

BIOETHICS: BASIC QUESTIONS AND EXTRAORDINARY DEVELOPMENTS

ANDREA VICINI, S.J.

In the past few years, a variety of alarming narratives, global concerns addressed locally, and new biotechnological developments have shaped contemporary bioethical discourse. This note identifies (1) five of these narratives that come from other disciplines: history, journalism, surgery, literature, and personal experience; (2) original voices, particularly from Asia and Africa, that shape the innovations emerging in today's global theological bioethics; and (3) three biotechnological developments—neurosciences, oncofertility, and synthetic biology—that call for our attention. Throughout each section, one can see that an interdisciplinary approach could sustain conversations and generate transformative practices.

THE 2011 ANNUAL MEETING OF the American Society for Bioethics and Humanities (ASBH) counted over 850 participants. The meeting's theme—Generation(s) and Transformation(s)—suggested that the original heritage of bioethics, rooted in part in religious claims, was at stake. Clinical interests and philosophical approaches preeminently dominated the meeting.¹

To highlight the importance of this heritage, *Commonweal* published interviews with key figures in bioethics.² With their narratives, new generations

ANDREA VICINI, S.J., is a pediatrician with a Ph.D. in ethics from Boston College and a S.T.D. from the Faculty of Theology of Southern Italy (Naples). Associate professor of moral theology at Boston College School of Theology and Ministry, his research focuses on fundamental moral theology, bioethics, sexuality, medical ethics, and environmental issues. His most recent publications include: "Living with Indigenous Communities in Chiapas, Mexico: The Transformative Power of Poverty and Suffering," in *Ethnography as Christian Theology and Ethics*, ed. Christian Scharen and Aana Marie Vigen (2011); "La loi morale naturelle: Perspectives internationales pour la réflexion bioéthique contemporaine," *Transversalités* 120 (2011); and "Imaging in Severe Disorders of Consciousness: Re-thinking Consciousness, Identity and Care in a Relational Key," *Journal of the Society of Christian Ethics* 32.1 (2012). In preparation is a monograph on ethical issues related to new biotechnologies.

¹ <http://www.asbh.org/meetings/annual/index.html> (this and all other URLs herein cited were accessed November 15, 2011).

² William Bole, "No Labels, Please: Lisa Sowle Cahill's Middle Way," *Commonweal* 138.1 (January 14, 2011) 9–15; Paul Lauritzen, "Daniel Callahan and

of bioethicists, both theological and philosophical, can situate themselves within the history of bioethics, retrieve some intuitions, and expand them in light of new challenges.

Looking for theological bioethics specifically, we find it treated prominently in the second cross-cultural conference organized by Catholic Theological Ethics in the World Church (CTEWC) in Trento in 2010.³ One-third of the posters and almost one-fourth of all 240 concurrent sessions discussed issues in bioethics, plus one plenary session reflected on healthcare in Brazil, India, and Kenya.

Almost 600 theological ethicists from nearly 75 countries listened to colleagues from every continent discuss how to articulate bioethics in today's world. Among the topics were healthcare, HIV/AIDS, end-of-life issues, and cybertechnologies. Fundamental categories in bioethical Catholic discourse were also highlighted (e.g., justice, the common good, the preferential option for the poor, subsidiarity, human dignity, responsibility, relationality, and autonomy). Vulnerability was also used as both an analytical tool and a lens through which to read our lives and interpret our times.⁴

These two major conferences exemplify the two souls of bioethics. They characterized its beginnings and still do today. One soul is mostly national and focuses on issues related to clinical practice and research procedures; it is predominantly philosophical and principle-based. The well-known four principles of bioethics (beneficence, nonmaleficence, autonomy, and justice) play a very significant role.⁵ The second soul is specifically theological, at once local yet attentive to the global. It is rooted in religious traditions, particularly Christianity, but also Judaism and Islam. It relies on social justice and virtues, with "*strong links between life and ethics and social ethics*," as Pope Benedict XVI wrote.⁶

Bioethics: Where the Best Arguments Take Him," *Commonweal* 134.11 (June 1, 2007) 8–13; Lauritzen, "Intellectual Street Fighter: Gilbert Meilaender's Ethics of the Everyday," *Commonweal* 137.10 (November 17, 2010) 13–17.

³ James F. Keenan, S.J., "What Happened at Trento?," *Theological Studies* 72 (2011) 131–49; Keenan, ed., *Catholic Theological Ethics, Past, Present, and Future: The Trento Conference* (Maryknoll, N.Y.: Orbis, 2011) and <http://www.catholicethics.com/trent>. (All URLs cited herein were accessed November 25, 2011.)

⁴ In *Etica teologica nelle correnti della storia: Contributi dell'Accademia Alfonsiana al secondo Congresso mondiale dei teologi morali cattolici*, ed. Vincenzo Viva et al. (Vatican City: Lateran University, 2011), see Giovanni Del Missier, "Vulnerabilità e bioetica" 97–107; Rogério Gomes, "Tecnologia e vulnerabilità: Risorsa e possibilità di ferire l'essere umano" 109–18; and María Martha Cúneo, "Vulnerabilità e prematurità" 119–27.

⁵ Lewis Vaughn, *Bioethics: Principles, Issues, and Cases* (New York: Oxford University, 2010).

⁶ Benedict XVI, *Caritas in veritate* (2009) no. 15, emphasis original.

These two souls dialogue and interact in various ways and venues, from the academy to civil society. They shape moral reasoning and influence practices. While the contributions of both souls are constructive, they might become independently self-sufficient. In 2010, two journals, *Bioethics* and *Christian Bioethics*, discussed the future of bioethics. There, some authors were skeptical and critical about the future of the discipline, often limiting their reflection to concerns too narrowly philosophical⁷ or too confessionally theological.⁸

As will become clear, I prefer the second soul, that is, a bioethical reflection that is methodologically interdisciplinary, animated by a prophetic vision, and promoting personal and social transformation. It strengthens my hope for the future of bioethics.⁹

My note joins these conversations, maybe leading readers to identify their bioethical soul. I divide the note into three parts: recent provocative appeals, what is new in bioethics around the world, and three biotechnological developments: neurosciences, oncofertility, and synthetic biology.

PROVOCATIVE APPEALS

Provocative insights that challenge bioethical reflection today mostly occur not in the field of bioethics but rather in history, journalism, surgery, literature, and even in personal experience. I find five provocative insights, raised mostly by women. They concern human experimentation, medical research for therapeutic purposes, healthcare practices, genetic testing, and care for persons who suffer severe disorders of consciousness. They raise basic questions. They do it anew, with the captivating force of their narratives well disposed to the claims of interdisciplinarity.

