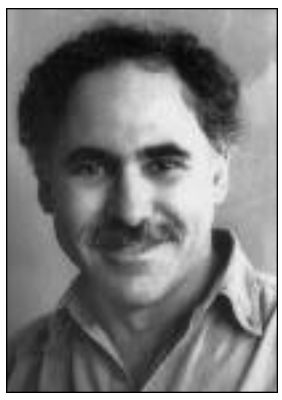
news&notes

NOVEMBER 12, 1999 VOLUME 10, NUMBER 8 THE ROCKEFELLER UNIVERSITY

Silver to give first Centennial Lecture on Science and Society

Lee Silver, a behavioral geneticist at Princeton University, will launch RU's Centennial Lectures on Science and Society series with a talk entitled "The Science and Politics of Genetic Enhancement in the Third Millennium: Who Will Decide the Future of Humankind?" Silver will discuss how developments in reproductive biology and genetics will change the way we think about our families, our species and ourselves.



Lee Silver will give a public lecture on Wed., Nov. 17 in Caspary Auditorium. *Photo courtesy of Lee Silver*

Silver warns that within 15 years scientists will be able to alter specific human genes at will and even create a human clone. While these capabilities could serve humanitarian purposes, such as preventing birth defects and hereditary diseases, the prospect of genetically engineered human beings is controversial, on scientific as well as ethical grounds. Silver believes that we must confront these issues today, while we still have the luxury of making decisions that technology may soon make for us.

Silver is a professor at Princeton University in the Department of Molecular Biology, Ecology and Evolutionary Biology and the Program in Neuroscience. He edits the international journal Cloning: Science and Policywith Ian Wilmut (who led the team that cloned Dolly). Silver is also a fellow of the American Association for the Advancement of Science.

His one-hour talk will take place on Wed., Nov. 17, at 7 p.m. in Caspary Auditorium. All are welcome, but it is requested that you make a reservation. To do so, please call x8967. This will be the first of several public lectures designed to celebrate the university's centennial and generate informed public discussion about science in the new millennium.

Lewis Thomas Prize winner Weinberg to present "The Physics of Nothing"

Steven Weinberg is winner of this year's Lewis Thomas Prize: Honoring the Scientist as Poet. *Photo by Louise Weinberg.*

The university has named Nobel Prize winner Steven Weinberg, director of the Theory Group at University of Texas at Austin, winner of the 1999 Lewis Thomas Prize: Honoring the Scientist as Poet. The award will be presented at a ceremony in Caspary Auditorium on Tues., Nov. 23 at 5:30 p.m.

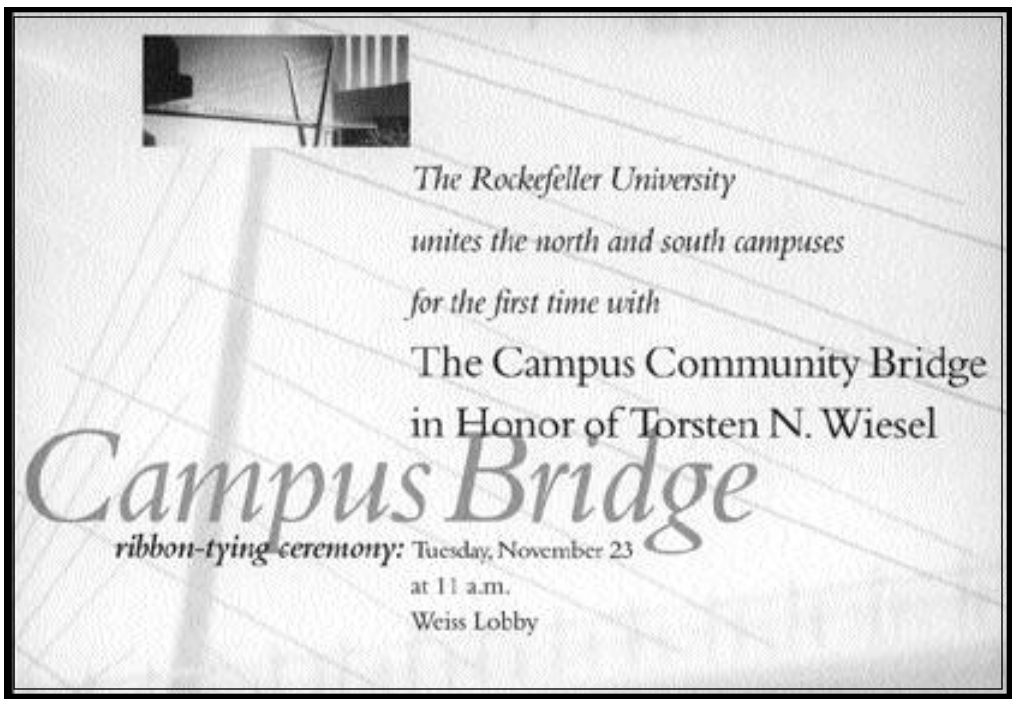
As part of the event, Weinberg will deliver a lecture entitled "The Physics of Nothing." The prize will be presented immediately following the lecture by President Arnold J. Levine and President Emeritus Torsten N. Wiesel.

