country in her "AIDS Mobile," a 34-foot-long mobile home that pulls up in shopping malls and church parking lots to test individuals for antibodies to HIV. The AIDS mobile team, however, is not interested in testing homosexuals, whom SerVaas considers "deviants" who need to be "forgiven." Instead, the AIDS Mobile tests people who have had blood transfusions and women who are, or hope to become, pregnant. SerVaas' efforts have been criticized because those who are tested are informed of their antibody status through the mail. Those who are negative get a letter from SerVaas that begins: "Good news!" According to SerVaas, those less fortunate souls who test positive are informed of their status by the doctor they named on their registration form.

With the jettison of the commission's two leaders, it is unclear exactly how the panel will fulfill its extremely broad mandate, which requires the group to make recommendations to the President about virtually all aspects of the AIDS epidemic, including such sticky items as mandatory testing and confidentiality of those infected with the AIDS virus. The President appointed Admiral James Watkins, former chief of naval operations, as new chairman. Since he is retired, it is presumed that Watkins will have plenty of free time to organize the commission's offices and hire staff. Even a skeptical Lilly says that "if anybody can pull this group together and get it moving, the admiral can." Other panel members who were polled appeared to agree that Watkins will be a gung-ho leader.

It may not matter. It may be an impossible task. Sheldon Wolff, who co-chaired the Institute of Medicine-National Academy of Sciences panel's oft-quoted 1986 report on AIDS, said in an earlier interview: "We had a lot of really bright people serving on our panel. Not all of us worked on AIDS, but if we didn't, we were in areas that were damn close, that applied to the problem. We were public health people, virologists, immunologists, epidemiologists. We were people who could understand the science. And we had to work incredibly hard to produce our report."

The President's commission is due to release a preliminary report on 7 December. It will not say much, according to commission members, but will simply note the areas that will be covered by the panel in its full and final report that is due next summer. Whether President Reagan, in the waning months of his term, would, or could, do much with the report is to be seen. So far, the President's commission on AIDS has produced a lot of headlines, and little else. ■ WILLIAM BOOTH

Bumps and Falls on the Road to Stockholm

According to the archives of the Nobel Foundation, those who did not win this year's prizes are in illustrious company

Paris

WHAT do French mathematician Henri Poincaré, German physicist Arnold Sommerfeld, and George Ellery Hale—the founder of the Mount Wilson Observatory and of the National Research Council—have in common?

Each narrowly failed to win the Nobel Prize, despite enthusiastic support and considerable lobbying from their scientific colleagues.

Every year, about 500 scientists worldwide (including all the members of the Royal Swedish Academy of Sciences) are entitled to suggest who should receive the awards in physics and chemistry. Before World War II, an average of 50 scientists a year sent in nominations.

Generally, those with the greatest support would sooner or later win the prize; but this was not always the case. Hale was nominated 33 times. Poincaré, after a campaign by French scientists, received 51 nominations. Sommerfeld is said to have been left a bitter man after he had been nominated every year except one between 1917 and 1937; he received 73 official nominations—nine more than Albert Einstein, who was nominated for ten successive years before receiving the physics prize in 1922.

Furthermore, in each case, the scientist's failure to win the Nobel Prize was not as much a comment on his scientific achievement as it was a reflection of the makeup of the award committees and of the changing dynamics of his discipline. Hale's time ran out, for example, when the physics committee, having been unable to find an appropriate slot for him in the period immediately before World War I, subsequently shifted its main interests to the burgeoning field of atomic physics.

The fact that Poincaré was not recognized by the prize committee is often said to be purely the result of his being a mathematician. But historian of science Elisabeth Crawford disagrees. "He might well have qualified as a physicist if the lineup on the award committee had been different," she says. "One more mathematical physicist on the committee would have pulled it off."

Ever since the awards were established in 1901 under the 1895 will of Swedish chemicals magnate Alfred Nobel, there has been a wealth of anecdotal information about the way the prizes have been awarded, in particular about why some scientists have been chosen and others, sometimes equally deserving, have not.

Now the anecdotes can be placed on a more solid footing. A few years ago, the Nobel Foundation in Stockholm agreed to open up its archives and to allow the publication of any material more than 50 years old. This included all the material collected by the Royal Swedish Academy of Sciences, which is responsible for overseeing the physics and chemistry prizes.

The Bettmann Archive

Henri Poincare

Was nominated 51 times but never won the prize. One more mathematical physicist on the awards committee might have made the difference.

Following this initiative, the Office for the History of Science and Technology at the University of California, Berkeley, together with the Office for the History of Science at Uppsala University in Sweden, has just published a complete census of all nominators and nominees for these two prizes between 1901 and 1937.*

"People will now be able to put all this information on their own computers and play with it," says Crawford, the author of a book on the early years of the Nobel prizes, and coeditor with John Heilbron and Rebecca Ullrich of the new volume from Berkeley.

One of the first facts to emerge from an analysis of the nominating and award process, for example, is the large disparity in the treatment of different individuals. Albert Michelson, for example, the physicist in the famous "Michelson-Morley" experiment, the centenary of which is celebrated this year, received only four nominations before winning the prize in 1907—the first American to do so.

