

Eugenics—Sacred and Profane

Christine Rosen

It begins innocuously enough. A six-month-old baby, once thriving and cheerful, begins reacting differently to normal sounds such as clapping hands or closing doors. Her parents notice that her limbs twitch and her muscles are not developing properly. She has trouble swallowing and shows signs of mental retardation. What they can't see is her compromised brain tissue, which began degenerating when she was still in her mother's womb. Soon their once-healthy child is in the grips of an overwhelming illness. As the deterioration intensifies, fatty deposits overwhelm the nerve cells in her brain, and she experiences seizures and paralysis. Bright cherry red spots appear on the retinas of her eyes, and she is rendered blind. Their daughter lapses into a vegetative state, and by the age of 3 or 4, she is dead, often of complications from pneumonia.

If ever there was a clear case for using our knowledge of human genetics to end suffering, Tay-Sachs, a killer of children, is it. There is no cure for the disease. A single gene disorder, Tay-Sachs is named for British ophthalmologist Warren Tay, who first described the cherry-red spot on Tay-Sachs victims' eyes in 1881, and for Bernard Sachs, a neurologist in New York who outlined the other progressive degenerations of the disease and noted the frequency of its occurrence among Ashkenazi Jews (Jews of Central and Eastern European descent). The rate of Tay-Sachs disease among Ashkenazi Jews is approximately 1 in every 3,000 births—nearly 100 times higher than other ethnic groups. Tay-Sachs is inherited in an autosomal recessive fashion, which means that both parents must be carriers of the defective gene to have an afflicted child. If both parents are carriers, they have a one in four chance—for each pregnancy—of having a child with Tay-Sachs.

Not long ago, information about a particular ethnic group's unique genetic characteristics was hardly so precise. Certain diseases and disorders appeared more frequently in particular populations: People of Mediterranean descent suffer from the group of blood disorders known as thalassemia; those of African descent experience higher rates of sickle cell anemia; and whites of Northern European descent are more likely to have children with cystic fibrosis. But it is only recently that we have gained the power to pinpoint the genes that cause these specific conditions, among ethnic groups and in individuals.

As a result, our attention has moved beyond preventing germ-borne disease at the macro level—such as last century's crusades to eradicate diseases like

Christine Rosen is a senior editor of The New Atlantis and resident fellow at the Ethics and Public Policy Center.

SUMMER 2003 ~ 79

smallpox or polio—to avoiding the genetic expression of disease at the micro level—the level of individual reproduction. In the future, an increasing number of people will prevent a range of genetic diseases by sidestepping the unions that create them—whether at the altar through “premarital genetic diagnosis” of genetic abnormalities, or in the petri dish through pre-implantation genetic diagnosis (PGD) of embryos created using in vitro fertilization.

Only about two percent of all diseases, including Tay-Sachs, are caused by mutations in a single gene; the rest are the result of multiple genes acting together and in conjunction with assorted environmental factors. But our knowledge of both single-gene diseases and multi-gene diseases is increasing rapidly. Genetic tests for more than 800 conditions are now available, with more hitting the market every year. For the most part, geneticists, physicians, and scientists are encouraging us to use this new knowledge about ourselves and our potential offspring to guide decisions about marriage and procreation. Why take a chance, they say, when we can prevent the birth of more “doomed babies”? The force of such an argument—and the terrible suffering endured by diseased children and their families—cannot be denied.

But such genetic guarantees necessarily come at a price—not least of which is the tacit judgment that individuals with certain genetic conditions are not fit to live or better off never born. As genetic testing becomes more advanced and more widespread, the line between acting on a just concern for the well-being of the next generation and engaging in an inhuman project of weeding out the imperfect will become more difficult to draw. Different communities will draw different lines for different reasons—whether to protect the health and safety of children, to protect the life of the unborn, to expand the reproductive freedom of women, to heed the taboo against “playing God,” or to perfect God’s imperfect creation with human reason and human hands. And some of these reasons are clearly more justifiable than others. But no community—religious or secular, sacred or profane—will use such genetic powers without inviting the possibility of a new eugenics.