Weinberg is the author of several books, including The First Three Minutes: A Modern View of the Origin of the Universe,for which he received the 1977 American Institute of Physics–United States Steel Foundation Science Writing Award. The First Three Minuteshas also been translated into 22 languages. His other books include Gravitation and Cosmology,The Discovery of Subatomic Particles, Dreams of a Final Theoryand The Quantum Theory of Fields.He is also the author of more than 250 papers on elementary physics, cosmology and other subjects, one of which is the most frequently cited paper in particle physics of the last 50 years. He is an occasional contributor to the New York Review of Booksand other periodicals. He was co-editor of the Cambridge University Press Series of Monographs on Mathematical Physics,founding director of the Jerusalem Winter Schools of Theoretical Physics and consultant at the U.S. Arms Control and Disarmament Agency. He was a member of the board of editors of Daedalusmagazine, the Council of Scholars of the Library of Congress as well as many other boards and committees. In addition to the 1979 Nobel Prize for Physics, he received the National Medal of Science in 1991.

Weinberg was educated at Cornell University, the Copenhagen Institute for Theoretical Physics and Princeton University, where he received his doctoral degree in 1957. He has held academic positions at Columbia University, University of California at Berkeley, Massachusetts Institute of Technology and Harvard University (where he was the Higgs Professor of Physics) before joining the University of Texas in 1982 as Josey Regental Professor of Science. He is also the Morris Loeb Visiting Professor of Physics at Harvard.

The Lewis Thomas Prize, instituted by the university board of trustees in 1993, is presented annually to an individual whose work combines the two worlds of science and art. In its first year, it was awarded to its namesake, essayist and biomedical scientist, Lewis Thomas. Other recipients include François Jacob (1994), RU Professor Emeritus Abraham Pais (1995), Freeman Dyson (1996), Max Perutz (1997) and Ernst Mayr (1998).

The lecture and award ceremony begins at 5:30 p.m. in Caspary Auditorium. A reception will be held immediately following in Abby lounge. All are welcome.

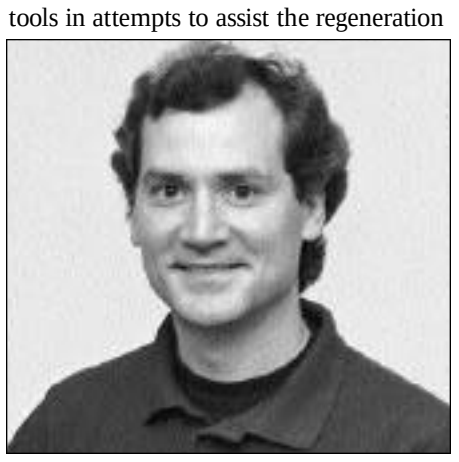


Friday lecture:

Tessier-Lavigne to discuss molecular mechanisms of axon guidance

Marc Tessier-Lavigne, professor of anatomy, biochemistry and biophysics at the University of California at San Francisco (UCSF), will present today's Friday lecture (Nov. 12). His topic will be "Wiring the Brain: Molecular Mechanisms of Axon Guidance in Vertebrates."

Tessier-Lavigne studies the mechanisms through which nerve cells in the developing brain make connections with other nerve cells to form complex neural circuits. The mechanisms he has identified are important for understanding how the human brain forms during normal development. They also provide important tools in attempts to assist the regeneration of new nerve connections following trauma or injury, including paralyzing injuries to the spinal cord.