Revealing the Truth: The Guatemala Scandal, by Susan Reverby

On May 2, 2010, at the annual meeting of the American Association for the History of Medicine (AAHM), historian Susan Reverby presented a disturbing paper on the experimental study conducted in Guatemala by

⁷ Among them, see Ruth Macklin, "The Death of Bioethics (as We Once Knew It)," *Bioethics* 24 (2010) 211–17.

⁸ In *Christian Bioethics* 16 (2010), see Peter Dabrock, "Drawing Distinctions Responsibly and Concretely: A European Protestant Perspective on Foundational Theological Bioethics" 128–57; and H. Tristram Engelhardt Jr., "Christian Medical Moral Theology (Alias Bioethics) at the Beginning of the Twenty-First Century: Some Critical Reflections" 117–27. See also Paul T. Schotsmans, "Christian Bioethics in Europe: In Defense against Reductionist Influences from the United States," *Christian Bioethics* 15 (2009) 17–30.

⁹ Andrea Vicini and James F. Keenan, "O futuro da bioética," *Bioethikos* 5 (2011) 10–20.

physicians of the U.S. Public Health Service (PHS) between 1946 and 1948.¹⁰ She reported how underprivileged vulnerable groups (e.g., prostitutes, prisoners, psychiatric patients)¹¹ were infected with syphilis, gonorrhea, and chancroid, and then medically treated.¹² To infect them, the doctors relied on infectious prostitutes or directly exposed the subjects to infected tissue.¹³ To her surprise, the academic audience expressed little reaction to her revelations.¹⁴

Fortunately, she contacted a colleague at the Center for Disease Control (CDC), who reacted promptly.¹⁵ On October 1, 2010, Secretary of State Hillary Rodham Clinton and Secretary of the Department of Health and Human Services (DHHS) Kathleen Sebelius issued formal apologies to the people of Guatemala.¹⁶ President Obama personally expressed to President Alvaro Colom of Guatemala his deep regret and extended an apology to all those affected and to the whole Guatemalan people.¹⁷

Reverby already raised our awareness about another instance of unethical research: the Tuskegee syphilis study, conducted between 1932 and 1972,¹⁸ in which the U.S. PHS studied more than 600 African American men from Alabama with syphilis; they thought they were being treated. Despite common belief, they *were not* infected by the researchers. But after 1947, when penicillin was found to be an effective cure, these men were left untreated until the end of the study in 1972.

In Guatemala, the research aimed at studying syphilis and its prophylaxis. The researchers on the ground and their liaisons in the United States

¹⁰ Susan M. Reverby, “‘Normal Exposure and Inoculation Syphilis’: A PHS ‘Tuskegee’ Doctor in Guatemala, 1946–1948,” *Journal of Policy History* 23 (2011) 6–28.

¹¹ Also studied were 438 orphans between the ages of six and sixteen. They were not infected. Reverby, “‘Normal Exposure’” 13–14.

¹² The numbers of subjects infected: “‘696 [were] exposed to syphilis . . . 722 to gonorrhea . . . and 142 to chancroid’” (ibid. 16).

¹³ For a gruesome description of how the subjects were infected, see ibid. 15.

¹⁴ Donald G. McNeill, “U.S. Apologizes for Syphilis Tests in Guatemala,” *New York Times*, October 2, 2010.

¹⁵ Thomas R. Frieden and Francis S. Collins, “Intentional Infection of Vulnerable Populations in 1946–1948: Another Tragic History Lesson,” *Journal of the American Medical Association* 304 (2010) 2063–64.

¹⁶ Hillary Rodham Clinton and Kathleen Sebelius, “Joint Statement by Secretaries Clinton and Sebelius on a 1946–1948 Study” (2011), <http://www.state.gov/secretary/rm/2010/10/148464.htm>.

¹⁷ Barack H. Obama, “Read-out of the President’s Call with Guatemalan President Colom,” (2011), <http://www.whitehouse.gov/the-press-office/2010/10/01/read-out-presidents-call-with-guatemalan-president-colom>.

¹⁸ Susan M. Reverby, *Examining Tuskegee: The Infamous Syphilis Study and Its Legacy* (Chapel Hill: University of North Carolina, 2009).

knew well that “they were treading on complicated ethical grounds.”¹⁹ The Guatemalan research, federally funded, could not have been conducted in the United States. In 1947, while this study was going on, in Germany, at Nuremberg, 23 Nazi doctors were under trial for their crimes.²⁰

Thus, President Obama demanded a first report on the Guatemalan study²¹ and a second on the effectiveness of U.S. rules and international standards to protect human beings involved in research studies.²² But something equally disturbing happened just a few years ago. As recently as 1997, Marcia Angell, editor of the *New England Journal of Medicine*, condemned 15 of the 18 trials conducted in Third World countries involving more than 17,000 pregnant women.²³ The studies aimed at assessing how to prevent the vertical transmission (i.e., from mothers to their newborns) of the HIV infection with the antiretroviral zidovudine. Administered intravenously during labor and then to the newborns, the drug reduces the incidence of HIV infection by two-thirds, saving “the life of one of every seven infants born to HIV-infected women.”²⁴

The studies, however, included placebos. Thus, the standard care internationally required was denied to scores of pregnant women. The researchers justified themselves by saying that these women were poor, with no access to antiretroviral treatment, and that they were “simply observing what would happen to the subjects’ infants if there were no study.”²⁵ Angell invoked Tuskegee in her critique.²⁶

Angell’s revelations got little coverage in the media; apart from the research directors and a few ethicists, few people knew of them. As at the AAHM meeting, they generated neither outrage nor alarm. Tuskegee, Nuremberg, Guatemala, the zidovudine trials—the abuse of human research subjects, particularly poor and vulnerable ones, has a long history.

¹⁹ Reverby, ““Normal Exposure”” 18.

²⁰ Ann Tusa and John Tusa, *The Nuremberg Trial*, new foreword (1983; New York: Skyhorse, 2010).

²¹ Presidential Commission for the Study of Bioethical Issues (PCSB), “*Ethically Impossible*”: *STD Research in Guatemala from 1946 to 1948* (Washington: PCSBI, 2011).

²² PCSBI, *Research across Borders: Proceedings of the International Research Panel of the Presidential Commission for the Study of Bioethical Issues* (Washington: PCSBI, 2011).

²³ Marcia Angell, “The Ethics of Clinical Research in the Third World,” *New England Journal of Medicine* 337 (1997) 847–49.

²⁴ Peter Lurie and Sidney M. Wolfe, “Unethical Trials of Interventions to Reduce Perinatal Transmission of the Human Immunodeficiency Virus in Developing Countries,” *New England Journal of Medicine* 337 (1997) 853–56, at 853.

²⁵ Angell, “Ethics of Clinical Research” 847.

²⁶ *Ibid.*

Reverby and Angell tried to provoke reaction: are we vigilant about our experimentation with human subjects?

