

Star quality

Japan's Nobel laureates have a celebrity status that outstrips anything seen by their contemporaries in North America or Europe. How have they balanced the desire to be a positive influence with the need to retain some privacy? David Cyranoski finds out.

Some three decades after sharing the Nobel Prize in Physics for his work on tunnelling by electrons in semiconductors, Leona Esaki is still a hot property. Caught after giving a talk in Tokyo in 2000, he politely declined *Nature's* request for an interview. "Maybe in a couple of months," he apologized. "I'm just too busy." A gruelling schedule of lectures and social engagements, combined with his role as president of the Shibaura Institute of Technology, left him with precious little spare time. "It's the duty of a Nobel laureate in Japan," Esaki explained.

At least today, there are a few others to share that duty. Between 2000 and 2002, four Japanese scientists received Nobel prizes — just one less than the country's researchers gained over the previous century. Remarkably, this followed hard on the heels of an official government target to win 30 Nobel prizes over the next 50 years (see *Nature* 413, 560–564; 2001).

It seems unlikely that there's a direct connection, but the wave of recognition from Stockholm has resulted in a frenzy of media interest. The four new laureates are household names, and the Japanese public can't seem to learn enough about their personal lives — their hobbies, dietary preferences and even family life have become fodder for magazine articles and television programmes.

The tide of enthusiasm has been a mixed blessing, the scientists say. The Nobel awards gave a much-needed boost to a nation that was engaged in a bout of soul-searching in the midst of an extended economic recession. More specifically, scientists believe that the publicity has helped to protect research budgets from cuts, and has reignited interest among students who had seemed increas-



Eye of the storm: Japan's four recent Nobel laureates (clockwise from above) Hideki Shirakawa, Ryoji Noyori, Koichi Tanaka and Masatoshi Koshiba have become the centre of media attention since their awards.

ingly averse to taking courses in the sciences. "Overall, it has been very positive," says Ryoji Noyori of Nagoya University, who shared the 2001 chemistry prize for developing a method to preferentially produce molecules whose structures have either left- or right-handed orientations. But when researchers start to be treated as entertainers, he warns, there is a price to pay. "That kind of treatment may spoil the image of science."

Feeding frenzy

The four recent Nobellists were ill-prepared for a whirlwind of media interest that often crossed the line into pure entertainment. One New Year's TV special in 2003 featured Masatoshi Koshiba of the University of Tokyo — who shared the 2002 physics prize for confirming the existence of elusive subatomic particles called neutrinos — and his wife. The show was billed as tackling Koshiba's "hardships, his surprising favourite dishes, and what he's like around the house". Such excursions into Koshiba's private life had by then become commonplace. "There were so many programmes that I was on, I don't remember which one you are talking about," he says.

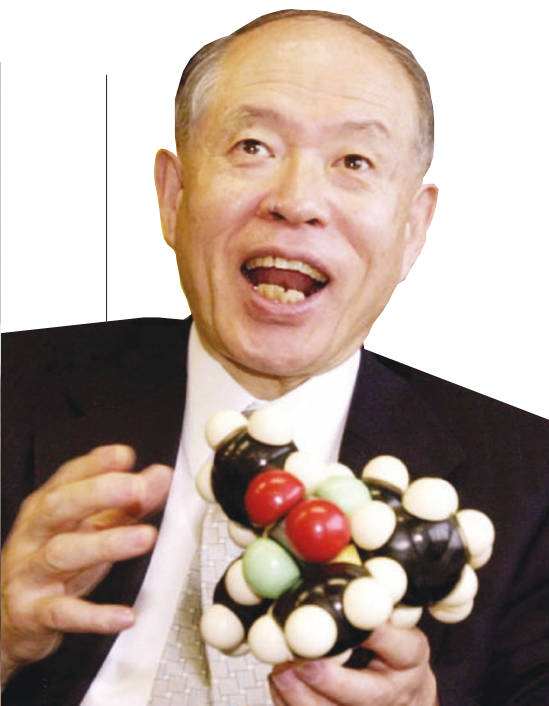
Koichi Tanaka of the Shimadzu Corporation in Kyoto, who shared the 2002 chemistry prize for developing a mass-spectrometry method to study large biological molecules, had much the same experience. "They wanted to know everything about how I lived and what I normally ate," he says. "Nobel winners



are celebrated like sports stars, like they are a completely different type of person."

Even within this small band of celebrities, Tanaka became a particular favourite of TV producers and magazine editors. A previously unknown industrial scientist, he was presented as a model of endeavour and modesty — a down-to-earth star in a world of flashy celebrities. In December 2002, for example, a popular weekly magazine latched on to the rumour that Tanaka met his wife through the *omiai* system — a traditional arrangement in which a mediator brings couples together. The article documented the regrets of women who had passed up the "Tanaka-type" male on the *omiai* scene. If such men's charms were appreciated, it suggested, more successful marriages would result.