Marc Tessier-Lavigne will present today's Friday lecture (Nov. 12). *Photo courtesy of Tessier-Lavigne.*

Tessier-Lavigne received a bachelor of science degree in physics from McGill University, a bachelor of arts degree in philosophy and physiology from Oxford University and a doctorate in physiology from University College London. He performed postdoctoral work at the MRC Developmental Neurobiology Unit at University College London and then at Columbia University. Since 1991 he has been on the faculty at the UCSF, where he is an investigator with the Howard Hughes Medical Institute. He is the recipient or corecipient of numerous awards, including the Young Investigator Award of the Society for Neuroscience and the Ameritec Prize and Wakeman Award (both awarded for contributions in basic research toward a cure for paralysis). In 1999 he was elected a Fellow of the Royal Society of Canada.

The talk begins at 3:45 p.m. in Caspary Auditorium and is preceded by tea at 3:15 p.m. All are welcome.

Rafal Kwiatkowski to perform at today's Tri-institutional Noon Recital in Caspary Auditorium

Today's Tri-Institutional Noon Recital will feature Polish cellist Rafal Kwiatkowski. He will perform works by Fançois Francoeur, Federic Chopin and Manuel de Falla.

The son of two professional cellists, Kwiatkowski was born in Warsaw, Poland, in 1978 and began his cello studies at the age of 7. At age 14, he won the Kazimierz Wilkomirski National Competition for Young Cellists, which resulted in his studying for one year with Cecylia Barozyk at Towson State University in Maryland. Kwiatkowski then returned to Poland to attend the High School of Music in Warsaw. He is currently studying with Andrzej Orkisz at Warsaw's Chopin Academy of Music on an Artistic Scholarship awarded to him by the Polish Ministry of Culture.

In 1998 Kwiatkowski won the Young Concert Artists European Auditions in Leipzig, Germany hosted by the Hochschule für Musik "Felix Mendelssohn Bartholdy." Following this, he came to New York where he won first prize at the 1999 Young Concert Artists International Auditions. At this competetition he was also awarded two special prizes: the Princeton University Concerts Prize and the Paul A. Fish Memorial Prize of YCA. The YCA sponsored his New York debut in the Young Concert Artists Series at the 92nd Street Y in November 1999. Next month, Kwiatkowski will perform as part of the new YCA Encores Series at Weill Recital Hall, sponsored by the Helen F. Whitaker Chamber Music Chair.

Rafal Kwiatkowski will perform at today's Tri-institutional Noon Recital in Caspary Auditorium
Photo courtesy of the artist.

Kwiatkowski began his "first prize" winning streak at age 10 in the Young Artists competitions in Warsaw and Poznan, Poland. Among the other first prizes he has garnered are: the 1993 American String Teachers Association Competition; the 1996 Viña del Mar Competition in Chile, which brought him numerous recitals and concertos appearances in Chile and Colombia; the 1998 Kuhmo Duo Competition in Finland with pianist Grzegorz Gorczya, where he also won the Beethoven Sonata Prize; and the 1998 European Radio Broadcasting Company Competition in Ljubljana, Yugoslavia.

Kwiatkowski has performed in recital throughout Poland and in European cities including Paris, Helsinki and Kuhmo. In 1997, at the invitation of Mstislav Rostropovich, Kwiatkowski performed at the Second World Cello Congress in St. Petersburg, Russia. This season Kwiatkowski will perform recitals in Leipzig and Usedom, Germany; Warsaw, Poland; Ridgewood and Princeton, N.J.; and Buffalo, N.Y. Along with an orchestra, he will perform the Dvorak Concerto in Breslau and Koszalin, Poland, and as soloist with Poland's Rzeszow Philharmonic Orchestra at the National Philharmonic of Warsaw. Kwiatkowski recently recorded the Shostakovich Concerto No. 1 with the Polish Radio and Television Symphony Orchestra.

The recital takes place at noon today (Nov. 12) in Caspary Auditorium. Admission is free for members of the tri-institutional community and their guests.

ALFRED DIAMOND CHILDREN'S CONCERT TO PLAY THIS WEEKEND IN CASPARY

Charlotte White's Salon de Virtuosi will host the first of the "Diamond Concerts for the Young" Sat. Nov. 13, at 2 p.m. in Caspary Auditorium.

