banished to Siberian gulags.

Lysenkoism infected the Soviet satellites as well. In Brno, city officials removed a stone Mendel monument—a statue of the monk clutching a pea plant—from the city's Mendel Square and stashed it in the monastery, which after World War II was converted into a hostel and government offices. During those dark days, prominent Czech geneticists led by Jaroslav Krizenecky—who had campaigned for a Mendel research center as early as the 1920s—spoke out on behalf of Mendel. He and others paid a high price, with some getting thrown in jail for anti-Lysenkoist views, according to Mendel biographer Vitezslav Orel, a Brno geneticist. It was not until 1964, after the Soviet authorities finally rejected Lysenkoism, that Brno scientists were able to organize a conference on Mendelian genetics. The Mendelianum opened the following year to mark the 100th anniversary of Mendel's lectures on heredity.

Now some scientists are rekindling the Mendel Center idea. "Mendel was an extremely important figure, more important than Darwin in the development of molecular biology," says molecular biologist Kim Nasmyth, who directs the Institute of Molecular Pathology in Vienna and has taken the lead on the Austrian side. He envisions an ultramodern conference center and a rebuilt greenhouse at the rear of the monastery site. Such a center, he says, could "do for Brno what the new Guggenheim Museum has done for Bilbao" in Spain—drawing international attention and thousands of visitors.

That concept has won over a few luminaries. In a letter to Nasmyth in February, Havel said such a center would "promote a better understanding of Mendel and his extraordinary heritage." Watson—the U.S. Nobelist who co-discovered the structure of DNA, launched the Human Genome Project, and now directs the Cold Spring Harbor Laboratory in New York—visited the Mendelianum in 1998 and says he's "very enthusiastic" about the proposal.

So far, however, no one has come through with any cash. Recently, the European Molecular Biology Organization (EMBO) turned down Nasmyth's request for seed money. "EMBO would be delighted for scientific meetings to be organized in Brno," says director Frank Gannon, "but we don't plan to support the provision of a meeting center," a concept that he says is not part of EMBO's mission. One prominent European molecular biologist says that although he would like to see greater homage paid to the monk, he thinks Brno, a 2-hour drive from Vienna, is too remote for an international conference center. And Brno may find it hard to buck the trend of holding specialized symposia in resort areas such as Crete. Says one skeptic, "It's too bad that Mendel didn't do his work in a warm place with nice beaches."

Nasmyth concedes that his "romantic notion" of an architecturally stunning Mendel Center in Brno may take years to achieve. His group is searching for a prominent scientist, or a businessperson with scientific interests, to help set up a strategic plan. He concedes that they need to figure out how to attract top scientists to conferences in Brno, how to use the center during the weeks between conferences, and whether there's a need for another bioinformatics institute in Europe.

Meanwhile, the center's boosters are hoping to fan enthusiasm at several conferences this year to commemorate the 100th anniversary of the rediscovery of Mendel's work. The center idea came up in passing when many of the world's top Mendel scholars and some leading geneticists gathered in Paris last month for a 3-day colloquium on "The Rediscovery of Mendel's Laws." The concept also is being aired during the yearlong "Mendel Lectures" series sponsored by the Austrian Academy of Sciences as well as two meetings this spring and summer—the Mendelianum's forum on the history of genetics and a Mendel anniversary conference being organized by Palecek and others.

This year's festivities are honoring one of the greatest scientific insights of all time. Those trying to establish a Mendel Center hope that, finally, the attention will result in a more concrete tribute. "Something has always emerged to block such Mendel projects," says Mendel biographer Orel, who was fired from a Brno research institute in 1958 for daring to defend Mendelism. "If it isn't a world war, it's a money problem or a conflicting ideology." Still, he says, "I hope this latest plan succeeds."

–ROBERT KOENIG

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MENTAL HEALTH

Global Survey Examines Impact of Depression

A new WHO study seeks to verify recent findings on the social and economic burden of depression worldwide using standardized instruments

Is depression "the cancer of the 21st century?" That provocative question was raised at this winter's World Economic Forum in Davos, Switzerland. Psychiatrist Raymond DePaulo of Johns Hopkins University School of Medicine explored the issue by noting that depression, although rarely fatal, is increasingly common, devastating to the patient, and—like cancer a generation ago—shrouded by stigma.

The fact that depression was a topic at this annual gathering of economic Pooh-Bahs is a striking sign of the emerging international visibility of mental and emotional disorders. The World Health Organization (WHO) also has stepped up its efforts to understand the problem, including the launch last month of a 25-nation study. The massive, in-depth survey of mental health conditions around the globe will focus on depression, which WHO expects to be the second leading cause of disability after heart disease by 2020. "Fifteen years ago international bodies would not have even included depression on the list of things to study," says DePaulo.

Recent U.S. findings have highlighted the debilitating impact of mental health conditions, depression in particular. Depression is a chronic condition, and it's associated with a range of other medical problems, from alcoholism to heart disease. Although it is often thought of as a byproduct of high-stress urban Western existence, it may in fact be even worse in poor countries. Malnutrition and infections make the brain more susceptible to mental disorders, notes Norman Sartorius, head of the European Association of Psychiatrists in Geneva, and

Seeking help. Residents wait for treatment at an outpatient psychiatric clinic in Hong Kong's Prince of Wales Hospital.

war and social dislocations wreak further havoc on mental health. Depression immobilizes many sufferers, making for a heavy—yet at present largely unrecognized—drag on economies, lowering worker productivity and making families dysfunctional.