Marie Curie did even better. She, too, received only four nominations, but this was all that was needed to win her two Nobel prizes, one for physics (with her husband Pierre Curie, who had insisted that it be shared) in 1903, and the second for chemistry in 1911.

In contrast, half of the 22 scientists who received the highest number of individual nominations over this period never won the prize. Sommerfeld heads the list; others less well known include the French metallurgist Henri Le Châtelier, nominated unsuccessfully for both the physics and chemistry prizes, and two American scientists, physicist Robert W. Wood (with 36 separate nominations) and Berkeley chemist Gilbert N. Lewis.

In many cases, unsuccessful candidates were eventually dropped from consideration. But the records show some remarkable examples of scientific longevity; the German physical chemist Otto Hahn was first nominated by his compatriot Alfred von Baeyer in 1913; after a succession of further nominations in the 1920s and 1930s, he was eventually awarded the prize in 1944.

Culver Pictures, Inc.

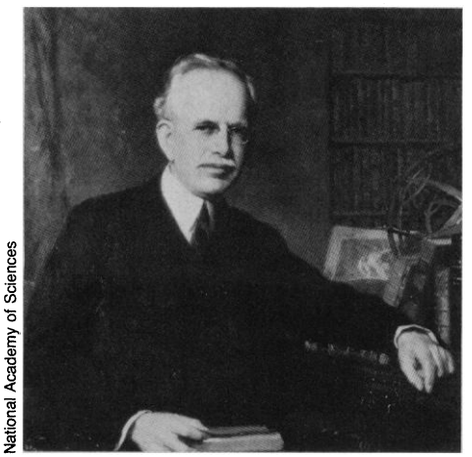
Marie Curie. *Four nominations were enough for two prizes.*

According to Crawford, who currently carries out research at the Ecole des Hautes Etudes en Sciences Sociales in Paris, Hale's case was complicated by the fact that both he and French astrophysicist Henri Deslandres had simultaneously (and independently) invented the spectroheliograph, the device which led to the discovery of magnetic fields on sunspots. The awards committee decided that both deserved the prize. In 1914 and 1915, however, only Hale had been officially nominated. In 1915, both names were put forward, but they faced two rival space physicists, the Norwegians Kristian Birkeland and Carl Störmer, and the idea of making an award to the field was left in abeyance. The prizes were suspended for the remainder of World War I. When they were picked up again, the committee's interest had switched to theoretical physics.

Poincaré's case was more complicated. Actively supported by the French physics community, he was recommended in 1910 for his contributions to "pure theory." The wording of the recommendation was based on the advice of Sweden's best-known mathematician, Gösta Mittag-Leifler, who said that the experimentalists who made up the award committee were "wildly fearful of mathematics."†

A broad-based campaign succeeded in generating for Poincaré the highest number of nominations received by any candidate since the prize's inauguration. However, the campaign generated some hostility, notably in Britain, and the awards committee split in a ratio of three to two against rewarding a mathematical physicist. The prize was eventually awarded that year to the Dutch scientist J. D. van der Waals, who was nominated only once.

Analysis of the nominating process is, itself, a fascinating field for the historian of science, says Crawford, since there was—and remains—something of a "gift relationship" between nominators and nominees. "Those who nominated someone would write to those they had nominated; if the latter won the prize, they would then infer



National Academy of Sciences

George Ellery Hale. *Nominated 33 times without success.*

that it was because the former had nominated them" she says, quoting one prominent U.S. winner in chemistry who claimed to have been personally responsible for nominating 12 separate winners.

The census data provides additional insights, such as national variations in a country's nomination of its own scientists. Between 1901 and 1933, for example, 82% of the nominations for the chemistry prize received from France were for French scientists; in contrast, only 56% of the British nominations were for British chemists. The United States came midway between the two.

Looking at the institutional affiliations of those nominated also provides some interesting insight into the global concentration of scientific talent during the first half of the century. Germany tops the list with 30% of the candidates and 35% of the winners in the period up to 1937; the United States and Britain produced 15% and 14%, respectively, of the candidates, but only 10% and 21% of the winners.

Finally, the dearth of female scientists among Nobel laureates is just as marked among candidates as among winners. Only two women figure among the 430 scientists nominated for the prize in its first 36 years, Marie Curie and Lise Meitner. Only Curie was awarded it.

Future editions of the census of nominations, which has already been completely computerized at Berkeley, will be published at regular intervals as the Nobel Foundation's time limit on confidentiality expires. The next will cover the period up to the suspension of the awards at the outbreak of World War II.

However, those keen to discover what has been taking place in Stockholm—and around the world—over the past year will still have 50 years to wait before they can satisfy their curiosity. ■ **DAVID DICKSON**

*Elisabeth Crawford, J. L. Heilbron, and Rebecca Ullrich, Eds., *The Nobel Population 1901–1937*. Available from: Office for History of Science and Technology, University of California, Berkeley. $20

†Quoted in Elisabeth Crawford, *The Beginnings of the Nobel Institution*, Cambridge University Press/Editions de la Maison des Sciences de L'Homme, 1984.