The concert is geared toward children ages 5 to 12 and will feature two young artists, Shunsuke Sato and Alejandro Vela. Sato is 14 years old and the winner of last year's Sony Fellowship Grant. Vela is a young pianist and the winner of the Valdimir Horowitz Scholarsip at Juilliard. The series is intended to foster music appreciation and understanding in children. Saturday's concert will include excerpts from Moussorgsky's Pictures at an Exhibition and Mendelssohn's Violin Concerto.

While the concert and series are free, reservations are required. To learn more about the series and/or future concerts, please contact Charlotte White at 212-369-3911 or charlotte.white@worldnet.att.net.

Potpourri

Give it a shot

The Employee Health Office is offering free flu shots to all RU students and employees. To avoid this winter-time bug, just stop by Hospital 118 between 10 a.m. and 4 p.m. Monday through Friday. No appointment is necessary. For more information, call the Employee Health office, x8414.

We do Regret

In last week's issue of News&Notes the following names of those honored at this year's university Anniversary-Retirement Dinner were spelled incorrectly:

- David Mauzerall, 45th anniversary
- Paulette Zabriskie, Retiree

In addition, please note that Catherine Volin is celebrating her 40th anniversary at RU.

Child and Family Center applications

The RU Child and Family Center is now accepting applications for the 2000-2001 school year. The center serves children from 3 months to 4 and a half years. Please call the educational director, Marjorie Goldsmith, x8580, for more information.

Open Enrollment

It's that time of year again. Open enrollment will be from Tues., Nov. 2 to Tues., Nov. 30. You may join or make changes to your health insurance as well as your voluntary accidental death and dismemberment insurance. In addition, this is the only time to sign up for the 2000 flexible spendng accounts and the 2000 T.R.I.P. (transportation reimbursement incentive program). All enrollments and changes will be effective Sat., Jan. 1, 2000. To learn more, please call Human Resources, x8300.

Security

Security can be reached from anywhere on campus by dialing x8295. In the event of an emergency dial x1111.

Restaurant discount

Baluchi's Indian Food Restaurant (1149 1st Ave., on the corner of 63rd St.) already offers a lunch discount of 50 percent on menu items between noon and 3 p.m. In addition, the restaurant is extending a dinner discount of 20 percent off for all Rockefeller University faculty, students and staff. Just present your Rockefeller I.D., and they will take 20 percent off the food items on your check. They also offer catering, parties and takeout. (Discounts are available for eat-in meals only.)

News&Notes deadline

The deadline for submission of text for Potpourri and other News&Notes sections is one week prior to print. Deadlines for the Nov. 19, Dec. 3 and Dec. 10 issues are Nov. 12, Nov. 27 and Dec. 3. Please note that due to the Thanksgiving Day holiday, News&Notes will not be published Fri., Nov. 26.

DirectEffect holds evening program to support Rockefeller AIDS research

President Arnold J. Levine and Associate Professor Gilla Kaplan joined university Trustee Christopher H. Browne (far left) and RU Council member Frederick Kane Marek (far right) on Wed., Oct. 27 for a special reception and scientific update on Rockefeller's AIDS research initiatives. The event, sponsored by the DirectEffect volunteer group, raised more than $120,000 for HIV-related investigations at the university. Browne and Marek are DirectEffect committee members.
Photo by Paul Schneck.

PENNIES FOR THE PANTRY

The new coin collection boxes in the cafeteria are to benefit the programs of the Yorkville Common Pantry. By contributing your spare change, you will help support this local non-profit organization that has long been providing food to needy New Yorkers.

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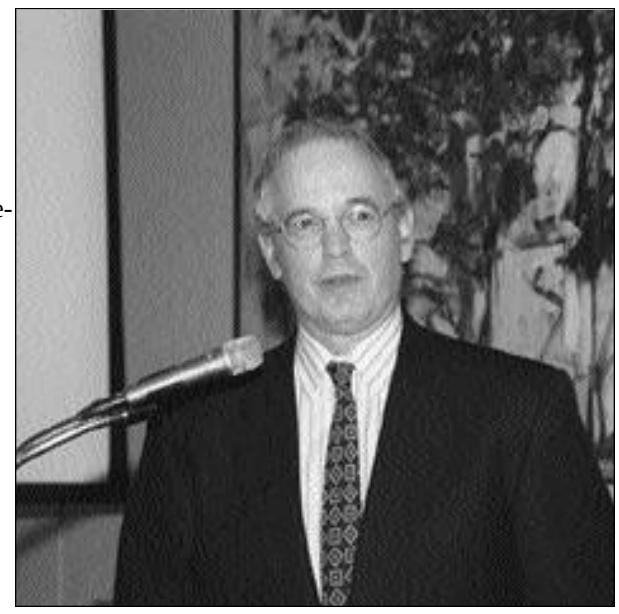
Shapiro discusses stopping science at Cohn Forum

