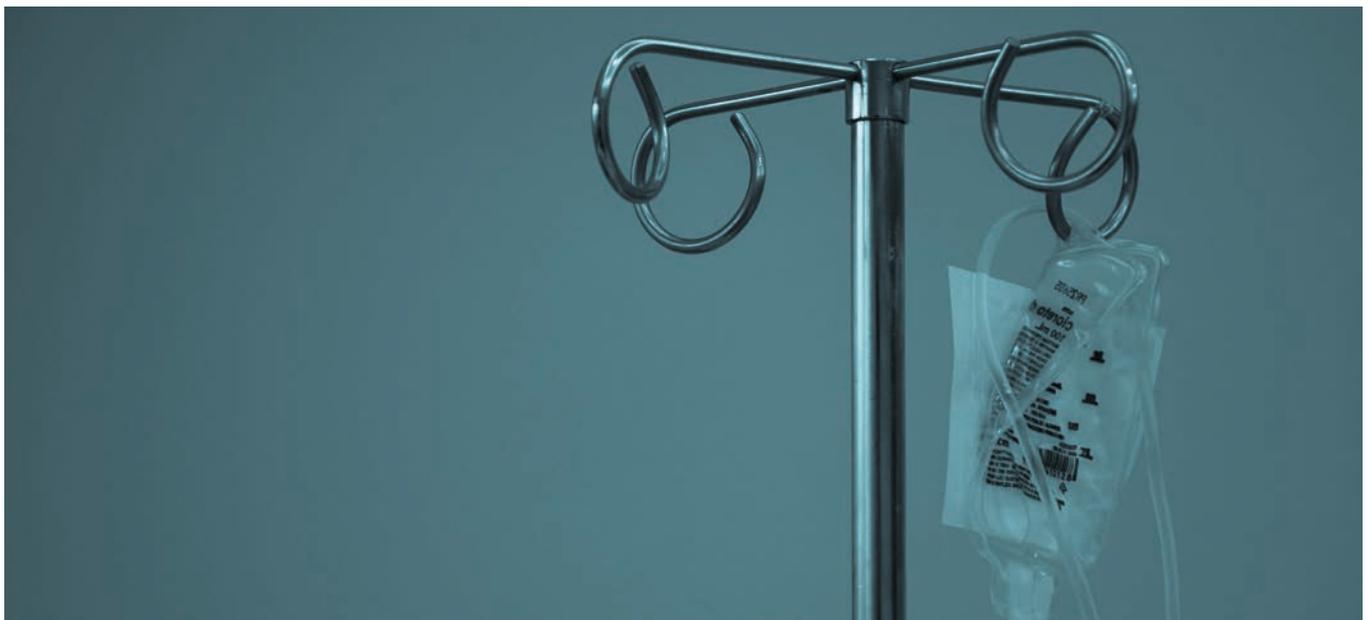
to view life as a gift.¹⁰

Ultimately, Meilaender concludes:

we are . . . drawn out of ourselves toward God, and satisfaction of that longing could not possibly come from more of this life, however long extended. . . . we can and should think it a blessing that our lives are of limited duration—not because this life is not good, but because it cannot finally bring the completion needed for us to truly flourish.¹¹

For Meilaender, while most of his objections could be classified as cautionary, taking them together they become prohibitive, leading him to conclude that RLE should be rejected not because there is anything inherently wrong with it, but because it cannot ultimately gratify the deepest human desires it attempts to satiate.

Most other books on RLE are multi-author works, such as *Religion and the Implications of Radical Life Extension*, which includes perspectives from a host of religions. In their chapter “Be Careful What You Wish for? Radical Life Extension *coram Deo*: A Reformed Protestant Perspective,” Nigel Cameron and Amy DeBeats point out that, despite some people's confusion, there is actually a big difference between RLE and transhumanism. While RLE is a central tenet of the transhumanist agenda, for them it is not an end goal, but merely



a waypoint on the quest for a virtual/digital existence—a search for “radical RLE.”¹² Thus, while Cameron and DeBeats reject transhumanism and offer several cautions for general life extension, they are not opposed to “the idea that, if science and medicine permit, human life may continue to extend beyond the range of today’s experience.”¹³ On the societal level, their cautionary objections include questions of affordability and access, resource usage, overpopulation, exacerbation of wealth and healthcare disparities, displacement of research focus, and centralization of power and influence.¹⁴

In the religious sphere, Cameron and DeBeats see mixed potentials for RLE, offering a few points in its favor as well as more cautionary objections. An extended lifespan could provide people more time to spread the Gospel, but the removal of death as an inescapable part of life could also lead to people ignoring their mortality. With many more years to live, people could more easily be multi-vocational, even taking years off of their careers to serve the church; but they could just as easily use the extra time as an excuse to live for themselves, thinking they have time for the “church stuff” later. Intergenerational conflicts could become a much greater problem as many more generations tried to worship together. And there would certainly be effects on marriages and families, as staying faithful to a single spouse looks very different when a marriage lasts not 50–70 years but potentially hundreds.¹⁵

Theologically, Cameron and DeBeats point out the tension Christians have between valuing life (often forbidding abortion, suicide, euthanasia, etc.) while at the same time valuing death as the entry point into eternal life with God. They also point to Jesus’ healing ministry while on earth as caring for the whole person, leading to the conclusion that “medicine is meant to continue in that tradition of healing.” Therefore,

to the extent that RLE technologies serve to heal people of their

diseases and to restore them to physical and mental wholeness, they can be seen as in line with the ministry of healing. But to the extent that they seek to bypass the human and to recreate human beings into something else, they claim to usurp the resurrection, which is God’s alone.¹⁶

Finally, they warn of RLE’s potential to become an idolatrous focus for the Christian, pulling attention away from God and onto the self, and of the need for care and responsibility when using anything with such potential for great good or harm.¹⁷ Their conclusion seems to be that there are a number of difficulties for the Christian who wishes to pursue RLE, but most of them (as long as they do not take a transhumanist route) are neither prohibitive nor insurmountable.

In the same book, Ronald Cole-Turner’s chapter “Extreme Longevity Research: A Progressive Protestant Perspective” presents another affirmative picture of RLE. Cole-Turner makes a distinction between the resurrection life offered through Christ and the life offered through RLE and concludes that the two are in entirely different classes. Furthermore, he posits that proponents of RLE and Christians view life differently—while RLE promises youth and vigor, Jesus calls Christians to lose their lives in order to find true life. With this difference in mind, Cole-Turner cautions against the potential for technology to turn our focus inward and away from being a living sacrifice for God. However, rather than rejecting RLE, he concludes:

there is risk but no essential conflict. The risk is that life extending technology might become just another way in which we try to “save our own life,” specifically in such a way that, according to Jesus, saving it means losing it. . . . The irony here is obvious: technology that offers a self-preserving and self-isolating

eternity may in the end offer nothing but hell. The risk, in other words, is not trivial. But what is not clear is that a decision to use these technologies and extend one’s life is necessarily a decision rooted in selfishness or self-isolation. If it is rooted in quite a different desire, for example, a longing to serve or to grow further into the experience of spiritual transformation, then the use of these technologies might be an aid rather than a risk to faith.¹⁸

For Turner, then, his objections are strictly cautionary. RLE itself is not the problem, but rather the motivation from which it is undertaken. If done for the right reasons, RLE is a licit option for Christians.