Knowing Our Sources: Henrietta Lacks, by Rebecca Skloot

As every biologist in the world knows, HeLa cells are special. They are used in most studies on human cells. In a manner of speaking, they are immortal. Since 1951, when they were discovered, they continue to grow, resilient, in every lab around the world. They even went to the moon for tests in space. They number in the trillions by now, replicating constantly.

Since 1951, nobody asked where they were coming from. In 2010, journalist Rebecca Skloot gave them an identity. They were from Mrs. Henrietta Lacks, a poor African American woman, living in segregated Baltimore in the 1950s.²⁷ Skloot reveals her and her family to us.

At Johns Hopkins Hospital, a cervical lesion in Henrietta Lacks was found and removed; it was an aggressive cervical cancer. Her cells were cultivated by researchers trying to grow human cells in labs. Lacks never knew this; nor did her children who survived her.

The HeLa cells story is disturbing. At 16, in her biology class, Skloot heard her professor mention that the HeLa cells were taken from a Henrietta Lacks. But there was never any validation of that assertion. To the contrary, other contesting attributions were made, but no one showed any interest. No one cared that a real person was behind those cells.

And now that we know? Mrs. Lacks's family does not want to stop the use of HeLa cells for research. "I'm proud of my mother and what she has done for science," said Sonny, the middle son. "I just hope Hopkins and some of the other folks who benefited off her cells will do something to honor her and make right with the family."²⁸

Thoroughgoing Caution: The Checklist, by Atul Gawande

The World Health Organization (WHO) invited surgeon Atul Gawande to coordinate an international group charged with making concrete proposals for reducing medical errors. Looking for inspiration in construction and aviation, Gawande found that checklists were regularly used and with great benefit.²⁹ They were not yet used in medicine; there nobody paid attention to checklists.

Why checklists? Individual errors are unavoidable, even by the most experienced surgeon. But the team dynamic can be improved. The team

²⁷ Rebecca Skloot, *The Immortal Life of Henrietta Lacks* (New York: Crown, 2010).

²⁸ *Ibid.* 328.

²⁹ Atul Gawande, *The Checklist Manifesto: How to Get Things Right* (New York: Metropolitan, 2009).

can intervene to avoid errors and to save lives, by focusing on detailed checklists. International trials in both rich and poor countries confirmed it: checklists are helpful. But in medicine such an elementary practice is still not appropriated.

To some, checklists seem silly, trivial. Can a banal checklist really improve our healthcare practices? I too react viscerally. Flying the very short trip from Boston to Nantucket to assist the pastor from time to time, I often sit near the pilots on the ten-seat Cessna. I always get a chill when they look at the small laminated checklist. By now they should know how to fly. If they do not, what am I doing on this plane? Checklists make the checkers look like amateurs.

Checklists, however, are effective. Sometimes the wisest innovations, like the checklist, seem elementary and seemingly too simple to bother with, but they are there for a vital reason. This is also true of other simple positive patterns of behavior.³⁰ Thailand gives us an example: all over the country, even in the remotest locations, nurses use vinegar to immediately diagnose the presence of *precancerous lesions of the cervix*. Then and there they remove the lesions with cryotherapy (using CO₂, widely and inexpensively available). The Pap test, used everywhere else, requires much more technology. At almost no cost and with no major inconvenience for the patients, effective prevention is a reality.³¹ With this simple test, Mrs. Henrietta Lacks's cancer could have been caught early or even prevented.

But Is Knowing Always a Good?: The BRCA Test, by Amy Boesky

Reverby, Angell, Skloot, and Gawande suggest a thoroughgoing vigilance when it comes to matters in medical ethics dealing with human persons. We should be intellectually vigilant about our research subjects, the sources of the human cells that we use for research, and even our most elementary practices and procedures. But what about ordinary persons? Should they simply look at their health and find out as best they can what their overall prognosis is?

In another provocative text, Amy Boesky gives us her soul-searching reflection on being tested for ovarian cancer. She tells us what all women in her family had: a high risk of dying at an early age because of ovarian cancer.³² Sepia-colored photos of all the deceased women in her family line

³⁰ Mark E. Graham, "The Environmental Burden (Disaster?) of Catholic Act Analysis," *Political Theology* 10 (2009) 101–14, at 107.

³¹ Donald G. McNeill, "Fighting Cervical Cancer with Vinegar and Ingenuity," *New York Times*, September 26, 2011.

³² Amy Boesky, *What We Have: A Memoir* (New York: Gotham, 2010). For another moving memoir, see Clare Dunsford, *Spelling Love with an X: A Mother, a Son, and the Gene That Binds Them* (Boston: Beacon, 2007).

the stairway wall in the family home. Well before genetics, they were a reminder that all the women in her family shared a bleak destiny.

Under the overpowering specter of a cancer death, Boesky planned her life: work, marriage, two children, and, just after the birth of her second child, the removal of her ovaries—all this before the age of 36, to reduce her risk of ovarian cancer and early death. In her narrative we read about the birth of her two daughters and the subsequent surgery, tied to the account of her mother's death. Her mother's ovaries were removed years before. The breast cancer that caused her death was related to her predisposition to ovarian cancer. At that time two tumor suppressor genes were discovered: BRCA 1 and 2.³³ Mutations in these genes indicate the genetic predisposition to both ovarian and breast cancer. Her mother had tested positive.

The experience of her mother's death was so traumatic that Boesky decided to have both her breasts removed, without taking the BRCA test. To date, she did not take it and likely will not do so. Her sister took the test. She and the whole family now know which of the two altered genes she carries.³⁴

Boesky chose a prevention course of two radical surgeries to increase her chances of living with her husband, seeing her two daughters grow up, teaching, and writing. When I told her story in class, my students were shocked by her decision not to take the tests. They thought she was being irresponsible. She had to know! The empathy that her story had generated was not sufficient for them to understand and respect her choice.

Are all genetic tests to be taken? Is testing morally imperative? Is knowledge always good? Reverby, Angell, Skloot, and Gawande reveal to us how researchers and physicians avoid knowing about unethical trials, about the source of human tissue, and about simple procedures that could save our lives. But what about us? Would we be wrong to, like Boesky, choose not to know?

This push to know continues to expand. And what do we do with the information? In January 2011, "researchers showed that a blood test for mothers could detect Down syndrome in their fetuses."³⁵ Globally, prenatal

³³ "BRCA" stands for BREast CAncer.

³⁴ Marianne Boenink, "Unambiguous Test Results or Individual Independence? The Role of Clients and Families in Predictive BRCA-Testing in the Netherlands Compared to the USA," *Social Science and Medicine* 72 (2011) 1793–801; Antonella Surbone, "Social and Ethical Implications of BRCA Testing," *Annals of Oncology* 22, Suppl 1 (2011) i60–i66.