On Mon., Oct. 25, Harold T. Shapiro, president of Princeton University and chair of the National Bioethics Advisory Commission, delivered the last Zanvil A. Cohn Forum on Health Affairs for 1999. Shapiro's talk, entitled "Stopping Science?," discussed the roots of the sometimes popular argument for halting the advance of science. The following are excerpts from his talk.



Harold T. Shapiro, president of Princeton University, delivered the Cohn Forum on Mon., Oct. 25 in the Abby Dinning Room. He spoke about "Stopping Science?". *Photo by Paul Schneck.*

Bioethics has become a broad subject spanning issues from access to health care, to biological warfare, to the protection of human subjects. This afternoon I will focus on issues that are related to the evolving scientific agenda.

It is easy to observe public policy's impact on the size, scope and nature of scientific and medical enterprises. It is also clear that ethical considerations govern certain aspects of these enterprises—for example, standards of practice in peer review—and have been a concern for at least some clinicians since classical times—for instance, the Hippocratic Oath. The challenge for public policy in the bioethics arena is to decide which moral imperatives relating to the scientific enterprise and/or to medical practice should be reflected in public policies.

This challenge has become a great deal more salient in recent decades for a number of reasons. First, the government has become an increasingly dominant sponsor of biomedical science and health care. This has transformed what some may have considered a private matter (for example, how an individual scientist or clinician behaves) into a matter of public concern. When the government sponsors such activities we all become implicated, so the ethical barriers may shift upward to accommodate and/or show respect for a diversity of views. Second, as our desire to carry out clinical trials has increased, so have our moral sensitivities to the human subjects in the trials. As a result, it has become a matter of public policy to put protections in place when investigators face an inherent conflict of interest.

The focus on ethical concerns and the protection of human subjects in government-sponsored research was re-energized by the Nuremberg Trials. Following the Trials, our country clung to the notion that it could trust the ethical sensibilities and caring commitment of American investigators. Slowly, however, our post-World War II experience taught us that such trust was not always justified as evidence accumulated that American investigators were carrying out risky medical experiments on human subjects without their knowledge or informed consent. Forty-five years later, the Common Rule was adopted. The Common Rule assured that some Americans volunteering as human subjects in prototcols that were federally sponsored or aimed at satisfying FDA requirements received the twin protections of informed consent and independent review.

While the Common Rule regulations added red tape to the process of conducting research trials, they greatly increased public confidence in biomedical research. In the long run, I believe this improved the prospects for all parties involved in the biomedical enterprise.

For many scientists, bioethics and bioethical concerns can get in the way of scientific progress and advances in clinical care. To them, bioethicists are 20th-century Luddites who carry forward the now discredited idea that progress is not what it is cracked up to be and, at best, is the exchange of one nuisance for another.

What I hope to convince you of today is that bioethics can be a friend of science, and that a respectful, though critical, engagement with the issues by those in the scientific and medical enterprises will increase public support and respect for these enterprises.

There are two areas that require our attention. The first is the question of what it means to be human in a moral sense. The second concerns how our society can accommodate our rapidly increasing knowledge in a manner that still gives meaning and value to human efforts. This latter issue has been a concern for societies for as long as the written record exists. Let me turn briefly to the first of these issues, or what some observers call "the final crisis of science."

As we march into the future, we should never confuse what we can do with what we should do.

Biology can easily identify what biological material belongs to the species Homo sapiensIt is a more difficult problem, however, to identify when a collection of biological material achieves the status of a person. For example, is a fertilized egg considered to have the moral status of a person? When, if ever, does an embryo or a fetus achieve this status? What about combinations of biological materials from human and non-human animals? It seems simple to decide how to classify people in this respect if they have had heart valves from a pig replace their own damaged valves. What about, however, an embryo formed by combining a denucleated ova from a cow with a human cell? At the other end of the life span, when does an individual lose the moral status of a live person? In the U.S. these are the bioethical issues that tend to mobilize the most national energy. Some recent examples of controversies in this area include SCNT [somatic cell nuclear transfer] cloning of human beings and embryonic stem cell research.