The Genetic Matchmaker

What could be wrong with acting on our knowledge of human genetics to prevent future suffering? This was the motivating question for Rabbi Josef Ekstein, an ultra-Orthodox Jew in Brooklyn who, after losing four of his own children to Tay-Sachs disease, founded Dor Yeshorim (Hebrew for “Generation of the Righteous”) in 1983. Dor Yeshorim representatives visit Orthodox high schools and draw blood samples from students, who are then issued a number. The samples are screened for genetic disease and the results stored in Dor Yeshorim’s offices. When young Orthodox men and women reach a marriageable age, and receive a recommendation from a *shadchan*, or matchmaker, about a potential

mate, they make a very important phone call. They (or their parents) call Dor Yeshorim, which retrieves the assigned numbers for each member of the potential couple and checks to see if they are carriers of genetic disease. If they are, they are told that a union is not advisable.

In effect, with one phone call, Dor Yeshorim turns young Orthodox men and women into genetic Montagues and Capulets. The notion of searching and finding one's *bashert*, or soul mate, seems a little less mystical in this cool-eyed context. But it is difficult to argue with the organization's success: In Dor Yeshorim's first year, Ekstein succeeded in convincing only 45 people to participate in the program; since then, more than 135,000 people have been tested by Dor Yeshorim offices in the United States, Europe, Canada, and Israel. No children with Tay-Sachs disease have been born to Ashkenazi Jews who have participated in Dor Yeshorim's screening program.

"I think Dor Yeshorim performs a tremendous service," says Dr. Fred Rosner, a professor at Mt. Sinai School of Medicine and an important authority on Jewish medical ethics. "Screening is a wonderful thing to do, and if you can avoid the birth of a potentially lethally affected child, that is a good thing." Rosner has written about how "genetic manipulation is not considered to be a violation of God's natural law but a legitimate implementation of the biblical mandate to heal." The specific beliefs of the Orthodox community—especially its aversion to abortion—make the screening of parents a moral obligation. "There are Orthodox Jewish women who refuse amniocentesis for Down Syndrome because they won't abort," Rosner said. "That's why you need screening of the parents for carrier status."

At first Dor Yeshorim tested only for Tay-Sachs disease, an always-fatal illness. But it soon added testing for a range of other conditions that are not always fatal, including conditions that are late-onset or that range in the severity of their expression—such as cystic fibrosis and Gaucher's disease. Ten years ago, a spokesman for Dor Yeshorim told the *New York Times* that the organization would continue to add any and all genetic tests available to its menu of screening options. More recently, in a letter to a Jewish newspaper, Rabbi Ekstein noted that "the genetic panel has expanded beyond Tay-Sachs to include other genetic diseases that display similar inheritance patterns and are fatal or severely disabling."

"This is what happens when you have people with no scientific orientation who want to do good," says Rabbi Moshe Dovid Tendler, a professor of medical ethics at Yeshiva University. "The question arises, when do you stop? There are close to 90 genes you wouldn't want to have. Will this lead to people showing each other computer print outs of their genetic conditions? We'll never get married."

Tendler is a trained microbiologist and teacher of Talmudic law. In recent years, he has come to public view for his outspoken defense of embryonic stem cell research and research cloning, and he is a great friend of medical progress.

Tendler does not oppose genetic screening, but he has been an unrelenting critic of Dor Yeshorim's approach, particularly its devotion to nondisclosure of each individual's carrier status. "My grandparents were born in America. The American ethical and moral values are very important to me," Tendler says. "The idea that Dor Yeshorim has genetic information and refuses to share it with the person who it belongs to is unfair, irrational, and almost anti-American. If you submit blood, you should be able to have the results."

Dor Yeshorim only gives approval or disapproval of a match; it does not inform individuals of their carrier status. "By keeping the results a secret, the testing program avoids the cost of counseling every carrier of a genetic disease," Rabbi Ekstein argued in a recent article. "You don't need the counseling, we do the job for you." Of course, if a couple is told that they are not a suitable match, they know by implication that each of them is a carrier of one of the recessive genes. Thus while keeping the specifics of people's genetic status private, Dor Yeshorim's approach does not eliminate the potential for stigma. "When a match is proposed and nothing happens," says Rabbi Tendler, "people naturally ask, why didn't this happen? They submitted to Dor Yeshorim and then decided not to get married. This reveals immediately to their entire Jewish community that there are two people who are blemished."

Rabbi Tendler's concerns are borne out in recent research about gene-carrier status and community stigma. "Our personal experience as well as those working within the Orthodox Jewish communities is that [stigma] is a real concern and that stigmatization of carriers for purposes of marriage has occurred," explains Brooklyn oncologist Mark Levin in a recent study in *Genetic Testing*. "Anxiety appears to be increased in identified carriers ... Among high school students, nearly half of carriers felt 'worried or depressed.'"