³⁵ Henry T. Greely, "Get Ready for the Flood of Fetal Gene Screening," *Nature* 469 (2011) 289–91, at 289.

tests for Down syndrome seem to lead to interrupting pregnancies.³⁶ More noninvasive prenatal genetic diagnoses, testing maternal blood during pregnancy, will soon be available. To what decisions will they lead?

Behind these tests are the monopolies that the patent system allows,³⁷ like Myriad's control of the BRCA tests—charging \$3,000 each. But besides that, are there any other ethical considerations to be addressed about testing? Is genetic testing reducing our doing what is “right” simply to a matter of “knowing” and what is “wrong” to “not knowing”? Should knowledge always be welcomed, unencumbered? Recently some ethicists reflected on disability³⁸ and vulnerability³⁹ to promote a more welcoming context for understanding matters based on health. At the same time, others propose programs and services to support families and communities, relying on Catholic social teaching⁴⁰ or on basic justice claims.⁴¹ Their narratives shape our personal and social character. Like Boesky, when it comes to intimate knowledge about ourselves, what we need to know, in order to live rightly, might not simply be a matter of knowing it all.

³⁶ Patrick Verspieren, “Vers un eugénisme légal?,” *Études* 414 (2011) 436–38; Louise D. Bryant et al., “‘All Is Done by Allah’: Understandings of Down Syndrome and Prenatal Testing in Pakistan,” *Social Science and Medicine* 72 (2011) 1393–99; Alice M. Jaques et al., “Uptake of Prenatal Diagnostic Testing and the Effectiveness of Prenatal Screening for Down Syndrome,” *Prenatal Diagnosis* 30 (2010) 522–30; Brian G. Skotko, “With New Prenatal Testing, Will Babies with Down Syndrome Slowly Disappear?,” *Archives of Disease in Childhood* 94 (2009) 823–26; Dagmar Tapon, “Prenatal Testing for Down Syndrome: Comparison of Screening Practices in the UK and USA,” *Journal of Genetic Counseling* 19 (2010) 112–30.

³⁷ Robert Cook-Deegan et al., “Impact of Gene Patents and Licensing Practices on Access to Genetic Testing for Inherited Susceptibility to Cancer: Comparing Breast and Ovarian Cancers with Colon Cancers,” *Genetics in Medicine* 12 Suppl (2010) S15–38, at S15.

³⁸ Mary Jo Iozzio, “The Authority of Experience and Study: Persons with Disabilities Adequately and Integrally Considered,” *Louvain Studies* 35 (2011) 162–80; Dominique Greiner, “Quand les théologiens parlent du handicap: Un survol de la littérature anglo-saxonne,” *Revue d'éthique et de théologie morale* 256 (2009) 129–46.

³⁹ Vincent Leclercq, *Blessed Are the Vulnerable: Reaching Out to Those with AIDS* (New London, Conn.: Twenty-Third, 2010); Denis Müller, “Traiter de la bioéthique: Un exercice de haute vulnérabilité,” *Revue d'éthique et de théologie morale* 265 (2011) 103–12.

⁴⁰ Vincent Leclercq, “Le rôle des plus fragiles au sein d'une éthique sociale de la santé: Quelles sont les propositions de la bioéthique théologique aujourd'hui?,” *Revue d'éthique et de théologie morale* 256 (2009) 159–80.

⁴¹ Nancy S. Jecker, “A Broader View of Justice,” *American Journal of Bioethics* 10 (2008) 2–10.

Experiential Knowledge: Handle with Care, by Marilyn Martone

When we go “over the waterfall,” everything falls with us and within us—for example, at the end of life,⁴² in palliative care,⁴³ even in pediatric settings.⁴⁴ Marilyn Martone’s *Over the Waterfall*, a narrative covering nearly 20 years, helps us understand what health care requires.

Martone leads us through one of these “falls,” with her daughter Michelle, her family, friends, and health care institutions.⁴⁵ In 1998, hit by a car at the age of 21, after major surgeries Michelle was unconscious for over seven months due to extensive brain damage. Then she emerged from a vegetative state and is now gradually regaining her body and self.

Martone’s narrative reveals what long-term care entails when we care for our beloved who suffered traumatic brain injury. Even as a theological ethicist expert in medical ethics, she discovered that she was not ready for what she had to face. In particular, the limits of the health care system were painfully felt as her daughter “plateaued,” according to the medical goals set by insurances and by rehabilitation protocols.

Martone also points to the implications related to the vegetative state, looking for signs that indicate a minimally conscious state and suggest the possibility of recovery and its imminence. Functional magnetic resonance imaging, despite its current epistemological and technical limitations, could become helpful in distinguishing between vegetative and minimally conscious states,⁴⁶ but not always, and not in her case.

Martone’s story transforms us. It strengthens our longing for justice and our willingness to care for those in need and for ourselves. Health care

⁴² Lydia S. Dugdale and Autumn Alcott Ridenour, “Making Sense of the Roman Catholic Directive to Extend Life Indefinitely,” *Hastings Center Report* 41 (2011) 28–29.

⁴³ Luciana Bertachini and Leo Pessini, “A importância da dimensão espiritual na prática dos cuidados paliativos,” *Bioethikos* 4 (2010) 315–23; Atul Gawande, “Letting Go: What Should Medicine Do When It Can’t Save Your Life?,” *New Yorker* 86.22 (August 2, 2010) 36–49; Lalit Krishna and Jacqueline Chin, “Palliative Sedation within the Duty of Palliative Care within the Singaporean Clinical Context,” *Asian Bioethics Review* 3 (2011) 207–15; Camillo Ripamonti, S.J. “Cure Palliative,” *Aggiornamenti sociali* 61 (2010) 381–84.

⁴⁴ Geoffrey Miller, *Pediatric Bioethics* (New York: Cambridge University, 2010); Charles C. Camosy, *Too Expensive to Treat?: Finitude, Tragedy, and the Neonatal ICU* (Grand Rapids, Mich.: Eerdmans, 2010); John J. Paris et al., “Does Compassion for a Family Justify Providing Futile CPR?,” *Journal of Perinatology* 30 (2010) 770–72; John J. Paris et al., “What Do You Tell the Family Who Asks, ‘What Went Wrong?’ The Truth and Nothing but the Truth,” *Journal of Perinatology* 30 (2010) 513–16.

⁴⁵ Marilyn Martone, *Over the Waterfall* (Lexington: CreateSpace, 2011) 173–74, 199.

⁴⁶ Martin M. Monti et al., “Willful Modulation of Brain Activity in Disorders of Consciousness,” *New England Journal of Medicine* 362 (2010) 579–89.

should be improved. Families should be supported.⁴⁷ Above all, while criteria for admission and dismissal in rehabilitation centers should be revised, we need to actually face how much U.S. health care fails in the care of the chronically compromised.