Finally, let me turn to what some observers refer to as "the final crisis of science." While signs of immense human accomplishments are all about us, perhaps no previous century has produced such a high level of apprehension about the future. A possible reason for this is that as science generates an ever-larger opportunity set, it simultaneously raises the level of moral responsibility, and it is this moral or ethical challenge about which we are so uncertain. This ethical malaise reflects, I believe, not only the fragility of the traditional reference systems, but a shared understanding that humankind's destiny will not be decided in the laboratory or at the genetic level, where we have a lot more confidence in our ability to find solutions.

Possibly this explains why a short time ago I was asked to address a conference with the rather arresting title, "Stopping Science." The stunning pace and nature of recent scientific advances, particularly in biology, have been disquieting to some. It is not the scientific developments themselves that cause the concern, but their potential applications and concerns about the limits, if any, of technology and the pace of discovery when a moral compass is lacking. Whatever the cause of this anxiety, there are those who suggest that public policy should address the ethical content of scientific developments and try to arrest or shape, further developments in scientific and technological areas.

I would like to consider, therefore, how public policy can, at times, become focused on placing negative constraints on science and its applications of new knowledge. By negative constraints I mean instructions not to do something, as opposed to positive constraints, which are designed to encourage one to proceed in a particular direction. Moreover, how did we ever become concerned with "stopping science"?

Why should we stop or slow down something that most think a good thing? As I understand such sentiments, the suggestion is that we are promised a better world if only we have the wisdom to see the ultimate futility of contemporary beliefs and the dangerous, but somewhat hidden, dynamic of our present circumstances. Thus, however positive developments in science and/or technology may seem, a deeper look into their impact would generate some concerns about our capacity to live together, and our understanding of the place of societies in the grander scheme of things.

Irrespective of one's views on the ultimate impact of science and technology on the evolving human condition, it is important to consider the possible moral repercussions of new knowledge; not just to celebrate discovery and its many benefits. Indeed the more dependent we become on science and technology, the more essential it is to generate renaissance after renaissance in moral philosophy.

It is critical to remind ourselves that scientific theories say nothing about what is right in a moral sense, but only speak of what is possible. Our values, therefore, must come from a source other than science. Thus while myths and social narratives, on the one hand, and science on the other, are both constructs of the human mind, their functions are quite different and meet different needs. In particular, deciding how we should act, including what public policies we should enact, is a negotiated social decision that necessarily involves resources outside of science such as our cumulative cultural traditions. As we march into our future, we should, in short, never confuse what we can do with what we should do.

Similar concerns are found throughout the history of western civilization and are widespread in its literary and cultural tradition. Within the human narrative of the West, the notion that advances in science and technology are Janus-faced—both friend and foe—and can bring both vast good and catastrophic evil is a truly ancient one. Moreover, even in early days, the focus of concern was on the implications of new knowledge for the meaning of being human and what new and perhaps dark human desires the new power would release that might distort the human journey.

Science can be quite subversive, since its focus on revealing the previously unseen reality of things works against the stability of current beliefs and our trust in, or even reverence for, certain values that sustain valuable human institutions.

Humans have always practiced technology, adapting the natural world to serve their own ends. However, as new technology was incorporated into societies, it has always remolded them in some way. While these changes can be minor, often they enhance and enrich our human potential. At other times, however, the changes challenge our assumptions about life, our self-understanding and the ways we relate to one another and the rest of the natural world. These types of changes continue to need our thoughtful attention.

One of the great responsibilities facing us in the 21st century is to consider the social and human repercussions of our rapidly accumulating knowledge and the appropriate stance of public policies with respect to these matters. For scientists, ethical reflection must become an integral part of their scientific agenda. This obligation is especially acute given our enhanced capacity to transform all manner of life, including ourselves. Perhaps it is not enough to use these powers to benefit humanity by relieving human suffering. We might also wish to understand the impact such developments have on the social and cultural institutions that are also critical to supporting our individual and collective lives.