The stigma is only worsened by the dramatic decline in the number of Tay-Sachs cases. Thanks to the Tay-Sachs screening effort that began in the late 1970s, "there has been a 90 percent reduction in the incidence of Tay-Sachs disease in the Jewish populations of the United States and Canada from 1970 to 1993," according to a recent study. "We've not destroyed the disease, we've just changed the chance of having it," says Karen Rothenberg of the University of Maryland School of Law. As more "Jewish genes," such as those for breast and colon cancers, are discovered among Ashkenazi Jews, the potential for discrimination is heightened. "Stigmas are tied to stereotypes," Rothenberg says. "In the Jewish population, mental illness carries more stigma than cancers. But in the Orthodox Jewish community, cancers related to reproduction, such as breast or ovarian cancers, are stigmatized because they are linked to the reproductive value of women in that community."

At the individual level, one might argue that discovering the genetic basis for a certain condition should neutralize the stigma attached to it—"it's not my

fault, after all, if it's in my genes." But when a specific group possesses a negative genetic trait, stigma could attach to the entire ethnic population, with almost certainly negative results.

Judaism and Eugenics

Stigmatization of Jews based on their genes inevitably raises the specter of eugenics. As Laurie Zoloth, Director of the Program in Jewish Studies at San Francisco State University, has written: "If the concept of prenuptial and prenatal screening is halakhically acceptable for Tay-Sachs, and the technology exists to uncover more and more diseases, then the process shifts perilously close to the eugenic imperative." "We are affirming eugenics, the idea that Jews are the repository of bad genes," adds Rabbi Tendler. "We only read about Jewish genes, and I've been pleading with investigators to publish alongside Jewish statistics some statistics for screening in other populations such as Icelanders or the Amish. There should be some sensitivity to the history of eugenics, especially at a time when anti-Semitism is on the increase worldwide."

Dor Yeshorim's leaders are dismissive of such criticism. "Because we are a premarital screening program and are not involved in the manipulation of genes after the fact ... we are not practicing eugenics," Rabbi Ekstein told *U.S. News & World Report* in 1994. "We successfully addressed this issue ten years ago and consider ourselves the pioneers in protecting the public," he said. "Instead of throwing rocks at us, we invite the professional ethicists to come and learn from our experience."

What can be gleaned from Dor Yeshorim's experience? It has been effective within its own community, whose insularity, respect for privacy, and shared belief in the impermissibility of abortion have made premarital screening an accepted part of the marriage market. "The ultra-Orthodox Jewish community will never allow a marriage to take place without being screened," Dr. Rosner says. "The first question asked is, 'Have you been tested?'" Rosner does note that "if both are carriers, they can choose to marry and to do preimplantation screening to implant unaffected fertilized eggs into the mother's womb to guarantee the birth of an unaffected, healthy child, if implantation results in a successful pregnancy." But either way, genetic testing is now intrinsic to the larger ritual of matchmaking in the ultra-Orthodox community.

Dor Yeshorim's system of screening seems difficult to criticize when it comes to always-fatal diseases such as Tay-Sachs. And the Orthodox approach to premarital screening seems to embody a community belief in the obligation of this generation to the next, rather than the eugenic imperative to eliminate the unfit. Those with Tay-Sachs, after all, are cared for, not discarded, by the Jewish community. Their lives are seen as tragic, not worthless. But as the system of genetic screening expands to non-fatal and late-onset genetic conditions, the

ethical boundaries become more amorphous. And Rabbi Ekstein's cursory dismissal of the eugenic implications of his organization's work is far from thoughtful. To suggest that because Dor Yeshorim is not manipulating genes "after the fact" it is not practicing eugenics is disingenuous at best. American eugenicists in the early twentieth century did not have the ability to manipulate genes after the fact, and they, too, used "prevention" as their watchword. Like Dor Yeshorim, they saw the regulation of marriage as the best way to improve the human race through "better breeding," and they lobbied state legislatures to pass laws requiring eugenic examinations and the issuing of "marriage health certificates" for couples applying for marriage licenses.

Jewish groups outside the ultra-Orthodox community are less sanguine than Rabbi Ekstein about the eugenic implications of genetic screening and testing. In 1998, representatives from Hadassah and the Jewish Council for Public Affairs met with scientists from the National Institutes of Health and the National Human Genome Research Initiative to discuss the dangers of genetic stigmatization. Hadassah requested that the National Human Genome Research Institute develop working guidelines for research on Jewish genetic diseases. "This feels uncomfortable to the Jewish community," a Hadassah spokesperson told *Biotechnology News*. "We understand how important this life-saving research is. [But] the genetic findings, which already have led to the targeting of Jewish people as a market for commercial genetic tests, could create a perception of them as unusually susceptible to disease."