Turner has also edited a book that expounds a great deal upon life extension, *Transhumanism and Transcendence*. Though the essays within are primarily focused on transhumanism in general, RLE is so tied to transhumanism’s objectives and worldview that many of the chapters end up dealing with RLE in some capacity. While space does not permit a detailing of every author’s opinions, some distinctive themes arise. In his chapter “Chasing Methuselah: Transhumanism and Christian *Theosis* in Critical Perspective,” Todd Daly uses Athanasius and Karl Barth to demonstrate two ways in which Christians should approach life-extending technology. He writes,

If Athanasius’s reflections on the first Adam remind us *positively* that the process of slowing aging is inextricably intertwined with the moral project of bringing one’s body under the control of one’s Word-guided soul, Barth’s reflections on the second Adam . . . remind us *negatively* that modifying the body to allay fears of death and aging can never effectively mitigate the fear that dwells in one’s soul.¹⁹

While Daly is ultimately critical of the goals of transhumanism, he leaves open the possibility that life extension could be acceptable for the Christian if it is subsumed “under the greater goal of being formed in Christ’s image.”²⁰

Brent Waters’ chapter in the same volume takes a decidedly more negative perspective on life extension, including some arguments that would seem to be prohibitive, not merely cautionary. He concludes that finitude, mortality, and death are

a necessary feature of being a creature that has been created by a good God. . . . In consenting to the necessity of death, they affirm the goodness of the one who created them. And remaining creaturely as they await their redemption is a good well worth defending, a good that should inform a theological and moral imagination that claims to be Christian.²¹

It is difficult to say more in analyzing Waters’ position here because his approach is so tied to his analysis of transhumanism. Most of his reasoning to reach this conclusion relates not to RLE itself, but to the underlying worldview driving the transhumanist agenda. Thus, while the chapter under consideration might seem to be offering strictly prohibitive objections, in a different, earlier essay Waters wrote

Does the preceding argument imply that Christians should not resist aging and death? No, for in affirming the finite and embedded character of our status as creatures, medicine is a useful instrument in assisting us in pursuing our respective callings and vocations. Extended longevity and enhanced performance, however, are not the proper ends of medicine, but residual benefits. The proper goal of medicine is not to improve the prospects of individual survival, but is a concrete act enabling the love of God and neighbor.²²

Thus, Water’s position is not against all life extension, potentially allowing for it as a side effect of other medical interventions. Nevertheless, according to him life extension should not be pursued for its own sake, which would likely rule out RLE.

A final essay from *Transhumanism and Transcendence* by Gerald McKenny deals with ideas of transcendence and makes a distinction between Christian and transhumanist approaches to limitations. He condemns trying to throw off dependence and limitation entirely, as this would be a rejection of how God has made us. His concerns are largely cautionary, however, as McKenny accepts that it is permissible to “chip away at human limitations”—to improve ourselves, even in terms of our lifespan, within the limits of human finitude.²³

The book *Future Perfect: God, Medicine, and Human Identity* also contains several essays applicable to RLE. Though he does not raise any specifically theological points, Ulf Görman posits that life extension might be allowed as a result of medical treatments for disease but should not be pursued for its own sake. His primary reason is a prohibitive one—the attempt to alter humans so that they live forever might inadvertently weaken some key aspect of being human, especially in the relational sphere.²⁴ In another essay, Celia Deane-Drummond raises several matters regarding RLE. She is especially concerned about how Christian eschatology plays into its acceptance, the ways in which proponents of RLE follow socio-cultural rather than biblical values, and the social injustices that would likely be exacerbated by RLE technologies. However, while she raises many points of caution, she does not provide definitive answers to whether RLE is off the table or if there are ways which it could be morally practiced by the Christian.²⁵

Though a different medium, Stephen H. Williams’ address given at the conference *Bioethics & Being Human* puts forth several prohibitive reasons why Christians should not support

RLE that are quite distinct from those raised above. Despite some superficial similarities between Christians and proponents of RLE, such as a desire to promote human flourishing and eliminate disease, he believes that there are crucial differences. Yes, Christians want to support human flourishing, but what about the Bible’s commands to be content in whatever situation? Additionally, Williams rejects lines of reasoning for RLE that depend on arguments about the “intended” state of humanity pre-fall—we simply do not know enough about what life would have been like in Eden to make any normative claims. The same is true for eschatology—Paul tells us we will be raised in a spiritual body, but what exactly this means is again a source of speculation. What is certain, however, is that we cannot “leap” from what we are now to what God has in store for us. According to Williams, “The redemption of the body is not for now, it’s for later, and when our Lord describes the normal Christian life, he speaks in terms of self-denial, and suffering, and carrying our cross.”²⁶

Williams also argues that human flourishing from a Christian perspective must take our current fallen state into account. In Genesis 6, God deliberately shortens the human lifespan. If God has done this, Williams asks, why should we try to extend it? Could this not simply extend sin’s reign on the earth? Finally, he raises the example of Babel and its window into fallen humanity’s pride and anxiety. It represents humans striving to achieve on their own terms what God might give on his. It is a part of Genesis’ larger theme of dominion gone wrong. Thus, “we ought to approach with suspicion technologies which seek to advance, according to their own agenda, human well-being as they [their developers] conceive it.”²⁷ Williams concludes that we will have to become comfortable with tensions between fighting and accepting sickness and disease, allowing some enhancements and forbidding others, and that these decisions should not be made

individually, but through Christians working in community together.

Another voice of opposition to RLE comes from Albert Mohler, president of Southern Baptist Theological Seminary. In an interview, he stated:

the transhumanists [sic] increasingly see death as an oddity that is to be overcome. Christians certainly do not embrace death as a good in itself, but we understand that death is a part of what it means to be human, and that, indeed, the effort to forever forestall death is itself an act of defiance that will be both unworkable and morally suspect.²⁸

Unlike others who have spoken against transhumanism, Mohler does not appear to make a distinction between the transhumanist agenda and extending life through other means. For him, his concerns are truly prohibitive; if death is an essential aspect of being human, then RLE cannot be morally pursued unless we are willing to become something other than human.

Denominational and Organizational Statements

In addition to noting what individual Christian authors have said regarding RLE, it is instructive to see what Christian denominations and organizations have said. A helpful resource for those looking for such statements is the Christian Biowiki, an online resource curated by The Center for Bioethics & Human Dignity that compiles major denominations' statements on bioethical issues.²⁹ The Christian Biowiki has two categories related to RLE—Human Enhancement and Transhumanism/Posthumanism. A survey of these categories reveals that, of the 48 denominations they have cataloged, only five have any kind of statement on human enhancement—Assemblies of God (USA), Church of the Nazarene, Roman Catholic Church, Seventh-Day Adventist Church, and United Methodist Church—and none

of these say anything directly regarding life extension.³⁰ This fits with a study done by the Pew Research Center, which, as of 2013, concluded that “no religious group in the United States has released an official statement on radical life extension.”³¹ Christian Biowiki does list one Christian organization that has statements in the human enhancement category (National Association of Evangelicals), but that statement does not specifically address RLE.³²

Statements on Human Enhancement

Despite this lack of specific engagement, what denominations have said about human enhancement more generally gives some insight into how they might respond to RLE. As none of the statements address RLE directly, any concerns raised will of necessity be generic ones. The statements themselves pertain specifically to genetic therapy/engineering/enhancement, but many also have things to say about biotechnology more generally. Most of the statements affirm the use of biotechnology for the purpose of fighting disease, but are hesitant, if not outright opposed, to using it for non-therapeutic reasons. For example, The Assemblies of God statement indicates that they do not want to limit all research on the modification of human life, but urge caution: “We call on everyone engaged in scientific and medical research to find a standard of ethical and moral conduct, to articulate it clearly so all of society understands the premises on which any such research and experimentation is conducted. We believe God’s inspired and authoritative Word, the Bible, is that standard.”³³ Thus, though they have cautionary concerns, they neither affirm nor reject any particular use of biotechnology.

In contrast, The Church of the Nazarene focuses more on potential social ramifications: “We oppose any use of genetic engineering that promotes social injustice, disregards the dignity of persons, or that attempts to achieve racial, intellectual, or social superiority over others (eugenics). . . . In all cases, humility, a respect for the inviolable

dignity of human life, human equality before God, and a commitment to mercy and justice should govern genetic engineering and gene therapy.”³⁴ Likewise, the Seventh-Day Adventist statement raises several social concerns (such as resource usage) and presents many questions but provides no definitive answers. It concludes, however: “It is a Christian responsibility to prevent or relieve suffering whenever possible . . . the primary purpose of human genetic intervention should be the treatment or prevention of disease and the alleviation of pain and suffering.”³⁵ Again, while this is in the context of genetic intervention, it would seem the same principles could apply to RLE, especially since genetic manipulation is one of the methods under investigation for achieving RLE.

In the same way, the United Methodist Church urges regulations and “public accountability” in response to genetic engineering. They temper permission with caution: “The responsibility of humankind to God’s creation challenges us to deal carefully with and examine the possibilities of genetic research and technology in a conscientious, careful, and responsible way. We welcome the use of genetic technology for meeting fundamental human needs for health and a safe environment.”³⁶ For each of these denominations, their concerns are for the most part cautionary—they want society to be careful and equitable in its use of biotechnology, but would seem to have little problem with utilizing it if proper safeguards are in place.

