curring radioactivity. That meant that nobody was going to miss these particular items for the next century.

Better yet, they neatly fit side by side into my backpack. I still had to get past the metal detector in the building entrance, but that was where the thermocycler came in. I pushed the cart out into the hallway, past the rows of smiley-faced "Customer Service First" posters and to the bank of elevators. Waving a cheerful hello, I trundled up to the security monitor and brandished my permit. I flung my backpack on the box and pushed the cart between the metal detector plates. As expected, the thermocycler produced a big spike-and-ruffles pattern on the monitor, which effectively concealed the smaller wave profiles generated by the items in my backpack. I mailed off the equipment in a box of "miscellaneous household items" on my way to the airport.

Unfortunately, I was just one of many hopefuls eager to make it in the Far East. Scientists working in the laboratories of Tokyo and Kyoto University were raking in the Nobel prizes, but my chances for a Japanese work permit were about the same as winning the Washington State lottery jackpot. I could not even get a tourist visa. Not that I could have expected any pay even if I could have landed a job in Japan.

On Saturday evening, the red-light district of Tokyo was clogged with American postdoc taxi drivers chauffeuring around visiting businessmen from wealthy nations such as China, Taiwan, and India. The tax on revenues from enzymatic anti-aging creams patented to New Delhi Pharmaceuticals alone had been enough to pay for Calcutta's brand-new subway system. I had been very lucky to be offered laboratory space in a remodeled warehouse in Hanoi as part of a biomedical start-up venture, even if employment was conditional on my supplying my own equipment. At least there was an all-you-can-eat, calorie-free lunch bar in the building, so no matter what mankind's future looked like, I would be slim getting there.

The author is the grandmother of the story's protagonist. In 1988, she immigrated as a freshly minted physician from Germany into the United States. Now in Seattle, she became a psychiatrist and is now working in molecular biology research at the University of Washington and the Seattle division of the Veterans Affairs Puget Sound Health Care System. Her ambitions in life are to get a bigger cubicle and to find the cure for depression and bipolar disorder. R. Kohen, Veterans Affairs Puget Sound Health Care System, GRECC (182B), Seattle, WA 98108, USA. E-mail: ruko@u.washington.edu

This essay is a work of fiction. Names, characters, places, and incidents either are the product of the author's imagination or are used fictitiously. Any resemblance to actual persons, living or dead, events, or locales is entirely coincidental.

DATE: January 25, 2050

TO: Erin Bernstein-Wu, Ph.D., D.V.M.
EXPERT JUROR
Area of Technical Expertise:
AGRO-ENGINEERING

FROM: Morgan Freemont
Executive Director
EXPERT JUROR ADVOCACY

SUBJECT: Appointment as Expert Juror

by MARY ANN KRUG

Your application has been reviewed, your background check has been completed, and your credentials have been scored and verified. We are pleased to offer you an appointment as EXPERT JUROR in the area of AGRO-ENGINEERING.

Your appointment is created and funded through the provisions of the Prescott-Elliot legislation of 2046. Prescott-Elliot dictates that jurors be given access to technical experts when a preponderance of evidence presented in a criminal or civil trial is highly technical in content.

During the early development of commercial organ technology, $MHCII^-$ organs were cultured using classic techniques. Although this worked well in cases where the need for transplants was predictable, it did not work well in emergency circumstances. Additionally, sustaining organs in culture was labor-intensive, extremely expensive, and ultimately finite.

Prescott pigs are cloned with the end-user's MHC alleles inserted into their genomes. They undergo a natural gestation period and are born as perfect matches for the human recipients of their organs.

Prescott pig technology started a revolution in human organ transplantation. The bioengineered pigs were easy and cheap to maintain, and their organs were viable for the animals' life-span.

An overwhelming demand for organs soon followed; everyone wanted a set of spare parts. Since producing Prescott pigs in a 1:1 ratio with humans wasn't feasible, a database that cataloged the MHCs of people with some form of health insurance coverage was created. These people were divided into groups called MHC collectives, and a Prescott pig was produced on the basis of anticipated demand for organs.

Damon Elliot was born with a degenerative liver disorder, making him an inevitable candidate for transplantation. In accordance with the practice of the time, he procured a custom-engineered Prescott pig for his unavoidable transplant.

Mr. Elliot's Prescott pig was fed unauthorized offal, which caused terminal kidney failure. The pig needed a kidney transplant, or its organs needed to be harvested. Mr. Elliot sued his health-care provider when it refused to allow him to donate his own kidney to the Prescott pig, or to authorize his liver transplant, deemed medically unnecessary at the time.

The provider successfully asserted during trial that the pig was not covered under Mr. Elliot's insurance policy, so they were under no obligation to pay for its medical care. They claimed further that viable alternate sources were available for Mr. Elliot, including MHC collectives, $MHCII^-$ organs, and cadavers.

Mr. Elliot's appeal was denied; his Prescott pig expired shortly thereafter.

ILLUSTRATION BY ADAM MCCAULEY

When Mr. Elliot's liver began to fail 21 months later, no liver was available. The MHC collective his health-care provider ascribed him to had no Prescott organs; another of its covered patients needed an emergency lung transplant when she returned from Thailand with tuberculosis. A replacement Prescott pig had been cloned, but it was still gestating.

Mr. Elliot died of liver failure.

In the face of public outrage, the jurors were forced to defend their decision in the media. They maintained their belief that Mr. Elliot had realistic alternative sources.

The jurors had only superficial knowledge of the technologies involved. Furthermore, they had no real sense of how viable those technologies were in Mr. Elliot's particular case.

Prescott pig technology made organ banks extinct; little more than their databases existed. In vitro organ culture showed early promise, but its cost had always been prohibitively high, even before Prescott pig technology drove it out of the commercial organ market.

The ensuing public outcry resulted in the Prescott-Elliot legislation, which was ratified in 2046, five short years after Damon Elliot's death.

You will be assigned your first case within the next 2 weeks.

As an expert juror, you cannot refuse a case assigned to you, unless there is conflict of interest or it falls outside your area of expertise. If either occurs, this office will select an alternate.

You will only be allowed to hear technical evidence, not the entire trial. The presentation of such testimony is scheduled by the judge in each trial, and the court will inform you directly when your presence is required.

You will not vote on the final verdict. You are expressly forbidden to comment directly on the guilt or innocence of either plaintiff or defendant. Your deliberations are restricted to specific aspects of technical testimony. You are duty-bound to do the following:

- assess the credentials of expert witnesses,
- evaluate the appropriateness of the metrologies used,
- evaluate the validity and reasonableness of data interpretations made either by plaintiffs or defendants, and
- point out logical flaws or incorrect assumptions made by the jury in their interpretations of technical testimony.

Please allow me extend my personal welcome and thanks to you, Dr. Bernstein-Wu, for spending your sabbatical in such a generous way.

Active participation of scientific experts has a direct positive impact on our court system. Access to expert jurors has done the following:

- reduced the number of cases brought to court,
- reduced the number of cases overturned on appeal,
- reduced the length of trials and deliberations, and
- made monetary settlements much more reasonable.

I look forward to meeting you at orientation next week. If I can assist you then or anytime during your 10-month term, please do not hesitate to call on me.

The author had a blast writing this story. She notes: it's not realistic to think about the global impact of your work; it's not even practical to think beyond the next few experiments—you just don't know. M. A. Krug, Department of Pathology, Wayne State University, Detroit, MI 48124, USA. E-mail: mkrug@med.wayne.edu

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