* * *

Why are these five voices provocative? They capture our attention; they try to wake us up. They do it by addressing five topics—not new, but basic issues. In each case, they point to what was missing, sharpening our moral perception. They help us see where we should go, how to frame our ethical agenda to promote greater justice and dignity⁴⁸ by paying attention to concrete persons and their contexts, with a preferential attention to the more vulnerable.

A narrative approach to bioethical issues is not new. Recently, Richard Gula suggested narratives should play a role in making health care decisions and in ethical consultation,⁴⁹ that is, in promoting social transformation.

I turned to provocative appeals from history, journalism, medicine, literature, and personal experience. In short, the appeals have an interdisciplinarity about them. In academic circles, “interdisciplinarity” is a trendy word. Still, it can become a methodological way of proceeding. When we listen to challenging experiences, interdisciplinarity reveals its dialogical and relational soul. It can promote more just social dynamics and practices.

The persistence of basic questions confirms how they are integral to our human condition. Such a persistence also points to unethical, theologically sinful dimensions of our human agency. Thus, it requires a renewed commitment to vigilance and social transformation.

GOING GLOCAL

Asian, African, and Latin American⁵⁰ voices address glocal challenges regarding a specific bioethical matter. (“Glocal” is a neologism that refers

⁴⁷ Takanobu Kinjo and Masahiro Morioka, “Narrative Responsibility and Moral Dilemma: A Case Study of a Family’s Decision about a Brain-Dead Daughter,” *Theoretical Medicine and Bioethics* 32 (2011) 91–99; Kristi L. Kirschner and Rebecca Brashler, “Case Study: Sexuality and a Severely Brain-Injured Spouse,” *Hastings Center Report* 40 (2010) 14–15.

⁴⁸ Alasdair Cochrane, “Undignified Bioethics,” *Bioethics* 24 (2010) 234–41; Ernst-Wolfgang Böckenförde, *Dignità umana e bioetica*, ed. Paolo De Benedetti (Brescia: Morcelliana, 2010); Ignazio Sanna, ed., *Dignità umana e dibattito bioetico* (Rome: Studium, 2009).

⁴⁹ Richard M. Gula, “On Writing the Next Chapter Using Narrative Ethics in Health Care Decisions,” *Louvain Studies* 35 (2011) 139–61.

⁵⁰ In Brazil, see the Camillian journal *Bioethikos*, <http://www.saocamillo-sp.br/novo/publicacoes/publicacaoRevista.php?rev=b>.

to addressing global concerns locally.) First, they situate themselves within the mainstream bioethical tradition, in dialogue with colleagues in Europe and North America, where many of these voices were first trained. Second, they creatively rely on their own traditions, practices, and experiences to articulate ethical analyses and proposals. With today's training of future scholars in theological ethics within their own continents we can expect even more original voices.⁵¹

Asia is creative in providing a glocal approach. In dialogue with cultural and religious contexts⁵² and addressing specific issues (e.g., procreation),⁵³ Asian scholars introduced a new topic: the bioethical implications of major natural disasters.⁵⁴ They focus on the before and after, promoting preparedness, supporting victims, and accompanying the process of recovery and reconstruction.

In Africa, Deogratias Biembe Bikopo and Louis-Jacques van Bogaert reflect on the death of a leader. They shake us by exposing what happens within the Bantu in the sub-Saharan Ntomba tribe. The chief is responsible for preserving the tribe's energy and vital force. When the end of his life is approaching, he is ritually killed to keep the force within the tribe.⁵⁵

⁵¹ Catholic Theological Ethics in the World Church (CTEWC) is funding doctoral studies in theological ethics for eight African women from six different countries in universities in six African countries. See <http://www.catholicethics.com/>.

⁵² See, e.g., the following works that appeared in *Asian Bioethics Review*: Reidar Lie and Joseph Millum, "Asian Bioethics: Breaking New Ground," 2 (2010) 171–72; Hans-Martin Sass, "Cultivating and Harmonising Virtues and Principles," 3 (2011) 36–47; Hans-Martin Sass and Zhai Xiaomei, "Global Bioethics: Eastern or Western Principles?," 3 (2011) 1–2; Michael Cheng-Tek Tai, "An Asian Perspective of Western or Eastern Principles in a Globalised Bioethics," 3 (2011) 23–30; Munir Hossain Talukder, "On Patient-Physician Relationships: A Bangladesh Perspective," 3 (2011) 65–84; Zhai Xiaomei, "Diversified and in Harmony, but Not Identical: Harmonising International Guidelines with Cultural Values and National Traditions," 3 (2011) 31–35; and Kiarash Aramesh, "Iran's Experience on Religious Bioethics: An Overview," 1 (2009) 318–28.

⁵³ In *Asian Bioethics Review* 2.1 (2010), see Rosalinda Pineda Orfeneo, "Economic and Reproductive Justice in the Context of Women in the Informal Economy" 19–35; and Vibhuti Patel, "Sex Determination and Sex Pre-Selection Tests in India" 76–81.

⁵⁴ In *Asian Bioethics Review* 2.2 (2010), see Anant Bhan, "Ethical Issues Arising in Responding to Disasters: Need for a Focus on *Preparation, Prioritisation* and *Protection*" 143–47; Theresia Citraningtyas et al., "A Second Tsunami? The Ethics of Coming into Communities Following Disaster" 108–23; Chesmal Siriwardhana, "Windows of Opportunity after a Disaster: The Case of Sri Lanka" 148–51. For the Caribbean, see Aduel Joachin, "Donner la parole aux sujets souffrants: un défi éthique pour Haïti," *Revue d'éthique et de théologie morale* 264 (2011) 61–72.

⁵⁵ Deogratias Biembe Bikopo and Louis-Jacques van Bogaert, "Reflection on Euthanasia: Western and African Ntomba Perspectives on the Death of a Chief," *Developing World Bioethics* 10 (2010) 42–48.

In dialogue with utilitarianism and Kantianism, and inspired by sub-Saharan peoples, Thaddeus Metz proposes an “African moral theory,”⁵⁶ where “*an action is right just insofar as it is a way of living harmoniously or prizing communal relationships, one in which people identify with each other and exhibit solidarity with one another; otherwise, an action is wrong.*”⁵⁷ He also outlines its implications for medical treatment, free and informed consent, standards of care, and animal experimentation.⁵⁸

Trained in theological ethics and public health, the Cameroonian Jesuit Jacquineau Azetsop asks for structural social transformation to promote health.⁵⁹ He targets all social determinants that cause widespread poverty, from violence to AIDS. His analyses and proposals are shaped by the preferential option for the poor and an emphasis on the human capability theory of Amartya Sen and Martha Nussbaum, which tends toward personal and collective flourishing. This is an interdisciplinary and participatory endeavor and mobilizes as many social forces as needed. Hence, bioethics, together with other disciplines,⁶⁰ concretely addresses what affects the poor,⁶¹ challenging the Western emphasis on autonomy that can leave patients dissociated from others.⁶²

Godfrey Tangwa, another Cameroonian, reflects on bioethics in his own country⁶³ proposing an African bioethics⁶⁴ in dialogue with

⁵⁶ Thaddeus Metz, “African and Western Moral Theories in a Bioethical Context,” *Developing World Bioethics* 10 (2010) 49–58.