These statements, all of which could be read as providing tentative permission for genetic and even RLE technologies (if used in a responsible manner), stand in contrast to the Roman Catholic Church’s position. Their 2008 statement *Dignitas Personae* makes acceptance of RLE unlikely: “The statement on genetic engineering for purposes other than medical treatment says that it is too closely associated with the idea of eugenics and humanity controlling itself by setting its own criteria on itself. The church instead encourages care for other

people and of accepting human life in its concrete historical *finite* nature.”³⁷ While not definitive, it seems likely that the Catholic Church would rule out RLE based on this statement.

The sole organization in this category, the National Association of Evangelicals, has several things to say about the kinds of technology that would be used for human enhancement (and thus, RLE): “fundamental changes in human physiological nature using biotechnology, genetics, nanotechnology, artificial intelligence, and other means must be prohibited;”³⁸ and “any technology that attempts to modify or eradicate the essential uniqueness of human beings among God’s good creation should be rejected.”³⁹ How exactly this applies to RLE, and if there are any types of RLE that would be deemed acceptable, are less clear. Nevertheless, these would seem to be prohibitive, not just cautionary, concerns, and it seems safe to say that they would approach any such technologies with at least suspicion, if not outright rejection.

Statements on Transhumanism/ Posthumanism

Under the category Transhumanism/Posthumanism, the Christian Biowiki lists no denominations as having a statement on the issue, although there is one organization, the Christian Medical and Dental Associations (CMDA), that does.⁴⁰ This group affirms “that immortality can be achieved only by the saving work of Jesus Christ (1 John 5:12); utopian false promises of re-engineered, matter-based, so-called technological immortality are an idolatrous illusion and a counterfeit salvation.”⁴¹ While this could be taken as a clear-cut denial of RLE, matters are a little more complicated. Because this comes from CMDA’s position statement on human enhancement, it is less than clear what they are referring to by “re-engineered, matter-based, so-called technological immortality.” The statement defines re-engineering as

Efforts to alter the substrate,

structure or function of a given genetic, anatomical or physiological state or function. Re-engineering technologies seek to “improve” upon traits that are within or supersede normal levels and make them “superhuman.” Re-engineering efforts are not directed at healing or restoration but at change simply because change is desired. Re-engineering, a more objective term than “enhancement,” is a repudiation of normal human life and its Creator.⁴²

In the same statement, CMDA states: “The goals of medicine are to cure disease, restore lost function, palliate symptoms, enable living with disease or disability, and prevention of disease through stewardship. Human re-engineering, however, is not included in or compatible with the goals of medicine.”⁴³

Clearly, CMDA’s statements are prohibitive towards transhumanist approaches to enhancement such as cognitive uploading or turning humans into cyborgs. CMDA would also likely reject the possibility of genetic alteration for the purpose of extending life. It is less clear, however, if they would forbid RLE on the SENS model, which frames its goals as repairing damage to the body. This could easily fit under the goals of restoring lost function or preventing disease (many of which appear as a direct result of aging), and might not fall under the category of re-engineering, as it is returning the body to a previously held state, not altering its basic functions. Without further information, however, it is unknown how they would rule on specific methods of RLE.

One organization not included on the Christian Biowiki that bears mention is the Christian Transhumanist Association. This group, founded in 2013, and in contrast to most of those considered, sees Christian theology and transhumanism as complimentary, not contradictory. Their website offers no official perspective on RLE, but several

of their core affirmations (such as “we seek growth and progress along every dimension of our humanity: spiritual, *physical*, emotional, mental”) would seem to indicate they would fully support Christians pursuing RLE.⁴⁴

The lack of engagement by Christian denominations on issues of RLE is not necessarily noteworthy. It has historically been the case in the American church that bioethical issues do not receive broad Christian attention until after some major events brings an issue national attention.⁴⁵ Since RLE remains speculative, it is unsurprising that dedicating time and resources to responding to it has not been made a priority among most denominations. This is not to say, however, that there is no need for concern. It is generally better for ethical reflection to work ahead of available technology, not behind it, giving time for people to fully appreciate the issues and reach informed conclusions. Clearly, the church has work to do to prepare itself in case RLE becomes a reality.

Analysis

Having considered all of these responses, several common themes have emerged. It is apparent that there is no consensus among Christians as to whether RLE technologies should be allowed. There is a relatively even split among those who accept and those who reject RLE, with many others who do not offer a definitive resolution. Among those who allow for RLE, the most common reason is that healing and fighting disease are goods which Christians should pursue. Common to all of those in favor was an acknowledgement of the risks involved, especially the risk of life extension becoming idolatrous, but with the conclusion that the risks were not prohibitive but cautionary.

For those who oppose seeking life extension, virtually all brought up the idea that RLE goes against some of the fundamental aspects of being human, such as dependence, contingency, or mortality. Several have even said that

death is an essential part of being human. These are clearly prohibitive concerns that rule out any possibility of pursuing RLE. Others pointed out the social risks, such as the exacerbation of inequality. Here especially the earlier discussion of prohibitive verses cautionary objections becomes salient, as not all of those who raised these concerns came to the same conclusions as to RLE's acceptability. For example, Deane-Drummond is quite worried about the social ramifications of RLE. However, while her concerns would seem to forestall RLE, it is unclear whether they are truly prohibitive or if she would allow it if these could be mitigated. Others, such as Cameron and DeBeats, address the same concerns, but as cautions, while still being open to the possibility of RLE. So too the denominational statements nearly all bring up social concerns as cautions, but with the implication that there are ways in which new technologies, possibly including RLE, could be licitly used.

Finally, common to the majority of those considered, whether they were in favor of RLE or not, was the conclusion that how it was pursued matters. Those who approved of RLE were cautious about methods which treated the physical body as disposable. Almost none of the individuals or groups analyzed were in favor of the transhumanist program,

opposing both their goals and their underlying worldview. There are some exceptions, such as Cole-Turner (who is on the Academic Advisory Council of the aforementioned Christian Transhumanist Association), although even he raised some cautionary concerns. Common to all of the advocates, then, was a feeling that those doing or applying this research should proceed with caution.

Conclusion

As the church engages the issues around RLE, it is helpful to have some common language that can be used to compare and contrast the concerns raised by those considering whether it can be pursued licitly. Recognizing what issues are unique to RLE verses common to other biotechnologies, or whether objections are cautionary ones which could be overcome or completely prohibitive, can help those writing about these issues better articulate their positions. It can also help others to better weigh the various positions as they seek to determine what uses of technology are acceptable or if there are any lines we should not cross, even if we have the ability to do so. Given that RLE technology does not yet exist, there are still many unknowns, and many ethicists are hesitant to make definitive statements on permissibility when crucial aspects

like the mechanisms for achieving RLE are still unknown. Since it is impossible to address every speculative avenue of pursuing RLE, the ability to classify concerns can assist with understanding the reasoning behind them and in applying them to various methods of RLE should one or more ever become successful.

The prospect of radically extending the human lifespan has been, and continues to be, one that draws people's attention. There is still a great deal of ethical reflection that needs to take place regarding the permissibility of RLE for the Christian. The tension between the competing goods of seeking long and healthy lives and accepting death as the means by which we enter into God's presence is one that we must continue to wrestle with. Fortunately, the church is not starting from scratch. Plenty of theologians and ethicists have already begun the task of thinking through the issues and making preliminary (or even more definitive) recommendations. The current lack of response denominationally is somewhat concerning, but there is still time. If Christians could recognize the importance of this issue and begin their reflection on it now, it could go a long way toward helping them decide whether or not to make use of RLE technologies should they ever become available. ●●●

- 1 Xiao Dong, Brandon Milholland, and Jan Vijg, "Evidence for a Limit to Human Lifespan," *Nature* 538, no. 7624 (2016): 257–59, <https://doi.org/10.1038/nature19793>.
- 2 This tension is famously expressed by the apostle Paul in Philippians 1:21: "For to me to live is Christ, and to die is gain" (ESV).
- 3 See, for example, David B. Friedman and Thomas E. Johnson, "A Mutation in the Age-1 Gene in *Caenorhabditis Elegans* Lengthens Life and Reduces Hermaphrodite Fertility," *Genetics* 118, no. 1 (1988): 75–86; as well as Cynthia Kenyon et al., "A *C. Elegans* Mutant That Lives Twice as Long as Wild Type," *Nature* 366, no. 6454 (1993): 461–64, <https://doi.org/10.1038/366461a0>.
- 4 Aubrey de Grey and Michael Rae, *Ending Aging: The Rejuvenation Breakthroughs That Could Reverse Human Aging in Our Lifetime* (New York: St. Martin's Press, 2007), 28–29.
- 5 For a comprehensive treatment of the history behind many of these experiments, see Hall, *Merchants of Immortality*. See also Derek F. Maher and Calvin R. Mercer, "Introduction: Living for 1,000 Years—or Longer," in *Religion and the Implications of Radical Life Extension* (New York: Palgrave Macmillan, 2009), 5–11.
- 6 See Hank Pellissier, "Transhumanism: There are [At Least] Ten Different Philosophical Categories; Which One(s) are You?" Institute for Ethics and Emerging Technologies, July 8, 2015, <https://ieet.org/index.php/IEET2/more/pellissier20150708> for an overview of several different varieties of transhumanism.
- 7 For one of the most famous examples of this program, see Ray Kurzweil, *The*