Jews are not more likely than other groups to harbor hereditary diseases, but their willingness to participate in medical research has made them a favorite community for study, even more so than other homogenous populations such as the Amish or Icelanders. Pharmaceutical companies now troll Israeli hospitals, drawing blood samples from Ashkenazi Jews. One Jerusalem-based company, IDgene Pharmaceuticals, has Princeton University biologist Lee Silver as an ethical adviser, and the company's CEO recently noted that he "believes his company can help pave the way for big pharmaceutical groups to develop drugs and treatments faster than expected" by studying Ashkenazi Jews.

In April 2003, Alfigen, Inc., a large, private genetics diagnostic laboratory based in Pasadena, California, announced a new panel of genetic tests for nine autosomal Jewish diseases—including Tay-Sachs, but also many non-fatal conditions. The "Jewish Genetic Disease Panel" includes tests for Bloom syndrome, Canavan disease, cystic fibrosis, familial dysautonomia, Fanconi anemia, glyco-gen storage disease type 1A, mucopolidosis type IV, and Niemann-Pick disease type A. "The Jewish community has long been in a position to recognize the benefits of genetic testing," says Dr. E. Robert Wassman, Vice President of Clinical Services for Alfigen. "The market for genetic testing in general is slowly maturing," he said, "and in the future it is going to expand."

Of course, Ashkenazi Jews are not the only community facing difficult questions about our new genetic knowledge. But the Jewish experience, for a host of reasons, is unique. Given the Jewish community's tragic history of suffering deliberate ethnic discrimination—and more specifically, of being treated as a people genetically unfit to live—one would hope for more thoughtful reflection by the leaders of groups such as Dor Yeshorim. Rabbi Ekstein refused repeated requests for an interview, and his public utterances about Dor Yeshorim's work often leave one wondering whether the ethical firewalls he has attempted to construct around his organization—privacy of the genetic information gathered, unwillingness to reveal the particulars of an individual's carrier status—provide less of a bulwark against misguided eugenic impulses than he claims.

At the same time, Dor Yeshorim's success stems largely from the fact that it functions in a community guided by a particular moral sense, a moral sense grounded in shared religious teachings about the Jewish individual's obligations to the next generation. Screening has become part of the larger ritual of match-making, but it is sustainable only because the community as a whole shares certain values—deference to elders in choosing a spouse, moral opposition to abortion—that are foreign to the larger secular society that surrounds it. As a result, the Dor Yeshorim model of using our new genetic knowledge does not translate easily outside this particular community. "Attempts to generalize [Dor Yeshorim's approach] to the non-Orthodox communities," as Mark Levin aptly summarized, "have generally failed."

Choosing Better Babies

If the future of eugenics within the ultra-Orthodox community involves the expansion of premarital genetic testing by groups such as Dor Yeshorim, the future of eugenics for the rest of the American public is happening in places such as the Reproductive Genetics Institute in Chicago. The Institute is ground zero for new reproductive genetic techniques, and recently made international headlines by performing genetic tissue-matching for a British couple seeking to save the life of their dying child by giving birth to another child genetically selected to serve as a tissue donor for the first. The U.K.'s Human Fertilization and Embryology Authority rejected the couple's petition, but the Reproductive Genetics Institute (RGI) was more than happy to assist them.

RGI is best known for its facility in performing "preimplantation genetic diagnosis," or PGD. This technique allows physicians to perform genetic tests on a single cell (or small group of cells) removed from an early-stage human embryo produced using IVF. By extracting very small amounts of DNA from these embryonic cells, physicians can determine if an embryo is "genetically compromised," as well as other genetic characteristics like sex. "Because of the genome project and because we're learning more about linkages, we'll do PGD for more

diseases. It will continue to expand,” says Dr. Yury Verlinsky, a pioneer in PGD and the director of the Reproductive Genetics Institute. “We’re testing for chromosomal abnormalities, we’re testing for chromosomal arrangement, we’re doing genetic matching for life saving of siblings,” he said. “In principle, PGD can be performed for any genetic condition for which there is sufficient sequence information.”