⁵⁷ Ibid. 51, emphasis original. See also Cheryl Macpherson and Ruth Macklin, “Standards and Practices in a Diverse World: An Investigation into Shared Values,” *Developing World Bioethics* 10 (2010) 30–33, at 32–33; Thaddeus Metz, “An African Theory of Bioethics: Reply to Macpherson and Macklin,” *Developing World Bioethics* 10 (2010) 158–63.

⁵⁸ Metz, “African and Western Moral Theories” 52–58.

⁵⁹ Jacquineau Azetsop, *Structural Violence, Population Health, and Health Equity: Preferential Option for the Poor and the Bioethics Health Equity in Sub-Saharan Africa* (Saarbrücken: VDM Verlag Dr. Müller, 2010).

⁶⁰ Azetsop, “New Directions in African Bioethics: Ways of Including Public Health Concerns in the Bioethics Agenda,” *Developing World Bioethics* 11 (2011) 4–15.

⁶¹ Azetsop, “Social Justice Approach to Road Safety in Kenya: Addressing the Uneven Distribution of Road Traffic Injuries and Deaths across Population Groups,” *Public Health Ethics* 3 (2010) 115–27.

⁶² Jacquineau Azetsop and Stuart Rennie, “Principlism, Medical Individualism, and Health Promotion in Resource-Poor Countries: Can Autonomy-Based Bioethics Promote Social Justice and Population Health?,” *Philosophy, Ethics, and Humanities in Medicine* 5 (2010) 1–10.

⁶³ Godfrey B. Tangwa and Nchangwi Syntia Munung, “Sprinting Research and Spot Jogging Regulation: The State of Bioethics in Cameroon,” *Cambridge Quarterly of Healthcare Ethics* 20 (2011) 356–66.

⁶⁴ Godfrey B. Tangwa, *Elements of African Bioethics in a Western Frame* (Mankon: Langaa, 2010).

Western principlism and inspired by cultural values, traditions, customs, and practices.⁶⁵

Finally, HIV/AIDS continues to ravage peoples and societies globally, but overwhelmingly so in sub-Saharan Africa and increasingly in Asia.⁶⁶ Within theological ethics, stories and reflections urge a greater involvement of rich countries to rein in the pandemic and to slow its devastating personal and social consequences.⁶⁷

BIOTECHNOLOGICAL DEVELOPMENTS AND THEIR ETHICAL CHALLENGES

Biotechnological progress stimulates the lagging global economy. Private entrepreneurs and state-funded agencies finance it. In medicine, innovations could expand our knowledge and improve diagnoses and therapies. I consider three fields: neurosciences, oncofertility, and synthetic biology.

Neurosciences and Neuroethics

Neuroethics is a new bioethical discipline that addresses ethical questions in neurosciences.⁶⁸ Its ambition is twofold: to study the “ethical dimension of neurosciences” with the issues that they raise, and the “neurosciences’ approach to ethics.” The latter explores our identity, by focusing on conscience, will, memory, and acts (e.g., truth telling), to discover the neurological base of our actions, even risking the naturalistic fallacy.⁶⁹ Neuroethics merits comment.

⁶⁵ Tangwa, “Ethical Principles in Health Research and Review Process,” *Acta Tropica* 112, Suppl 1 (2009) S2–7.

⁶⁶ “In 2009, there were an estimated 2.6 million . . . people who became newly infected with HIV” (Joint United Nations Programme on HIV/AIDS [UNAIDS], *Global Report: UNAIDS Report on the Global AIDS Epidemic 2010* [Geneva: UNAIDS, 2010] 16).

⁶⁷ Felicitas Becker and Wenzel Geissler, *AIDS and Religious Practice in Africa* (Boston: Brill, 2009); Mary Jo Iozzio, “Moving Beyond the Impasse: Catholics Should Support Use of Federal Funding for Needle Exchange Programs,” *Health Progress* 90.2 (2009) 55–57; Cecilia Laura Borgna, “The AIDS Challenge in Italy: Authentic Sexual Freedom and Justice,” *Heythrop Journal* 52 (2011) 1–9; Ruth Evans and Saul Becker, *Children Caring for Parents with HIV and AIDS: Global Issues and Policy Responses* (Portland: Policy, 2009); Lisa Fullam and William R. O’Neill, “Bioethics and Public Policy,” *Theological Studies* 71 (2010) 168–89, at 177–81 and 184–86; Leclercq, *Blessed Are the Vulnerable*.

⁶⁸ The term appeared in the 1970s: Anneliese A. Pontius, “Neuro-Ethics of ‘Walking’ in the Newborn,” *Perceptual and Motor Skills* 37 (1973) 235–45.

⁶⁹ Vincenzo Viva, “Questioni di bioetica e neuroscienze,” in *Neuroscienze e persona: Interrogativi e percorsi etici*, ed. Luigi Renna (Bologna: Dehoniane, 2010) 187–209, at 191–93.

First, I welcome the development. In the history of bioethics, in the 1990s the beginning of the human genome project marked a historic moment. Research on its ethical, legal, and social implications was funded. Bioethics was considered integral to a major biotechnological endeavor. Ethics in the neurosciences is equally needed.

Second, I am critical. Do we need specialized ethical areas? By creating subethical compartments, scientists assign to themselves the tasks of identifying and addressing the ethical issues within disciplines. This is praiseworthy, but it might be ethically unsatisfactory. Scholars and researchers not extensively trained in ethical theory could oversimplify ethical reasoning by reducing it to applying frayed principles. Moreover, bioethical reasoning risks being narrowed by merely attending to philosophical bioethics.⁷⁰ Theological bioethics aims to bring to the conversation its commitment to justice, human flourishing, progress, and innovation in light of its theological vision of the personal and social good.

Still, the needed scientific knowledge of the discipline might be a deterrent,⁷¹ leading some to be reluctant or even resistant to getting involved. By engaging themselves in conversations, scientists and ethicists could create a collaborative working style, thus making interdisciplinarity a fruitful experience.