- Age of Spiritual Machines: When Computers Exceed Human Intelligence* (New York, NY: Penguin, 2000), especially chapters 6 and 7. See also Ray Kurzweil, "The Evolution of Mind in the Twenty-First Century," in *Are We Spiritual Machines? Ray Kurzweil vs. the Critics of Strong AI*, ed. Jay W. Richards (Seattle, WA: Discovery Institute, 2002), 12–55.
- 8 See, for example, the work of the Center for Biological Diversity, which has several initiatives aimed at curbing human population growth: Center for Biological Diversity, "Tackling the Population Problem," biologicaldiversity.org, accessed July 12, 2021, https://www.biologicaldiversity.org/programs/population_and_sustainability/population/.
- 9 Gilbert Meilaender, *Should We Live Forever: The Ethical Ambiguities of Aging* (Grand Rapids, MI: Eerdmans, 2013), 73. Meilaender is not alone in this concern; for a survey of the correlation between rising life expectancy and declining birth rates, see Ephraim Radner, *A Time to Keep: Theology, Mortality, and the Shape of a Human Life* (Waco, TX: Baylor University Press, 2016), 21–30.
- 10 Meilaender, *Should We Live Forever*, 85.
- 11 Meilaender, 113.
- 12 Nigel M. de S. Cameron and Amy Michelle DeBeats, "Be Careful What You Wish for? Radical Life Extension Coram Deo: A Reformed Protestant Perspective," in *Religion and the Implications of Radical Life Extension*, ed. Maher and Mercer, 40–41.
- 13 Cameron and DeBeats, 41.
- 14 Cameron and DeBeats, 41–43.

- 15 Cameron and DeBeats, 43–44.
- 16 Cameron and DeBeats, 45.
- 17 Cameron and DeBeats, 45–49.
- 18 Cole-Turner, “Extreme Longevity Research,” 59–60.
- 19 Todd T. W. Daly, “Chasing Methuselah: Transhumanism and Christian Theosis in Critical Perspective,” in *Transhumanism and Transcendence: Christian Hope in an Age of Technological Enhancement*, ed. Ronald Cole-Turner (Washington, D.C.: Georgetown University Press, 2011), 139.
- 20 Daly, 140. Subsequent to the writing of this article Daly published his own book-length treatment of RLE entitled *Chasing Methuselah: Theology, the Body, and Slowing Human Aging* (Eugene, OR: Cascade Books, 2021).
- 21 Brent Waters, “Whose Salvation? Which Eschatology? Transhumanism and Christianity as Contending Salvific Religions,” in *Transhumanism and Transcendence*, ed. Cole-Turner, 174.
- 22 Brent Waters, “Saving Us from Ourselves: Christology, Anthropology, and the Seduction of Posthuman Medicine,” in *Future Perfect? God, Medicine and Human Identity*, ed. Celia Deane-Drummond and Peter Scott (London: T & T Clark International, 2006), 194–95.
- 23 Gerald McKenny, “Transcendence, Technological Enhancement, and Christian Theology,” in *Transhumanism and Transcendence*, ed. Cole-Turner, 188.
- 24 Ulf Görman, “Never Too Late to Live a Little Longer? The Quest for Extended Life and Immortality—Some Ethical Considerations,” in *Future Perfect? God, Medicine and Human Identity*, ed. Celia Deane-Drummond and Peter Scott (London: T & T Clark International, 2006), 143–54.
- 25 Celia Deane-Drummond, “Future Perfect? God, the Transhuman Future and the Quest for Immortality,” in *Future Perfect?* ed. Deane-Drummond and Scott, 168–82.
- 26 Stephen Williams, “Biotechnology and Human Flourishing in Christian Perspective” (plenary address, The Center for Bioethics & Human Dignity’s 2018 Annual Conference, *Bioethics & Being Human*, Deerfield, IL, June 23, 2018), <https://cbhd.org/content/biotechnology-and-human-flourishing-christian-perspective>.
- 27 Williams.
- 28 Elaine Jarvik, “Shall We Enhance?” *Desert Morning News*, January 7, 2006, <https://www.deseretnews.com/article/635174444/Shall-we-enhance.html>.
- 29 “About,” Christianbiowiki, February 4, 2019, <http://christianbiowiki.org/wiki/index.php/About>.
- 30 “Human Enhancement,” Christianbiowiki, March 27, 2019, http://christianbiowiki.org/wiki/index.php/Category:Human_Enhancement.
- 31 “Religious Leaders’ Views on Radical Life Extension,” Pew Research Center, August 6, 2013, <https://www.pewforum.org/2013/08/06/religious-leaders-views-on-radical-life-extension/>.
- 32 “Human Enhancement.”
- 33 Commission on Doctrinal Purity and the Executive Presbytery, “Medical: Genetic Alteration and Cloning,” n.d. As of the writing of this paper, this document cannot be found online in the Assembly of God’s list of position papers, and links from other sites (such as the Christ Biowiki) are not working. Whether this is the result of them repealing this decision, or simply an error, is not known. Either way, this statement was ostensibly in effect as of the last review of its page on the Biowiki, which was in June of 2018. “Talk: Assemblies of God,” Christian Biowiki, [http://christianbiowiki.org/wiki/index.php/Talk:Assemblies_of_God_\(USA\)](http://christianbiowiki.org/wiki/index.php/Talk:Assemblies_of_God_(USA)).
- 34 Church of the Nazarene, *Manual: 2017-2021* (Kansas City, MO: Nazarene Publishing House, 2017), 30.2.
- 35 General Conference of Seventh-day Adventists Administrative Committee, “Christian Principles for Genetic Interventions,” June 3, 1995, <https://www.adventist.org/documents/christian-principles-for-genetic-interventions/>.
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- 37 Congregation for the Doctrine of the Faith, “*Dignitas Personae*,” 2008, 3.27, http://www.vatican.va/roman_curia/congregations/cfaith/documents/rc_con_cfaith_doc_20081208_dignitas-personae_en.html (emphasis added).
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- 40 “Transhumanism/Posthumanism,” Christianbiowiki, March 29, 2019, <http://christianbiowiki.org/wiki/index.php/Transhumanism/Posthumanism>.
- 41 CMDA House of Representatives, “Position Statements: Human Enhancement,” April 30, 2015, <https://cmda.org/position-statements/>.
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- 43 CMDA House of Representatives, “Position Statements: Human Enhancement.”

TOP BIOETHICS NEWS STORIES: DECEMBER 2019 - MAY 2020

Heather Zeiger, MS, MA | CBHD Research Analyst

“Chinese Scientist Who Edited Babies’ Genes Jailed for Three Years” by Ian Sample, *The Guardian*, December 30, 2019

A Chinese court has sentenced He Jiankui, the scientist who sparked global controversy last year when he claimed to have created the world’s first “gene-edited” children, to three years in prison for violating medical regulations. He shocked the scientific community when he announced at a conference in Hong Kong that he had created genetically modified twin sisters, dubbed Lulu and Nana, and that a third child was on the way. (<https://tinyurl.com/35bbkmes>)

In November 2018, He Jiankui, associate professor at Southern University of Science and Technology in Shenzhen, announced at a conference in Hong Kong the birth of twin girls who were genetically modified as embryos using CRISPR-Cas9. This was met with global criticism. One of the problems with CRISPR is the potential for off-target edits to the genome. In December 2019, He was found guilty of violating research regulations and conducting “illegal medical practice.” He is banned from working in human reproductive technologies. Before He Jiankui received his sentence from a Shenzhen court, *MIT Technology Review* published excerpts from the unpublished original paper, which showed He Jiankui’s team did not reproduce the CCR5 variant that would ostensibly give the twins immunity to HIV, but instead made a new type of genetic mutation with unknown consequences.