First developed in 1989, PGD is not yet a widely used procedure. Approximately 2,000 children have been born using the technique, which is available in roughly fifty centers worldwide, most of them in the United States. But physicians such as Verlinsky have high hopes for the procedure. “In the future, every single treatment will involve some chromosomal analysis,” Verlinsky predicted. He helped organize the First and Second International Conferences on Preimplantation Genetics and founded an International Working Group that regularly reviews the safety and efficacy of PGD procedures and whose website graphic is, appropriately, a large, undulating powder-blue double-helix.

The “Scientific Summary” of the 12th annual meeting of the International Working Group on Preimplantation Genetics in 2002 exudes only excitement about the rapidly expanding scope of PGD: “The important present feature of PGD is its expansion to a variety of conditions which have never been considered as an indication for prenatal diagnosis, including the late-onset disorders with genetic predisposition and preimplantation non-disease testing.” These late-onset disorders include certain cancers, retinoblastoma, and Von Hippel-Lindau disease, but PGD could also be used, as the report concedes, for “gender determination for social reasons.” “It means if you have a mutation that might make it more risky for breast cancer, colon cancer, or for Alzheimer’s disease, we can use PGD,” Dr. Verlinsky explained.

Policymakers and ethicists are just beginning to pay serious attention. A recent working paper by the President’s Council on Bioethics noted that “as genomic knowledge increases and more genes are identified that correlate with diseases, the applications for PGD will likely increase greatly,” including for medical conditions such as cancer, mental illness, or asthma, and non-medical traits such as temperament or height. “While currently a small practice,” the Council working paper declares, “PGD is a momentous development. It represents the first fusion of genomics and assisted reproduction—effectively opening the door to the genetic shaping of offspring.”

In one sense, of course, PGD poses no new eugenic dangers. Genetic screening using amniocentesis has allowed parents to test the fitness of potential offspring for years. But PGD is poised to increase this power significantly: It will allow parents to choose the child they want, not simply reject the one they do not want. It will change the overriding purpose of IVF, which began as a treat-

ment for infertility but now aims, as one prominent fertility expert has said, “to help prospective parents realize their own dreams of having a disease-free legacy.” Over time, PGD will be used not simply to spare the birth of “doomed children,” who would be born with diseases that kill in the first few years of life, but to avoid the birth of children with a higher chance of getting certain illnesses later in life. And it will do so, as one ethicist described, “only by picking and choosing embryos like consumer goods—producing many, discarding most, and desiring only the chosen few.”

If we are moving too quickly into the realm of eugenics, and doing so with the blessing and encouragement of the medical profession, it is due in some measure to new liability fears. The power to select brings with it the danger of failing to act on that power. In 1998, a couple in New York sued a fertility clinic for medical malpractice after their child was born with cystic fibrosis. The egg donor used by the clinic had been screened for cystic fibrosis and found to be a carrier, but clinic staff did not inform the couple of this fact or urge the husband, whose sperm was combined through IVF to conceive the child, to be tested for carrier status himself. Citing a “breach of the standard of care,” the father claimed he “emotionally suffers and will continue to emotionally suffer as a parent of a child affected with [cystic fibrosis] which is a chronic, debilitating and painful disease for the rest of her life.” On summary judgment, the Court ruled that the parents were entitled to damages to cover the cost of their child’s care, but not damages for her “wrongful birth.” The ruling in the case is nevertheless chilling to read. “It is difficult to conceive that parents, concerned about whether the egg donor had freckles and with the size of her eyes and ears, would not have expected full disclosure of information regarding whether she carried cystic fibrosis,” the judge noted. Such “wrongful life” and “wrongful birth” suits are only likely to increase.

Most experts agree that genetic screening of offspring before birth will eventually become a regular part of most pregnancies. As bioethicist John Robertson has argued, “the perceived dangers of ‘quality control’ appear to be insufficient to remove these choices from the discretion of people planning to reproduce.” What matters, in other words, is protecting and expanding procreative liberty. But the more lasting significance of our new genetic powers may not be the freedom to reproduce in new ways, but the obligation to reproduce only in the most advanced, most effective, and safest ways possible. For certain patients, particularly older women, screening and testing have already become the standard of care. “It’s now a duty, not a choice,” says Karen Rothenberg. Those who oppose discarding unfit embryos or aborting unfit fetuses will soon become—perhaps already are—a dissident culture, tolerated at best, but more likely heavily regulated by a society that increasingly expects only healthy children to be born.

