Same syndrome? A 1992 plane crash in Amsterdam sparked a wave of health complaints similar to those of Gulf War veterans.

which some claimed was caused by the straps of heavy backpacks that compressed muscles, nerves, and vessels around the heart. During World War I, many became ill with "effort syndrome" (so-called because it was exacerbated by exercise) and "shell shock," a phenomenon attributed to tremors from nearby explosions or to the stress of the horrific battles. The Vietnam War produced post-traumatic stress disorder and Agent Orange syndrome.

Despite the different names, symptoms such as fatigue, shortness of breath, headaches, sleep disturbances, and memory and concentration loss characterized each postwar syndrome. And in several cases—not just following the Gulf War—these health problems sparked exhaustive but ultimately frustrating scientific efforts to find a cause.

Perhaps it doesn't even take a war: Several Gulf War researchers have taken a keen interest in the aftermath of a 1992 plane crash in Amsterdam. After an El Al Boeing 747 plowed into a 10-story suburban apartment building there—killing the crew of four as well as 39 residents—hundreds of neighborhood residents, rescue workers, and others involved in the crash started complaining about a variety of health problems that were, again, strikingly similar to Gulf War illness. (So were the alleged culprits: The plane had contained depleted uranium as ballast—as many jumbos do—and the cargo was later revealed to have contained a chemical precursor to the nerve gas sarin.) "You can get these syndromes anytime you have horrific events, unknown exposures, and a large enough population," says Hyams, who believes "Balkan War syndrome" is just the latest manifestation of the same phenomenon.

Not that labeling Gulf War illness as a postwar syndrome like any other makes it suddenly comprehensible. Scientists still don't know how psychological stress, perhaps combined with physiological discomfort, can produce chronic ill health. Personality is probably a factor, says DOD's Kilpatrick. Adds Stephen Hunt, a doctor who treats Gulf War vets at the VA's medical center in Seattle, "One of the problems is that traditional biomedicine has a dualistic approach. It's either physical or psychological. What we're running into here is that the two can't be separated."

Nonetheless, the similarities with chronic fatigue syndrome and fibromyalgia do offer some clues about how Gulf War illness might be treated. Recent studies have shown that frequent, light physical exercise can diminish symptoms of those diseases; so can cognitive-behavioral therapy, in which patients learn how to minimize the impact of their illness on their lives. Several VA centers now offer veterans a program that encompasses elements of both. And in the second large treatment trial currently under way, the VA is spending $7.55 million to determine whether exercise, cognitive-behavioral therapy, or a combination of both is helpful in a group of almost 1100 Gulf War veterans.

Meanwhile, the military is also pondering how to be better prepared for the aftermath of the next war. Already, teams that help control combat stress, prevent disease, and survey environmental hazards have become routine during deployments, says Hyams. The Pentagon also says it is improving its medical record-keeping so that next time, officials can better determine who was exposed to what. And it's developing a system to keep an electronic record of every soldier's health from enlistment until death. Such a database should enable DOD to determine quickly and decisively whether a certain group of soldiers suffers excessively from a certain disease, says Hyams.

Although such measures may circumvent much of the uncertainty after a war, they may not be able to prevent the health complaints in the first place. "When you send young people to fight, they're going to come back with injuries other than their legs blown off," says Wessely. "It's just another part of the cost of war." **–MARTIN ENSERINK**

CREDITS: (TOP TO BOTTOM) AP; KUMIKO OGOSHI

ACADEMIC HARASSMENT

Women Faculty Battle Japan's Koza System

After a hollow court victory, a Japanese researcher steps up her fight to improve conditions in academia

TOKYO—For most people, winning a court case is the end of the battle. But for Kumiko Ogoshi it was just another round in her fight against discrimination and harassment in Japanese universities, a problem that many women faculty members say has marginalized them at institutions throughout the country. And victory seems far away.

Last fall, Ogoshi, a research associate at Nara Medical University, made Japanese legal history when a district court found her supervising professor guilty of harassing her in an attempt to get her to quit (*Science*, 27 October 2000, p. 687). The court ordered Nara Prefecture, which runs the school, to pay $5000 in compensation. But the verdict didn't have the impact that she had hoped. "There was no reflection [by university authorities] upon the significance of the court ruling," she says. "They filed their appeal the next day, and they seem to think they can just go on as they always have."

Speaking up. Kumiko Ogoshi has a Web site for faculty members to share their experiences.

Hoping to prevent that from happening, Ogoshi and a small band of supporters are setting up a nonprofit organization to tackle what is called, in shorthand, "akahara." In its broadest sense, academic harassment is not sexual in nature but covers abuses of power by senior professors against junior faculty members as well as more subtle forms of discrimination that have kept women from moving up the academic ladder. The root of the problem is the hierarchical structure of research groups, in which professors hold near-absolute power. Ogoshi and her supporters ac-

knowledge that men in junior positions face much of the same arbitrary treatment and academic back-stabbing. But the toll on women is particularly high: Despite the sizable number of women earning advanced degrees, they hold only 6.6% of faculty positions (associate and full professors) at Japan's 98 national universities. In most scientific fields the percentage is even lower (see chart).

The uphill battle Ogoshi and her supporters face can be seen in official attitudes toward the issue. A spokesperson for the Ministry of Education, Science, Technology, Sports, and Culture says that akahara is a personnel matter, which means that it rests entirely with individual universities. The ministry doesn't even keep statistics on the number of women faculty: The above data on women were collected by the nongovernmental Japan Association of National Universities. But those involved in the issue say they know of no steps by universities to address the problem.