“Against All Odds’: The Inside Story of How Scientists Across Three Continents Produced an Ebola Vaccine” by Helen Branswell, *STAT News*, January 7, 2020

The reality was that, for years, scientists who studied Ebola, which belongs to a family of viruses called filoviruses, had poured their hearts into work to develop vaccines and drugs to combat these deadly scourges. And for years, they had seen promising work smash up against unscalable walls. There was no potential for drug makers to recoup development costs; and, with outbreaks only sporadic, there was little opportunity to subject experimental vaccines to rigorous tests. (<https://tinyurl.com/36hwsuk9>)

The Ebola outbreak in the Democratic Republic of Congo continued into the spring of 2020 with containment and medical care sometimes thwarted by political in-fighting and unrest. Authorities thought the outbreak had abated by April 2020, only to find several more cases pop up. In December 2019, the U.S. Food & Drug Administration approved Ervebo, the first vaccine to prevent Ebola virus disease. The vaccine was developed by Merck. Notably, Johnson & Johnson also has an Ebola vaccine that is currently being used in a new Ebola outbreak. The Merck vaccine uses a vesicular stomatitis viral vector while Johnson & Johnson vaccine uses the same adenovirus vector that is used in its COVID-19 vaccine.

“Dutch Court Allows Euthanasia in Advanced Dementia Cases” by Mick Krevier and Amy Woodyatt, *CNN*, April 22, 2020

Doctors in the Netherlands may legally euthanize patients with severe dementia who previously provided a written request for the procedure, the country’s highest court ruled Tuesday. In the landmark decision, the court said that a physician may respond to a written request for euthanasia made before someone develops advanced dementia, provided certain legal requirements are met—even if the patient’s condition means they become unable to confirm that request. (<https://tinyurl.com/4n8jkh5>)

The Netherlands and Belgium reported an increase in requests for euthanasia in 2019 compared to 2018, with the Netherlands reporting a 22% increase in requests compared to the previous year, and Belgium reporting a 12% increase. In April the Dutch Supreme Court approved doctors performing euthanasia for patients with advanced dementia if the patient had requested euthanasia prior to developing advanced disease. Critics have worried about the slippery slope of allowing euthanasia.

“The World’s Scariest Facial Recognition Software, Explained” by Rebecca Heilweil, *Vox*, May 8, 2020

Law enforcement has been using facial recognition for a while. But Clearview’s technology represents a scary step further than anything we’ve seen before, according to reporting from the *New York Times*. The secretive company says it’s created a database of over 3 billion images that have been scraped from all corners of the internet, including social networks like Facebook, Instagram, and YouTube. From just a snapshot or video still, Clearview claims its app lets a police officer identify a face and match it with publicly available information about the person, within just a few seconds. (<https://tinyurl.com/nmya9rsu>)

Facial recognition technology is going to continue to be an issue as societies decide whether security is worth compromising certain freedoms. China has rolled out facial recognition technology to an alarming degree with the aim of eventually having eyes on every part of the country. In the U.S. Clearview AI has developed facial recognition tech that matches faces in videos with its extensive database of pictures from social media and other personal online data. Law enforcement can use it to match a photo with a person’s online profile. Clearview has also allowed private users to purchase the use of its database. Critics of facial recognition technology say it is an invasion of privacy and the algorithms can be biased and inaccurate, particularly when identifying people of color. *STAT News* reported in May 2020 several states have considered using facial recognition technology for contact tracing.

“Ethics Questions Swirl Around Historic Parkinson’s Experiment” by Sharon Begley, *STAT News*, May 14, 2020

A secretive experiment revealed this week, in which neurosurgeons transplanted brain cells into a patient with Parkinson’s disease, made medical history. It was the first time such “reprogrammed” cells, produced from stem cells that had been created in the lab from the man’s own skin cells, had been used to try to treat the degenerative brain disease. But it was also a bioethics iceberg, with some issues in plain sight and many more lurking. (<https://tinyurl.com/5afkye6c>)

The experiment was approved by the FDA for compassionate use. However, bioethicists question whether the patient, former physician and businessman George Lopez, could really give informed consent to the procedure since he had funded the research. Lopez worked with Kwang-Soo Kim, who thought the best cells for replacing Parkinson’s patient’s faulty brain cells were iPSCs derived from the patient’s skin. After two surgeries, Lopez improved, although he is not cured from Parkinson’s disease. There is some question as to whether the improvement is due to the iPSC transplant, the interaction with the brain tissue during surgery, or the placebo effect (which is common in Parkinson’s patients). Additionally, bioethicists question whether this is a case of bending science to satisfy a wealthy donor. Researchers said it would have been better if Kim had published or presented his experiment before 2020, almost 2 years after the first surgery. ●●●

TOP BIOETHICS NEWS STORIES: JUNE 2020 - NOVEMBER 2020

Heather Zeiger, MS, MA | CBHD Research Analyst

“Balls of Cells Mimic an Unseen Stage of Human Embryo Development” by Kelly Servick, *Science*, June 11, 2020

After a human sperm and egg unite, a new embryo spends its first few weeks looking blobby. There’s no obvious top or bottom, and it is unclear which cells will give rise to which body parts. After about 14 days, the embryo elongates and forms layers, revealing a rough plan for the body. But this dramatic transformation, called gastrulation, has never been directly observed in human embryos: Growing them to this stage in a lab is technically difficult and ethically fraught. Now, researchers have made structures from human stem cells that mimic some features of embryos after gastrulation, an advance that could reveal how genetic mutations and chemical exposures can lead to miscarriages and birth defects. (<https://tinyurl.com/2m85a2mw>)

Researchers seeking to circumvent the 14-day rule used a line of embryonic stem cells that self-assembled after three days to form something that looked and behaved like an 18–21 day old human embryo, although these embryo-like entities were missing some key features of human embryos. These entities are made from embryonic stem cells, which require the destruction of an embryo.

“Crisis Hits Lebanon’s Hospitals, Among the Best in Mideast” by Sarah El Deeb, *Associated Press*, July 22, 2020

Lebanon’s hospitals, long considered among the best in the Middle East, are cracking under the country’s financial crisis, struggling to pay staff, keep equipment running or even stay open amid a surge in coronavirus cases. Private hospitals, the engine of the health system, warn they may have to shut down. Chronically underfunded public hospitals, which have led the fight against the virus, fear they will be overrun. (<https://tinyurl.com/2sxa2sea>)

Prior to the pandemic, Lebanon was already descending into a state of economic catastrophe. By July, Lebanon’s hospitals could barely afford supplies, as they had to pour resources into keeping generators on amidst nationwide blackouts. Because the government owed hospitals millions of dollars, patients had to be triaged based on whether they could pay out-of-pocket. By August, several major hospitals had shut down. Then an explosion at a port in Beirut [<https://tinyurl.com/5c6k2pcu>] exacerbated the humanitarian crisis.

“Built to Last, Part 1: China Secretly Built a Vast Infrastructure to Imprison Muslims” by Megha Rajagopalan, Alison Killing, and Christo Buschek, *BuzzFeed*, August 28, 2020

In the most extensive investigation of China’s internment camp system ever done using publicly available satellite images, coupled with dozens of interviews with former detainees, *BuzzFeed News* identified more than 260 structures built since 2017 and bearing the hallmarks of fortified detention compounds. There is at least one in nearly every county in the far-west region of Xinjiang. (<https://tinyurl.com/489aweut>)

Rajagopalan, Killing, and Buschek published a multi-part series showing the abuses by the Chinese authorities in China’s far west province, Xinjiang, placing Uyghurs and other Muslim minorities in internment camps where they were forced to work, abused, and sometimes killed. Using satellite technology and expertise from architects and others, the journalists demonstrated that the Chinese government is engaging in the biggest internment of an ethnic people since Germany during World War II. Their work was referenced in the Newline’s Genocide Report and in the U.S. Department of State’s International Religious Freedom Report. Rajagopalan, Killing, and Buschek won the 2021 Pulitzer Prize for their work. Earlier in 2020, a UN report showed the drastic decline in births of Uyghur people in Xinjiang due to forced sterilization and abortions [“China Cuts Uighur Births with IUD, Abortion, Sterilization,” *Associated Press*, June 30, 2020, <https://tinyurl.com/7y6unw8u>]