The social and economic burden of depression and other mental illnesses was dramatically underscored in a 1995 Harvard study called the Global Burden of Disease. The work was done by Christopher Murray, a professor in international health economics, and demographer Alan Lopez, both now at WHO in Geneva. Using a sophisticated new method for calculating the duration and severity of a disability, known as disability-adjusted life years (DALY), the researchers found that psychiatric and neurological conditions have little impact on life-span, accounting for a paltry 1.4% of all deaths. But these conditions represented an astounding 28% of all disabilities. Indeed, Murray and Lopez's group found that depression is the leading cause of disability worldwide in terms of number of people affected. What's more, four of the other top 10 causes also relate to behavioral rather than physical illness. These are alcoholism, bipolar disorders, schizophrenia, and obsessive-compulsive disorders.

Largely because of declining mortality from infectious diseases, they estimate that depression, which ranked fourth in DALY listing for 1990, will claim second place by 2020, above traffic accidents and trailing only ischemic heart disease. "I see depression as the plague of the modern era," says Lewis Judd, former chief of the U.S. National Institute of Mental Health (NIMH) and chair of the psychiatry department at the University of California, San Diego.

Although the global burden report has shaped thinking in the past 5 years, its rankings remain controversial because the data are incomplete. "Everyone has been using different instruments and different designs" to gauge mental health problems, says psychiatrist Sing Lee of the Prince of Wales Hospital in Hong Kong. Researchers hope the new WHO survey will clear up the confusion. "This time, the idea is to use standardized instruments translated in a locally culturally valid manner," says Lee, chief scientific adviser for the survey in China.

The study, which began last month in France, requires 2-hour face-to-face interviews with 150,000 people, teenaged and older, from North America, Western Europe, Mexico, Chile, Cuba, Colombia, Ukraine, South Africa, India, China, Japan, Indonesia, and New Zealand. Researchers hope to complete the survey by mid-2001. Local people are being trained to do the interviews, in which subjects will be asked about emotional symptoms, substance abuse, and psychosis as well as chronic health problems such as arthritis or back pain. The questions on depression were taken from standard depression scales, and all of the questions have been translated from English and then back-translated to ensure that the meaning has been retained. Sartorius notes that the questions also need to be modified to fit local conditions. "Do you have a fear of elevators?" he notes, might be turned into a query about mountains in rural India.

By correlating the answers to the questions dealing with depression with those relating to chronic physical problems, researchers should get a better sense of how much of the iceberg of depression lies below the surface. "We don't know how many people with headache or fatigue are really suffering from depression in disguise," says study designer Ronald Kessler, an epidemiologist at Harvard Medical School in Boston.

The survey includes retrospective questions in order to uncover the impact of major political events. In war-torn Lebanon, for example, a survey in the early 1990s revealed sky-high rates of major depression. In South Africa, some 5000 people will be asked additional questions about the effects of violence and racism. And in China, the survey may cast light on the high incidence of suicide among young rural women in recent years. It could also probe the psychological impacts of the one-child-per-family policy that has been in effect for 20 years—revealing whether China has produced what Kessler calls "a generation of little narcissists."

The WHO survey, funded by a variety of public and private sources in each country as well as by international donors, isn't the only game in town. In September the NIMH hopes to receive the results of a report by the Institute of Medicine on chronic neuropsychiatric problems, including depression, schizophrenia, epilepsy, stroke, and developmental disorders, in the developing world. NIMH director Steven Hyman says that he hopes both exercises will help show governments in developing countries that it makes economic sense to pay attention to mental health problems. With countries scarcely able to keep up with such pressing medical problems as malnutrition and AIDS, it's not realistic to expect them to create new mental health infrastructures, Hyman acknowledges. Instead, he says, "we need to develop models where depression is identified and treated in primary-care settings worldwide."

With some countries lacking even the most rudimentary training for mental health professionals, Sartorius admits that improvements will come slowly. But he hopes that the weight of the next round of surveys and reports will, "like water wearing down stone, eventually convince the public and politicians that this is a priority."

–CONSTANCE HOLDEN

NSF SCHOLARSHIPS

Demand for Tech Workers Benefits Undergraduates

The rising number of H-1B visa applications has created a pot of scholarship money at NSF, although not all universities are bidding for it

For years, U.S. high-tech companies have complained that technically trained workers are in such short supply that they need to import tens of thousands of foreign scientists and engineers to keep labs running and production lines humming. In 1998, these companies successfully lobbied Congress—over the objections of some unions and engineering organizations—to temporarily increase the maximum number of visas for foreign technical workers from 65,000 to 115,000 a year.

Companies aren't the only ones benefiting, however. Thousands of U.S. undergraduates majoring in computer science, engineering, and mathematics (CSEM) will soon be awarded scholarships under a new National Science Foundation (NSF) program, established by the visa legislation, that is aimed at boosting the supply of homegrown skilled labor. And the number of such scholarships, earmarked for students on tight budgets, could jump significantly if Congress again raises the cap, as seems likely.

The scholarships are funded by a portion of a $500 application fee that Congress imposed on applications for technical workers, known as H-1B visas. NSF was asked to administer the scholarship program and invited universities to bid for the $22-million-a-year pot. Over the past few weeks, it has chosen 77 of a projected 110 winners from some 280 community colleges, 4-year schools, and graduate research universities that competed for this first round of institutional grants, which average $220,000. In the next few months, each school will choose recipients for the $2500 annual scholarships, which are renewable for a second year.

Al Cherry hopes to be among them. A