Chizuko Ueno, a professor of sociology at the University of Tokyo, coined the term in a 1997 book she edited, *Gender Discrimination in Academia: Stop the Akahara!* But the problem isn't new, says Ichiro Numazaki, an associate professor of cultural anthropology at Tohoku University in Sendai, who traces it back to Japan's "patriarchal, top-down academic structure." The situation is worse at universities than at private companies, Ueno adds, because "academia is a very closed community."

Some examples are blatant. For example, the Nara court found that Ogoshi's supervising professor, who has not been publicly identified, withheld research funds intended to support Ogoshi's work, refused to put his official seal on documents she needed to travel or make purchases, and even packed up her belongings while she was on a business trip. Ogoshi says relations deteriorated after she helped create an association for assistant professors in 1993.

After deciding to sue in 1996, Ogoshi set up a Web page to publicize her case (www.kcn.ne.jp/~jjj/akahara/acahara.htm). Dozens of people, both male and female, contributed their own stories of mistreatment under the "koza" system (literally, chair). Traditionally, the koza, which is headed by a senior professor, includes one or two associate professors, research assistants, lecturers, and graduate and undergraduate students. Numazaki says some professors think of their koza as a personal fiefdom and treat junior faculty "almost like bonded servants."

The koza system is changing slowly, and a few university departments have even abandoned it, giving independent status to associate professors. But vestiges of the old system, and the old attitudes, remain. At many institutions, professors still control all funding that flows into the koza, along with the allocation of office space and equipment, travel authorization, and even the choice of research themes. Ueno says that, in the name of academic freedom, there is a tradition of noninterference in the internal affairs of a koza.

The problem is exacerbated by employment practices in academe. Once attached to a koza, faculty members rarely leave for another post. And there is relatively little movement between universities. Ogoshi, for example, is still working under the professor she sued, a situation she calls "very uncomfortable." Although many researchers have described their plight on Ogoshi's Web site, only one other woman has brought a similar suit, now pending. In addition to the problem of proving abuse, any victory may be hollow. Even in Ogoshi's case, the court did not hold her professor liable because he was acting as a public employee.

The contributors to Ueno's book and Ogoshi's Web page report a variety of practices that discriminate against female researchers, including assigning first authorship of research papers to male colleagues, tougher standards during evaluations, unequal access to funding and equipment, and hostile comments. Organic chemist Akiko Itai, who in 1969 became just the second woman on the faculty at the University of Tokyo's pharmaceutical department, says professors would stop her in the hallway and say, "You know, it's really troublesome having you around here." Her female students reported getting similar comments even into the 1990s.

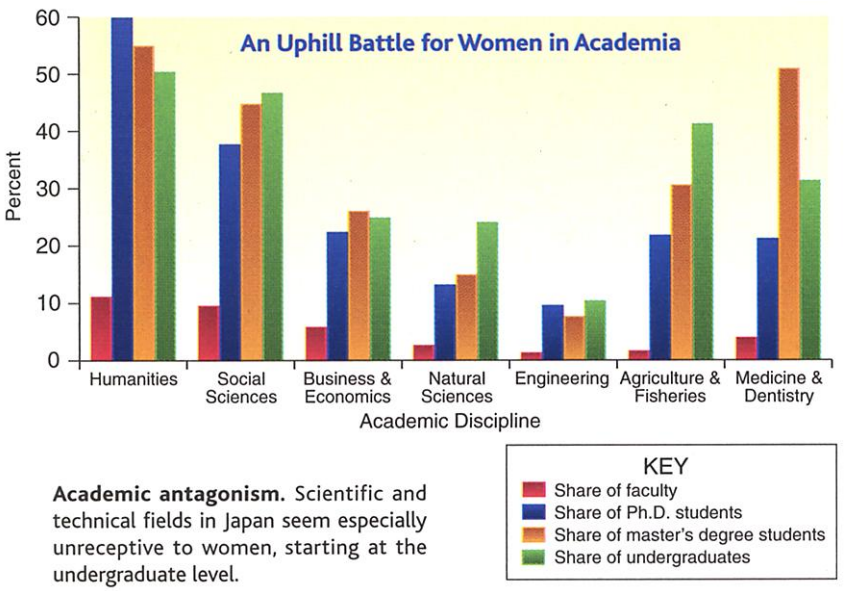
Itai readily admits that her work—using computer analysis to design drugs—didn't neatly fit into any of the established departmental slots and thus posed a quandary when she came up for promotion. But she believes that her gender also played a role: It took her 25 years to become a professor, and even then she was put into a special category that didn't carry the same right as other full professors to participate in departmental decisions.

Finding that intolerable, Itai quit and formed Key Molecular Inc. Six years later, the company has 25 employees and does contract research for pharmaceutical companies and the government. "I can't say that in my case it was entirely discriminatory treatment," she says. "But still, I feel that a man would have been treated differently. For men, it's kind of like being in a family."

Michiko Kanda, a specialist in women's studies who last fall became the first woman to lead a major university when she became president of the private Toyo University, agrees that the university system remains something of a male club. "It's a testimony to their determination that women have captured the number of faculty positions they have," says Kanda, who has not yet addressed the issue at Toyo. In one small step, the Science Council of Japan, the nation's largest association of scientists and engineers, vowed last June to get more women involved in its committees, which often have an impact on national policies. But its efforts do not address workplace issues directly.

That's a gap Ogoshi's organization hopes to fill, starting with a survey of the problems facing junior faculty. But as with sexual harassment, Ogoshi thinks it will be a long time before university authorities acknowledge and then act on the problem. "We're at the stage where academic harassment is just beginning to be recognized," she says.

–DENNIS NORMILE



Academic antagonism. Scientific and technical fields in Japan seem especially unreceptive to women, starting at the undergraduate level.

SOURCE: ASSOCIATION OF NATIONAL UNIVERSITIES