“Expert Panel Lays Out Guidelines for Germline Editing, While Warning Against Pursuit of ‘CRISPR Babies’”

by Andrew Joseph, *STAT News*, September 3, 2020

Nearly two years after the birth of the first “CRISPR babies” stunned the world, an international group of experts on Thursday warned such human experimentation—in which the DNA of embryos is edited before starting pregnancies—should not be conducted because of unresolved scientific and ethical issues. But the group’s eagerly awaited report detailed the steps that scientists should go through before attempting to create gene-edited babies should countries ever greenlight the procedure. (<https://tinyurl.com/6t7ejd39>)

A commission comprised of the U.S. National Academy of Medicine, the U.S. National Academy of Sciences, and the UK’s Royal Society, which formed after revelations that He Jiankui genetically edited embryos that were brought to term, determined the stringent standards of proof needed to demonstrate that “precise genomic changes can be made reliably and without introducing undesired changes” according to the document overview. [“Heritable Human Genome Editing,” The National Academies Press, 2020, <https://tinyurl.com/477kf24a>]. Studies published in October 2020 on CRISPR-Cas9 reveal that scientists are not even close to precisely editing embryos [Marilynn Marchione, “Lab Tests Show Risks of Using CRISPR Gene Editing on Embryos,” *AP News*, October 29, 2020, <https://tinyurl.com/475ps4ku>]

“Big Tech Companies Back Away from Selling Facial Recognition to Police. That’s Progress”

by Rebecca Heilweil, *Vox*, June 11, 2020

Microsoft president Brad Smith announced on Thursday that his company did not sell facial recognition to the police, and would not until the government passes federal legislation regulating the technology. His statement follows a Wednesday announcement from Amazon explaining that the company would institute a one-year moratorium on police use of Rekognition, the company’s facial recognition software. (<https://tinyurl.com/4df7vsju>)

“Cheap, Easy Deepfakes Are Getting Closer to the Real Thing”

by Tom Simonite, *Wired*, August 5, 2020

Philip Tully, a data scientist at security company FireEye, generated the hoax Hankses to test how easily open-source software from artificial intelligence labs could be adapted to misinformation campaigns. His conclusion: ‘People with not a lot of experience can take these machine-learning models and do pretty powerful things with them,’ he says. (<https://tinyurl.com/35cmr-f8u>)

Do we own our face? What about the ethics of using facial technology to catch perpetrators? AI ethicists have pointed out that many “artificial intelligence” systems, which are sophisticated algorithms that learn from massive stores of data, have been demonstrated to have racial and gender biases. Police have used facial recognition to make arrests, but inaccuracies coupled with increasing abilities to alter video, call into question how reliable algorithms are. Whether widespread surveillance is even ethical is a larger question, as demonstrated in a July 2020 article in *The Atlantic* by Ross Anderson called “The Panopticon Is Already Here” [<https://tinyurl.com/44svkxke>] about China’s use of facial recognition to surveil its population.

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CORONAVIRUS TIMELINE: DECEMBER 2019—MAY 2020

Heather Zeiger, MS, MA | CBHD Research Analyst

12/31: China Investigates Respiratory Illness Outbreak Sicken- ing 27 (*Associated Press*)

01/08: WHO Says Mysterious Illness in China Likely Being Caused by New Virus (*STAT News*)

01/20: Deadly Mystery Virus Re- ported in 2 New Chinese Cities and South Korea (*The New York Times*)

01/21: Health Officials Confirm First U.S. Case of China Coro- navirus, Expand Screening (*Reu- ters*)

01/23: The WHO Declines to De- clare China Virus Outbreak a Global Emergency (*STAT News*)

02/05: Health Officials Err on Side of Caution to Contain Viral Outbreak (*The Wall Street Jour- nal*)

-DECEMBER -JANUARY

02/11: Disease Caused by Novel Coronavirus Offi- cially Has a Name: Covid-19 (*STAT News*)

02/12: The Coro- navirus Cruise Ship Quarantine Is a Scary Public Health Experi- ment (*Vox*)

02/14: Chinese Bioethicists: Silencing Doctor Impeded Early Control of Coro- navirus (*Hastings Center*)

02/21: The Coro- navirus Is Picking Up Steam Outside China, Narrowing Chances of Elim- inating It (*STAT News*)

02/24: WHO Tells Countries to Prepare for Coro- navirus Pandemic, But Insists It's Too Soon to Make That Call (*STAT News*)

FEBRUARY

02/25: NIH Clinical Trial of Remdesivir to Treat COVID-19 Begins (*NIH*)

03/11: WHO De- clares the Corona- virus Outbreak a Pandemic (*STAT News*)

03/12: U.S. in Crisis Mode as Coronavirus Cases Soar, Travel Restrictions Loom (*Reuters*)

03/12: Research- ers Rush to Test Coronavirus Vaccine in People without Know- ing How Well It Works in Animals (*STAT News*)

03/13: Presi- dent Trump Just Declared the Coronavirus Pan- demic a National Emergency. Here's What That Means (*STAT News*)

03/18: Hospital Workers Are Mak- ing Their Own Face Masks Using Craft Supplies (*Gizmodo*)

03/18: WHO to Launch Multi- national Trial to Jumpstart Search for Coronavirus Drugs (*STAT News*)

MARCH

03/18: The Value and Ethics of Us- ing Phone Data to Monitor Covid-19 (*Wired*)

03/23: FDA Relaxes Clini- cal Trial Rules for Covid-19 Emergencies (*Bloomberg*)

03/24: The Hard- est Questions Doctors May Face: Who Will Be Saved? Who Won't? (*The New York Times*)

03/25: The US Is Fast-Tracking a Coronavirus Vaccine, But Bypassing Safety Standards May Not Be Worth the Cost (*The Conver- sation*)

03/27: Telemed- icine Surges, Fueled by Coro- navirus Fears and Shift in Payment Rules (*Kaiser Health News*)

03/27: Hospitals Consider Changes to Do-Not-Resus- citate Situations Amid Corona- virus Pandemic (*CNN*)

03/30: Coronavirus: Poverty and Ethics (*Buenos Aires Times*)

03/31: Coronavirus: US Navy Captain Pleads for Help Over Outbreak (*BBC News*)

03/31: A New Covid-19 Problem: Shortages of Medicines Needed for Placing Patients on Ventilators (*STAT News*)

04/01: Some Coronavirus Patients Show Signs of Brain Ailments (*The New York Times*)

04/02: For Homeless People, Covid-19 Is Horror on Top of Horror (*Wired*)

04/03: Teargas, Beatings and Bleach: the Most Extreme Covid-19 Lockdown Controls Around the World (*The Guardian*)

APRIL

04/06: The Ethics of Wearing (or Not Wearing) a Face Mask During the Coronavirus Pandemic (*Time*)

04/07: China's Virus Pandemic Epicenter Wuhan Ends 76-Day Lockdown (*Medical Xpress*)

04/08: 'PTSD Waiting to Happen': Bioethicist Ezekiel Emanuel on the Realities of Coronavirus Triage (*New York Magazine*)

04/09: In Fight Against COVID-19, Nurses Face High-Stakes Decisions, Moral Distress (*Medical Xpress*)

04/09: NIH Begins Trial to Test Hydroxychloroquine for Treating COVID-19 (*Reuters*)

04/13: How Apple and Google Are Enabling Covid-19 Contact-Tracing (*Wired*)

04/13: The Lonely Reality of Grieving Online During Social Isolation (*MIT Technology Review*)

04/16: 'We Are Dead': People with Disabilities Fear They Will Be on Losing End of Doctors' Life-or-Death Choices Amid Coronavirus Crisis (*USA Today*)

04/17: China's Virus Death Toll Revised Up Sharply After Review (*Associated Press*)

04/24: World Must Ensure Equal Access for All to COVID-19 Vaccines, Drugs: WHO (*Reuters*)

04/27: The Coronavirus Pandemic Is Forcing U.S. Doctors to Ration Care for All Patients (*TIME*)

04/27: Consumer Beware: Coronavirus Antibody Tests Are Still a Work in Progress (*Kaiser Health News*)

04/29: Critical Study of Gilead's Covid-19 Drug Shows Patients Are Responding to Treatment, NIH Says (*STAT News*)

04/29: New Coronavirus Safety Measures Pose Challenges for the Deaf and Hard-of-Hearing (*NPR*)

04/30: Suicides of Two Health Care Workers Hint at the Covid-19 Mental Health Crisis to Come (*STAT News*)

05/05: Pfizer Begins Human Testing for Experimental Coronavirus Vaccine in the US (*CNBC*)