The cult of celebrity that surrounds Nobel laureates in Japan isn't restricted to



the country's own. John Walker, director of the UK Medical Research Council's Dunn Human Nutrition Unit in Cambridge, who shared the 1997 chemistry Nobel for demonstrating how cells make the energy-storing molecule adenosine triphosphate, was surprised to find that his lectures in Japan were televised. This was in stark contrast to the attention given by the British media to the nation's Nobel laureates. "None of us have been accorded celebrity status," Walker observes. "People did comment on the acclaim given to the Spice Girls compared with that given to me."

But sometimes, what Japan's Nobel prizewinners really, really want is the anonymity that Walker still enjoys. Noyori, for instance, became embarrassed by media references to his taste for wine — sometimes linked to his understanding of delicate

chemical processes. "I like to have wine sometimes," he says. "But I'm no expert." Tanaka also came to despair of the way in which he was portrayed. "I was treated like a TV personality," he says. "But they get paid to put their private lives on display. That's not what I am. I started to wonder: 'Why do I have to get my picture taken?'"

Commercial interests also jumped on the Nobel bandwagon. After mentioning in interviews that he liked *konbu* — a type of edible seaweed — and certain beverages, packages containing the products turned up at Tanaka's door. "If it was from a company, I couldn't write back to thank them," he says. "It would get used as an endorsement for their product."

Enough is enough

Tanaka eventually started refusing any bookings that didn't specifically have to do with building support for science and technology. And Noyori was so distressed by one TV variety show's treatment of Tanaka that he called the station up to complain: "I wanted them to respect his effort and his achievement."

Despite these unsettling experiences, the four laureates are pleased with the support that they've been able to attract for science. Rather than sating a population that had been starved of Nobels, the success made Japan hungry for more. Suddenly, everyone was talking about how to make Japanese science even stronger.

One effect was that three of the prize-winning researchers were themselves catapulted into positions of power. Hideki Shirakawa was getting ready for a quiet retirement from the University of Tsukuba in summer 2000 until he shared the chemistry Nobel for his part in discovering that plastics can conduct electricity. When *Nature* visited him in May 2001, he had an office in the middle of Japan's central government buildings in Tokyo, where he had monthly meetings with the prime minister as a member of the country's highest science policy-making body. "I didn't expect to be here," he admitted.

In October 2003, Noyori became the president of the Institute of Physical and Chemical Research, or RIKEN, which administers several of Japan's biggest national research labs. Earlier in the year, Tanaka assumed the directorship of a laboratory created by his company, and was given a first-year budget of ¥200 million (US\$1.9 million). Tanaka is a bit shy about its name: the Koichi Tanaka Mass Spectrometry Research Laboratory. "I drop the first part when I refer to it," he says.

From these positions of influence, and with unprecedented access to the media, the laureates promoted the need to give more

support and independence to younger scientists — long recognized by leading Japanese researchers as the main impediment to innovative work in the country's labs. Noyori, who was a regular on policy-making committees even before his award, has no doubt that the interest generated by the Nobels helped science budgets to gain small increases even as overall government spending decreased.

Industrial researchers were particularly delighted by Tanaka's award. Generously funded during the economic boom years, the country's corporate labs have more recently fallen into a spiral of lay-offs and shrinking budgets — with little recognition that many industrial scientists remain capable of genuine innovation. "What surprised me the most is that people didn't think that creative scientists existed in industry," says Tanaka. "It was like the announcement of a new species. I wanted people to understand the value of hard work, of the people behind the scenes."

That message seems to have got across. "It's been quite an inspiration, especially for the younger researchers," says Jun'ichi Sone, general manager of NEC's Fundamental Research Laboratories in Tsukuba, north of Tokyo. He hopes that the award will "shine a light on some of the other great industrial research in Japan".

Perhaps the most satisfying aspect of the publicity generated

by the Nobel successes has been the resurgence of interest in studying science among young Japanese. Koshiba was so committed to the goal of educating the next generation of prizewinning scientists that he put his entire bundle of Nobel prize money — ¥40 million — into a foundation geared to develop science teachers and teaching materials. Hamamatsu Photonics, the company that made the photomultiplier tubes that detected the elusive neutrinos, added ¥60 million, and further donations have come in. "There is wide support from all over Japan," Koshiba says.

More importantly, a general change in attitude may be under way. For years, surveys have revealed declining interest among young Japanese in studying science and mathematics. It's too early to say whether the country's outbreak of Nobel fever can reverse that trend, but one informal poll has provided an encouraging sign. Each year since 1989, the Dai-ichi Mutual Life Insurance Company has asked a sample of Japanese primary schoolchildren what they want to do when they grow up. In the latest poll, a career in academic research was the top choice among boys for the first time — beating even the dream of becoming a star of baseball or soccer. ■

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