An Italian volume on neurosciences is an example of interdisciplinarity.⁷² Neuroscientists, philosophers, theologians, a physician, and a lawyer reflected on neurosciences and avoided any reductionist understanding of our brain-mind and of moral agency. The authors' contributions are situated within Vatican II's optimistic and hopeful assumption that when "methodical investigation within every branch of learning is carried out in a genuinely scientific manner and in accord with moral norms, it never truly conflicts with faith, for earthly matters and the concerns of faith derive from the same God."⁷³

⁷⁰ Bernard Baertschi, *La neuroéthique: Ce que les neurosciences font à nos conceptions morales* (Paris: Découverte, 2009); Neil Levy, *Neuroethics* (New York: Cambridge University, 2007).

⁷¹ Martha J. Farah, *Neuroethics: An Introduction with Readings* (Cambridge, Mass.: MIT, 2010); Walter Glannon, *Brain, Body, and Mind: Neuroethics with a Human Face* (New York: Oxford University, 2011); Eric Racine, *Pragmatic Neuroethics: Improving Treatment and Understanding of the Mind-Brain* (Cambridge, Mass.: MIT, 2010); Volney P. Gay, *Neuroscience and Religion: Brain, Mind, Self, and Soul* (Lanham, Md.: Lexington, 2009); Eliezer J. Sternberg, *My Brain Made Me Do It: The Rise of Neuroscience and the Threat to Moral Responsibility* (Amherst, N.Y.: Prometheus, 2010); Arthur Saniotis, "Neuroethics in Asia," *Asian Bioethics Review* 1 (2009) 152–57.

⁷² Renna, ed., *Neuroscienze e persona*.

⁷³ Vatican II, *Gaudium et spes* (1965) no. 36, quoted in Renna, "Introduzione" to *Neuroscienze e persona* 5–15, at 7.

Reproductive Technologies and Oncofertility

Reproductive technologies continue to raise ethical questions. The media have covered stories on the number of children with the same genetic father, by using sperm from the same donor,⁷⁴ and on “selective reduction” in the case of twins.⁷⁵ The bioethical literature continues to discuss embryo status,⁷⁶ multiple embryo transfer,⁷⁷ sperm donors’ anonymity,⁷⁸ and the need to regulate oocyte donation.⁷⁹

Concerns regarding procreation are raised not solely in Western countries. Though counted among the high fertility countries, in 2005 in India “over 13–15 million couples were estimated as being infertile.”⁸⁰ Infertility affects not only procreation. From India to Egypt and sub-Saharan Africa, “being infertile also has serious economic consequences for women, whose marriages and related financial security are predicated on their childbearing.”⁸¹

Our ethical response should be holistic, considering the many social pressures on women, couples, and families: malnutrition, poverty, conceptions of morally appropriate behavior for women in their roles as wives and mothers, the overall healthcare situation, class discrimination, reproductive tourism, and local laws,⁸² while never forgetting how surrogacy exploits poor women.⁸³

⁷⁴ Linda Matchan, “Who’s Your Daddy?,” *Boston Globe*, August 14, 2011.

⁷⁵ Ruth Padawer, “Unnatural Selection,” *New York Times Magazine* (August 14, 2011) 22–27.

⁷⁶ Sibylle Rolf, “Human Embryos and Human Dignity: Differing Presuppositions in Human Embryo Research in Germany and Great Britain,” *Heythrop Journal* 48 (2010) 1–13.

⁷⁷ David Orentlicher, “Multiple Embryo Transfers: Time for Policy,” *Hastings Center Report* 40 (2010) 12–13.

⁷⁸ Glenn Cohen, “Prohibiting Anonymous Sperm Donation and the Child Welfare Error,” *Hastings Center Report* 41 (2011) 13–14.

⁷⁹ Aaron D. Levine, “Self-Regulation, Compensation, and the Ethical Recruitment of Oocyte Donors,” *Hastings Center Report* 40 (2010) 25–36; Levine, “The Oversight and Practice of Oocyte Donation in the United States, United Kingdom and Canada,” *HEC Forum* 23 (2011) 15–30.

⁸⁰ Maya Unnithan, “Infertility and Assisted Reproductive Technologies (ARTs) in a Globalising India: Ethics, Medicalisation, and Agency,” *Asian Bioethics Review* 2 (2010) 3–18, at 3.

⁸¹ *Ibid.* 7.

⁸² On the 2011 debate concerning regulating reproductive technologies in the Philippines, see Eric Genilo, “The Challenge of Democratic Dialogue in the Philippines,” *Catholic Theological Ethics in the World Church: Newsletter Forum* (2011), <http://www.catholicethics.com/genilo>.

⁸³ Unnithan, “Infertility” 15.

Within this context, oncofertility is further transforming procreation.⁸⁴ It preserves and recovers one's own procreative capability by saving the person's unaffected gonadic tissues before starting cancer treatments that would affect it.⁸⁵

Because of increasing cancer therapies in children, adolescents, and young adults, we begin to think about procreation ahead of time, to protect the reproductive capability and later to restore it. We are just beginning to address the related ethical questions.⁸⁶ Within an integral view of person and of society, healing, including the recovery of one's procreative capability, contributes to the ongoing process of achieving and protecting our embodied wholeness. Oncofertility might help us.⁸⁷ We need to clarify further how and to what extent.

Synthetic Biology

"There has been little or no public reaction to synthetic biology," Ronald Cole-Turner tells us.⁸⁸ Engineering, genetics, chemistry, and computer science help synthetic biology construct new life forms, reconfigure metabolic pathways, and build from scratch new genes or biological components (i.e., BioBricks⁸⁹ or bioparts).⁹⁰ Its potential applications include the production

⁸⁴ Nina Chevalier et al., "L'oncofertilité: Vers une nouvelle spécialité?," *Annales d'endocrinologie* 70, Suppl 1 (2009) S33–41; Teresa K. Woodruff, "The Oncofertility Consortium: Addressing Fertility in Young People with Cancer," *Nature Reviews Clinical Oncology* 7 (2010) 466–75; Sarah Rodriguez, "Placing the History of Oncofertility," in *Oncofertility: Ethical, Legal, Social, and Medical Perspectives*, ed. Teresa K. Woodruff et al. (New York: Springer, 2010) 103–10.

⁸⁵ On compatible donors, see Paul Lauritzen and Andrea Vicini, "Oncofertility and the Boundaries of Moral Reflection," *Theological Studies* 72 (2011) 116–30, at 123–25; Jacques Donnez et al., "Live Birth after Allografting of Ovarian Cortex between Genetically Non-Identical Sisters," *Human Reproduction* 26 (2011) 1384–88.

⁸⁶ In *Oncofertility*, see Rumea Ahmed, "Sacred Bodies: Considering Resistance to Oncofertility in Muslim Communities" 279–86; Ayesha S. Chaudhry, "Unlikely Motherhood in the Qur'an: Oncofertility as Devotion" 287–94; Laurie Zoloth and Alyssa A. Henning, "Bioethics and Oncofertility: Arguments and Insights from Religious Traditions" 261–78.