05/06: Doctors Lambaste Federal Process for Distributing Covid-19 Drug Remdesivir (*STAT News*)

05/06: Researchers Report "Unprecedented Cluster" of Inflammatory Problems in Children Amide Pandemic (*CNN*)

MAY

05/13: Strains in Hard-Hit Mumbai Complicate India's Virus Recovery (*ABC News*)

05/13: Record Death Tolls in Mexico and Brazil Add to Fears of Covid-19 Surge in Latin America (*The Guardian*)

05/14: NIH Begins Clinical Trial of Hydroxychloroquine and Azithromycin to Treat COVID-19 (*Medical Xpress*)

05/15: Mortality Rates Hint at Even Higher Coronavirus Death Toll (*Medical Xpress*)

05/18: How to Address the Coronavirus's Outsized Toll on People of Color (*Nature*)

05/19: Global Trial to Assess Chloroquine Against COVID-19 in Health Workers (*UPI*)

05/20: A New Entry in the Race for a Coronavirus Vaccine: Hope (*The New York Times*)

05/22: What a Big New Study on Malaria Drugs as Covid-19 Treatments Tells Us—And What It Doesn't (*STAT News*)

05/22: South America Is a New COVID 'Epicentre', African Deaths Still Low: WHO (*Reuters*)

05/25: When a COVID-19 Vaccine Becomes Available, Who Should Get It First? (*STAT News*)

05/25: Ten Reasons Why Immunity Passports Are a Bad Idea (*Nature*)

05/27: British Regulator Says 'COPCOV' Hydroxychloroquine Trial Paused (*Reuters*)

CORONAVIRUS TIMELINE: JUNE 2020—NOVEMBER 2020

Heather Zeiger, MS, MA | CBHD Research Analyst

06/04: Lancet, New England Journal Retract Covid-19 Studies, Including One That Raised Safety Concerns About Malaria Drugs (*STAT News*)

06/08: Abortion Opponents Protest COVID-19 Vaccines' Use of Fetal Cells (*Science*)

06/12: 1st Known U.S. Lung Transplant for COVID-19 Patient Performed in Chicago (*NPR*)

06/12: Moderna to Start Final Testing Stage of Coronavirus Vaccine in July (*Reuters*)

06/19: Italy Sewage Study Suggests COVID-19 Was There in December 2019 (*Reuters*)

06/25: U.S. Officials Change Virus Risk Groups, Add Pregnant Women (*ABC News*)

JUNE

06/29: Researchers Report Nearly 300 Cases of Inflammatory Syndrome Tied to Covid-19 in Kids (*STAT News*)

07/01: Global COVID-19 Prevention Trial of Hydroxychloroquine to Resume (*Medscape*)

07/01: Covid-19 Vaccine from Pfizer and BioNTech Shows Positive Results (*STAT News*)

07/20: Covid-19 News: Oxford Vaccine Is Safe and Induces Immune Response (*New Scientist*)

07/21: U.S. Accuses Hackers of Trying to Steal Coronavirus Vaccine Data for China (*The New York Times*)

07/31: 'A Huge Experiment': How the World Made So Much Progress on a Covid-19 Vaccine So Fast (*STAT News*)

JULY

08/04: US Launches Advanced Trials of Antibody Treatment for Covid-19 Patients (*CNN*)

08/06: India Becomes Third Country to Pass Two Million Cases (*BBC*)

08/11: 'A Smoking Gun': Infectious Coronavirus Retrieved from Hospital Air (*The New York Times*)

08/11: Russia Approves Coronavirus Vaccine Before Completing Tests (*The New York Times*)

08/12: The Pandemic Appears to Have Spared Africa So Far. Scientists Are Struggling to Explain Why (*Science*)

08/24: Hong Kong Researchers Report First Documented Coronavirus Re-Infection (*Reuters*)

AUGUST

08/26: More Mixed Results for Remdesivir: Moderate COVID-19 Patients (*Medscape*)

09/01: First U.S. COVID-19 Reinfection Case Identified in Nevada Study (*Medscape*)

09/01: Human Trials of Oxford Coronavirus Vaccine Have Begun in the US (*New Scientist*)

09/02: Covid-19 Deaths Significantly Reduced by Use of Steroids, Analysis Says (*The Wall Street Journal*)

09/03: NIH Panel Counters FDA: No Solid Data on Plasma for COVID-19 (*Medscape*)

09/03: HCWs, First Responders Should Be First to Get COVID-19 Vaccines: Panel (*Medscape*)

SEPTEMBER

09/09: AstraZeneca Covid-19 Vaccine Study Put on Hold Due to Suspected Adverse Reactions in Participants in the U.K. (<i>STAT News</i>)	09/14: China Has Quietly Vaccinated More than 100,000 People for Covid-19 Before Completing Safety Trials (<i>Vox</i>)	09/14: Scientists Relieved as Coronavirus Vaccine Trial Restarts— But Question Lack of Transparency (<i>Nature</i>)	09/16: Pfizer COVID-19 Vaccine Trial Reaches Initial Goal of 30,000 Volunteers (<i>WFAA</i>)	09/18: Europe Coronavirus Cases Surge as Countries Prepare Drastic Measures Against Second Wave (<i>Newsweek</i>)	09/22: WHO Unveils Global Plan to Fairly Distribute COVID-19 Vaccine, But Challenges Await (<i>Science</i>)
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09/23: 64 High-Income Nations Join Effort to Expand Global Access to Covid-19 Vaccines, But U.S. and China Do Not (<i>STAT News</i>)	09/28: New Document Reveals Scope and Structure of Operation Warp Speed and Underscores Vast Military Involvement (<i>STAT News</i>)	09/29: Worldwide Death Toll from Coronavirus Eclipses 1 Million (<i>Associated Press</i>)	09/29: Regeneron's Covid-19 Antibody May Help Non-Hospitalized Patients Recover Faster, Early Data Show (<i>STAT News</i>)	09/29: COVID-19 Cases Rising Among US Children as Schools Reopen (<i>Associated Press</i>)	09/30: Moderna COVID-19 Vaccine Appears Safe, Shows Signs of Working in Older Adults: Study (<i>Reuters</i>)
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10/05: Trump to Be Discharged from Walter Reed, Doctor Says, But 'Might Not Be Entirely Out of the Woods' (<i>STAT News</i>)	10/07: Eli Lilly Says Its Monoclonal Antibody Cocktail Is Effective in Treating Covid-19 (<i>STAT News</i>)	10/08: 'Rural Surge' Propels India Toward More Covid-19 Infections Than U.S. (<i>The New York Times</i>)	10/13: Johnson & Johnson Covid-19 Vaccine Study Paused Due to Unexplained Illness in Participant (<i>STAT News</i>)	10/14: Central Europe, Spared in Spring, Suffers as Virus Surges (<i>The New York Times</i>)	10/14: Russia Approves 2nd Virus Vaccine After Early Trials (<i>ABC News</i>)
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OCTOBER

10/16: WHO Study Finds Remdesivir Didn't Help COVID-19 Patients (<i>Associated Press</i>)	10/20: 'At a Breaking Point': New Surge of Covid-19 Cases Has States, Hospitals Scrambling, Yet Again (<i>STAT News</i>)	10/20: U.K. to Infect Healthy Volunteers in Covid-19 Vaccine Research Trials (<i>STAT News</i>)	10/30: Over 3 Million Cases of Coronavirus Reported in Mideast (<i>Medical Xpress</i>)	11/02: Two COVID-19 Outpatient Antibody Drugs Show Encouraging Results (<i>Medscape</i>)	11/05: Denmark to Cull 17 Million Mink Amid SARS-CoV-2 Mutation Concerns (<i>The Scientist</i>)
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NOVEMBER