The Future of Eugenics

So far, we have not wanted to view premarital genetic diagnosis and PGD as eugenics, because their main effect has been to reduce the number of children born with serious or fatal genetic conditions such as Tay-Sachs. But perhaps we should face the fact of a re-emerging eugenics. Indeed, our most prominent bioethicists have begun rehabilitating the eugenic idea from the dustbin of history. As Arthur Caplan, Glenn McGee, and David Magnus argued in 1999 in the *British Journal of Medicine*: “An individual couple may wish to have a baby who has no risk of inheriting Tay-Sachs disease or transmitting sickle cell disease. Or they may want a child with a particular hair color or of a particular sex ... No moral principle seems to provide sufficient reason to condemn individual eugenic goals.”

Government regulation in the field of “reprogenetics,” as it is now called, is virtually nonexistent. “I’m a hematologist/internist,” Dr Rosner told me, “and I could hang up a sign that says ‘IVF Clinic’ and go to work.” Last year, the President’s Council on Bioethics began a major inquiry into the state of public policy in areas of biotechnology that touch the beginnings of human life, noting that “there is presently no governmental body (state or federal) exercising monitoring or regulatory authority over the use of PGD,” nor is there regulation or oversight of the long-term health effects of PGD on children born using the procedure. Worse, the Council observed, “there are also no governmental or non-governmental guidelines regarding the boundary between using PGD for producing a disease-free child and using it for so-called enhancement purposes or to produce siblings for children needing transplant donors.”

Fertility doctors, not surprisingly, believe more oversight is unnecessary. “PGD is just an extension of prenatal diagnosis, and that is self-regulated,” says Dr. Verlinsky. But so far, the self-regulation of reprogenetics has proven a failure. The American Society for Reproductive Medicine (ASRM) has issued a handful of ethical guidelines, such as discouraging the use of PGD for sex selection. But these guidelines are not enforced, and prominent members of the leading professional society (the Society for Assisted Reproductive Technology) have begun aggressively advertising this service to consumers. A recent study about genetic testing in the *Hastings Center Report* concluded that “for the immediate future regulatory constraints will be the only moral influence that can be brought to bear by the relevant scientific and medical associations.”

But the prospect of developing such a system of oversight requires much greater clarity—or at least public debate—about the goods or values that such a regulatory system would aim to defend. Put simply: Why regulate at all, and why worry about the uses of new reprogenetic technologies? This is, as we are discovering, not an easy question to answer. The benefits of premarital screening and PGD are perhaps obvious: the birth of healthy children. But the costs, if

less obvious, are no less real: the return, in a new humanitarian guise and armed with the latest assisted reproduction techniques, of the eugenic idea. “We used to teach our children that when a baby is born, you count its fingers and toes, and if they are all there, thank God, and don’t ask any more questions,” Rabbi Tendler told me. “The blessings of normalcy are poorly appreciated these days.” Such blessings have become an expectation.

In *The Gift*, playwright Nicola Baldwin traces the generational confrontation between a father and his son—but with a modern genetic twist. The son was the product of PGD, screened to avoid a debilitating genetic disease that had afflicted the boy’s aunt. For good measure, however, the father also selected a gene that would make his son a superior athlete. When the son finds out he has been engineered, it calls into question his own sense of self. The belief that his athletic ability was something he had earned—or something that was his own, a natural gift—is replaced by a persistent dread that he is little more than a manufactured being. Rabbi Immanuel Jakobovits, a pioneer in Jewish medical ethics, put the matter more directly as long ago as 1975: What do we lose when we begin “replacing the matchless destiny of the human personality by test-tubes, syringes and the soulless artificiality of computerized numbers”?

Although our genetic age is still in its youth, we have already compiled a fair number of conceits. Of these, the notion that we are free of the eugenic urges of the past is the most worrisome. The question is no longer whether we will practice eugenics. We already do. The question is: Which forms of eugenics will we tolerate and how much will we allow the practice of eugenics to expand? Sorting this out will require greater moral seriousness from reprogenetics practitioners, greater foresight and courage from policymakers, and greater realism from those who wish these new genetic powers never existed in the first place. Not all eugenic practices are equal, and often the same practices can have very different meanings when pursued in a different spirit or governed by a different moral purpose. Perhaps some forms of eugenics are sacred and some profane. But we ought never allow good intentions (or claims of holiness) to blind us to moral realities—especially the ways a new privatized eugenics, directed by individuals or specific communities, will affect the range of human possibilities for everyone.