⁸⁷ Paul Lauritzen, "Outwitting Cancer: The Ethics of Oncofertility Treatments," *Commonweal* 136.3 (February 13, 2009) 16, 18–19; Lauritzen, "Technology and Wholeness: Oncofertility and Catholic Tradition," in *Oncofertility* 295–306; Lauritzen and Vicini, "Oncofertility."

⁸⁸ Ronald Cole-Turner, "Synthetic Biology: Theological Questions and Biological Engineering," in *Without Nature?: A New Condition for Theology*, ed. David Albertson et al. (New York: Fordham University, 2010) 136–51 and 403–6, at 145.

⁸⁹ <http://biobricks.org/>.

⁹⁰ Ennio Brovedani, S.J., "Recenti sviluppi della biologia sintetica: Biopoesi o bricolage biologico estremo?," *La civiltà cattolica* 161 pt 4.3847 (October 2, 2010) 33–47, at 35–37; Cole-Turner, "Synthetic Biology" 136–44.

of clean biofuels, customized vaccines and targeted medicines, environmental cleansers, and resistant crops. To treat millions of people suffering from malaria in poor countries, artemisin, a natural chemical used to treat malaria,⁹¹ could be produced synthetically at a substantially lower cost.⁹²

Synthetic biology, however, could betray a mechanistic and oversimplified understanding of life.⁹³ Misuses might include producing new viruses or revamping and spreading old ones (e.g., poliovirus) for biological terrorism or warfare.⁹⁴ Moreover, we can envision environmental and biodiversity risks by releasing synthetic organisms into the environment.⁹⁵

In 2010, a synthesized genome was produced, modifying the genome of a bacterial cell and inserting it into a living cell of another species.⁹⁶ President Obama reacted, requesting a report. His commission highlighted five principle-based approaches guiding a socially responsible approach to all emerging biotechnologies: public beneficence; responsible stewardship for those who cannot protect themselves by minimizing risks for future generations; intellectual freedom and responsibility with prudent vigilance and precaution; democratic deliberation; and justice and fairness.⁹⁷ Another 18 recommendations were addressed to Mr. Obama.⁹⁸

The commission's ethical stance was balanced and cautious. Aimed at educating researchers and the public, it neither reacted with alarm nor suggested regulations, but its approach, grounded solely on principles, was quite narrow. As Lauritzen suggested, moral life is more than principles and rules. It incorporates them within an overall attention to cultural context and character formation.⁹⁹

⁹¹ malERA Consultative Group on Drugs, "A Research Agenda for Malaria Eradication: Drugs," *PLoS Medicine* 8.1 (January 25, 2011) e1000402, 1–9, at 1.

⁹² "In 2009 there were an estimated 225 million cases of malaria . . . worldwide" (WHO, *World Malaria Report 2010* [Geneva: WHO, 2010] 60).

⁹³ Brovedani, "Recenti sviluppi" 38.

⁹⁴ Thomas Douglas and Julian Savulescu, "Synthetic Biology and the Ethics of Knowledge," *Journal of Medical Ethics* 36 (2010) 687–93.

⁹⁵ Markus Schmidt et al., eds., *Synthetic Biology: The Technoscience and Its Societal Consequences* (New York: Springer, 2009).

⁹⁶ Daniel G. Gibson et al., "Creation of a Bacterial Cell Controlled by a Chemically Synthesized Genome," *Science* 329 (2010) 52–56.

⁹⁷ Presidential Commission for the Study of Bioethical Issues (PCSBI), *New Directions: The Ethics of Synthetic Biology and Emerging Technologies* (Washington: PCSBI, 2010).

⁹⁸ For a discussion of the Commission's Report in *Hastings Center Report* 41 (2011), see Amy Gutmann, "The Ethics of Synthetic Biology: Guiding Principles for Emerging Technologies" 17–22; Mark A. Bedau, "The Intrinsic Scientific Value of Reprogramming Life" 29–31; Rob Carlson, "Staying Sober about Science" 22–25; Gregory E. Kaebnick, "Of Microbes and Men" 25–28; and Thomas H. Murray, "Interests, Identities, and Synthetic Biology" 31–36.

⁹⁹ Paul Lauritzen, "Humming with Mystery," *Commonweal* 138.7 (April 8, 2011) 13–15, at 15.

Moreover, theological ethics situates human beings within creation as conscientious, free, and responsible cocreators,¹⁰⁰ animated by respect and awe,¹⁰¹ but aware of the consequences of our pride. Prudent vigilance, mindful of our sinfulness, which we saw throughout this essay, needs humility.¹⁰²

WHO? HOW?

Today's scholars face basic questions and new exciting developments. They do it differently. Some of them, in the United States, are well into their careers. Martone unpacks the complexity of her experience as a mother and scholar. Paul Lauritzen, an advocate of feminism, focuses on embodiment. Iozzio articulates an anthropologically virtuous approach. Gula confirms the relevance of narrative in healthcare. Callahan calls us to renew healthcare, even through rationing.

Others around the world are quite young. From Cameroon, Azetsop struggles with the complexity of the African continent. In the United States, Graham invites us to reframe moral action by considering patterns of behavior. From Paris, Leclercq focuses on vulnerability and fragility. In Manila, Genilo advocates for just reproductive legislation. From Haiti, Joachin voices the suffering of a battered nation. In Italy, Viva dialogues with neuroscientists.

They all belong to the second soul of bioethics, the theological. This is not a closed group, however. Theological bioethics includes practitioners and listens to many from other disciplines who renew our reflection and practices, like Reverby, Skloot, Gawande, and Boesky.

We used to get a lot from the first soul of bioethics, the philosophical—and still do, from Nussbaum, Sen, and others. But the present philosophers in bioethics, where are they? We wonder about the exclusivity of both interlocutors and their method. Like those at the ASBH, they seem satisfied with the clinical and the philosophical. I think the future is in interdisciplinarity, about the disease and the people, about the medical knowledge and the context. For now, I find theological bioethics more inclusive (even, but not only, of the philosophical) and more exciting. There I find my own soul and am more confident in the future of bioethics. But I still miss my other half.

¹⁰⁰ Cole-Turner, "Synthetic Biology" 148.

¹⁰¹ Paul Lauritzen, "Thinking Like a Mountain: Nature, Wilderness, and the Virtue of Humility," in *The Ideal of Nature: Debates About Biotechnology and the Environment*, ed. Gregory E. Kaebnick (Baltimore: Johns Hopkins University, 2011) 114–29, at 120–22; quoted in Murray, "Interests, Identities, and Synthetic Biology" 34–35.

¹⁰² Lauritzen, "Humming with Mystery" 14, 15.