11/09: Pfizer Says COVID-19 Vaccine Is Looking 90% Effective (<i>Associated Press</i>)	11/09: Scientists Criticize Use of Unproven COVID Drugs in India (<i>Nature</i>)	11/10: The Story of mRNA: How a Once-Dismissed Idea Became a Leading Technology in the Covid Vaccine Race (<i>STAT News</i>)	11/11: FDA Grants Emergency Use Authorization to Lilly's Antibody COVID-19 Therapy (<i>Medscape</i>)	11/12: Russia's Claim of a Successful COVID-19 Vaccine Doesn't Pass the 'Smell Test,' Critics Say (<i>Science</i>)	11/13: Situation 'Dire' as COVID Spike in West, Midwest Worsens, Experts Say (<i>Medscape</i>)
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11/13: Microsoft: Russian, North Korean Hackers Target Vaccine Work (<i>Associated Press</i>)	11/17: COVID-19 Fatality Rate Down 30% Since April Study Finds (<i>Medscape</i>)	11/18: Pfizer and BioNTech to Submit Covid-19 Vaccine Data to FDA as Full Results Show 95% Efficacy (<i>STAT News</i>)	11/23: COVID-19 Outcomes Tied to Hospital, Not Just Race (<i>Medscape</i>)	11/23: AstraZeneca Covid-19 Vaccine is 70% Effective on Average, Early Data Show (<i>STAT News</i>)	11/30: 'Absolutely Remarkable': No One Who Got Moderna's Vaccine in Trial Developed Severe COVID-19 (<i>Science</i>)
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BIOENGAGEMENT

The promise and perils of advances in technology, science, and medicine have long been fertile fodder for creative works in literature and cinema. Consequently, a variety of resources exist exploring the realm of medical humanities as well as those providing in-depth analysis of a given cultural medium or particular artifact. This column seeks to offer a more

expansive listing of contemporary expressions of bioethical issues in the popular media (fiction, film, and television)—with minimal commentary—to encompass a wider spectrum of popular culture. It will be of value to educators and others for conversations in the classroom, over a cup of coffee, at a book club, or around the dinner table. Readers are cautioned that

these resources represent a wide spectrum of genres and content, and may not be appropriate for all audiences. For more comprehensive databases of the various cultural media, please visit our website at cbhd.org/resources/reviews. If you have a suggestion for us to include in the future, send us a note at research@cbhd.org.

BioFiction:



Ernest Cline, *Ready Player Two* (Ballantine Books, 2020). *Emerging Technology, Neuroethics, Personhood, Technology & Society, Virtual Reality.*



Paul Kingsnorth, *Alexandria: A Novel* (Graywolf Press, 2020). *Meaning of the Human Person, Consciousness Uploading, Posthumanism, Transhumanism.*

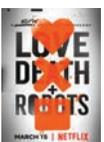


Martha Wells, *All Systems Red* (Tor.com, 2018). *Artificial Intelligence, Robotics, Autonomous Weapons*

Primetime Bioethics:



Lenox Hill (2020, Netflix, Docuseries). *Clinical Medicine, Emergency Medicine, Residency, Neurosurgery, Labor and Delivery, Urban Medicine.*



Love, Death, and Robots (2019-present, Netflix). *Biootechnology, Cyborgs, Emerging Technology, Human Enhancement, Radical Life Extension, Reproductive Ethics, Robotics, Technology & Society.*



Transplant (2020, NBC). *Canadian Medicine, Emergency Medicine, End of Life Issues, Immigration & Medicine.*



Unnatural Selection (2019, Netflix, Docuseries). *Human Enhancement, Genetics, Biohacking, CRISPR, Xenotransplantation, Gene Therapy, Human Experimentation*



Upload (2020, Amazon). *Consciousness Uploading, Radical Life Extension, Utopian Thinking.*

Bioethics at the Box Office:



I Care a Lot (2020, Netflix). *Elder Care, Elder Abuse, Geriatrics, Court-Appointed Guardians.*



Keepers of the House (2020, Duke Franklin Humanities Institute, Documentary). *Hospital Environment, Human Dignity, Non-Medical Hospital Personnel, Empathy, Teamwork.*



Nomadland (2020, Searchlight). *Aging in America, Geriatrics.*



Project Power (2020, Netflix). *Human Enhancement, Pharmaceutical Enhancement, Performance Enhancing Drugs, Transhumanism.*



Sound of Metal (2019, Amazon). *Deafness as a Disability or Difference*



Superintelligence (2020 HBO Max). *Artificial Intelligence, Privacy, Surveillance, Emerging Technology, Internet of Things.*

UPDATES & ACTIVITIES

The CBHD Academy of Fellows met February 14–15 on the campus of Trinity International University in Deerfield, Illinois for a consultation entitled “The State of Bioethics in 2020.”

In March, CBHD relaunched The Bioethics Podcast, which has previously run from 2006 to 2014. We published 12 episodes in 2020 on topics ranging from “The Ethics of Emergency Consent Research” to “The Old Testament and Bioethics” to “Advent Hope for a MedTech World.” The Bioethics Podcast is available through all of the major podcasting services.

Paige C. Cunningham, JD, PhD was asked to continue serving Taylor University as Interim President for an additional year and resigned as Executive Director of CBHD.

Staff Transitions

MATTHEW EPPINETTE, MBA, PHD

- Was appointed Executive Director of CBHD in May after having served as Interim Director since September 2019.
- Attended The John Collins Harvey Lecture and the Centennial Pellegrino Seminar at Georgetown University in Washington, D.C. honoring the 100th anniversary of the birth of Edmund D. Pellegrino, MD, who was a longtime friend and fellow of CBHD.
- Was featured on the episode of the *CMDA Matters* podcast released on May 14.

MARIO TAFFERNER, PHD (CAND.)

- Concluded his time as CBHD’s Robert D. Orr Endowed Fellow in December 2019.
- A native of Germany, Mario and his family returned to Europe where he is finishing his dissertation in Old Testament and serving as Instructor for Old Testament Language and Literature and Tyndale Theological Seminary, Badhoevedorp, The Netherlands.
- He is currently pursuing a PhD in Old Testament at Trinity Evangelical Divinity School.

WILSON JEREMIAH, THM

- Began serving as the Robert D. Orr Endowed Fellow in January.
- He received his MDiv in Theological Studies from Southeast Asia Bible Seminary, and his ThM in Philosophical and Moral Theology from Calvin Theological Seminary, Grand Rapids, Michigan.
- He is currently pursuing a PhD in Systematic Theology at Trinity Evangelical Divinity School.

SHARON GUSTAFSON

- Retired from her role as Event and Executive Services Manager for CBHD in January.
- Her service to Trinity and CBHD over the past seven and a half years was exemplary and we pray God’s richest blessings for her and family in this new season of life.

Changes We’ve Made Due to COVID

- Our campus and offices were closed from mid-March to mid-August, and all staff worked faithfully from home. We returned to campus with great care, and by God’s grace the 2020–2021 academic year began smoothly.
- Our planned topic for the 27th annual summer conference, *Bioethics & the Body*, was postponed until 2021, and in its place we planned a one-day conference, *Bioethics in Real Life: Lessons We’re Learning from COVID-19*, addressing several aspects of the pandemic.

COVID Ebook

We are working to complete a volume of proceedings from the *Bioethics in Real Life* conference. Dónal O’Mathúna, PhD, Associate Professor in The Ohio State University College of Nursing and member of the CBHD Academy of Fellow is serving as lead editor alongside Wilson Jeremiah, ThM; Bryan Just, MA; and Matthew Eppinette, MBA, PhD. We anticipate releasing the volume in both ebook and printed version in 2021.



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INTEGRITY & CONSCIENCE: BIOETHICS & THE PROFESSIONS

Preconference Institutes
June 20-23, 2022

CONFERENCE
JUNE 23-25, 2022

Postconference Seminar
June 27-June 29, 2022

Trinity International University, Deerfield, IL

In Partnership with:
American Association of Pro-Life OB|GYNS

American College of Pediatricians
Americans United for Life

Charlotte Lozier Institute
Christian Legal Society

Christian Medical & Dental Associations
Nurses Christian Fellowship

LEARN MORE | [CBHD.ORG/CONF2022](https://www.cbhd.org/conf2022)

INTERESTED IN SUBMITTING AN ARTICLE?

The editorial staff of *Dignitas* always welcomes the submission of articles for consideration. We are particularly interested in submissions for future issues in the following topical areas: Palliative & Terminal Sedation | Opioid Addiction & Chronic Pain Management | Organ Donation & Determination of Death | Genetic Testing & the Ethics of Reporting Incidental Findings | Disability Ethics | Research Ethics | Theological Bioethics.

We encourage you to contact us regarding your interest at research@cbhd.org

The Center for Bioethics & Human Dignity (CBHD) is a Christian bioethics research center at Trinity International University that explores the nexus of biomedicine, biotechnology, and our common humanity.

Dignitas is the quarterly publication of the Center and is a vehicle for the scholarly discussion of bioethical issues from a Judeo-Christian Hippocratic worldview, updates in the fields of bioethics, medicine, and technology, and information regarding the Center's ongoing activities. ●●●



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