

11-1-2010

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Recommended Citation

Pirotta, Michelle (2010) "The secret life of the Nobels," *Research Trends*: Vol. 1 : Iss. 20 , Article 6.
Available at: <https://www.researchtrends.com/researchtrends/vol1/iss20/6>

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People focus



The secret life of the Nobels

MICHELLE PIROTTA

There are many ways of assessing a particular researcher's contribution to science and mankind, and Nobel Prizes have been recognized as an indicator of outstanding impact for over 100 years. They are so well regarded that having a Laureate on staff can significantly boost a university's ranking.

As such a respected and definitive recognition of scholarly value in a number of fields of human endeavor, Research Trends investigates how Nobel Laureates are selected.

Veil of secrecy

According to Nobel.org, the statutes of the Nobel Foundation specifically: "restrict disclosure of information about the nominations [...] for 50 years. The restriction concerns the nominees and nominators, as well as investigations and opinions related to the award of a prize." (1)

The selection processes in the scientific fields of Physics, Chemistry, and Physiology or Medicine is run along very similar lines (see box for an overview). Those eligible to nominate and how they are selected, as well as whom they nominate and how they themselves judge candidates, are secret for 50 years. The Nobel Committee also appoints experts to assess the preliminary candidates. Again, who these people are, how they are selected and what weight their opinion has is not disclosed. The Laureates are finally selected through majority vote.

It seems fair to imagine that bibliometrics might be consulted at some stage of the lengthy process. As journal editors and university administrators already know, determining excellence is a difficult job.

Since the Nobel Committee clearly uses peer nomination and review, we asked the Chairmen of two Nobel Committees whether they pay attention to metrics. Lars Thelander, Chairman of the Nobel Committee for Chemistry, and Ingemar Lundström, Chairman of the Nobel Committee for Physics, declined to reveal anything: "I regret to tell you that all details on the internal prize work in the Committees are secret for [...] 50 years and therefore I cannot answer your questions."

Bias and influence

However, the 50-year restriction means archives prior to 1960 are open to researchers. This is still too early to investigate whether bibliometrics were used, but researchers are shedding light on how decisions are made behind this veil of secrecy.

Elisabeth Crawford has conducted research in the Nobel archives since they were opened to scholars in 1974. In "Nobel:

Selection process (e.g. "Physiology or Medicine")

The Nobel Committee for Physiology or Medicine sends nomination forms to around 3,000 selected professors, Nobel Laureates in Physiology or Medicine, and members of the Nobel Assembly, among others. The completed forms must reach the Nobel Committee by January 31 of the following year. The Committee screens the nominations, and then sends a list of preliminary candidates to specially appointed experts who assess the candidates' work. The Committee then submits its recommended candidates to the Nobel Assembly at Karolinska Institutet, which selects the Nobel Laureate by majority vote. (1) For more information, visit Nobel.org.

Always the Winners, Never the Losers", she lists some of the things she has learned: "[...] that Einstein's award of the physics prize of 1921 for his discovery of the law of the photoelectric effect rather than for his theory of special relativity was due to the incapacity of members of the Nobel Committee for Physics to grapple with theoretical physics and their reluctance to reward 'speculations' such as relativity theory; [...] and that Lise Meitner's exclusion from the 1944 chemistry prize awarded Otto Hahn for the discovery of nuclear fission resulted from a complex set of circumstances in which the chemistry committee's difficulty of evaluating an interdisciplinary discovery, Sweden's scientific and political isolation during the Second World War, and a lack of sensitivity to the ravages of racial persecution all figured prominently." (2)

Meanwhile, in "Yellow fever and Max Theiler: the only Nobel Prize for a virus vaccine", Erling Norrby from The Royal Swedish Academy of Sciences casts doubt on the 1951 nomination and selection process for Max Theiler, who received the Nobel Prize in Physiology or Medicine for his yellow fever vaccine. (3) While there is no question that this vaccine has benefited mankind, it is the only Nobel Prize for a virus vaccine. And more curious is how he was nominated. Late on January 31, 1951, the deadline for nominations, the Chairman of the Committee, Vice-Chancellor of the Karolinska Institutet and Professor of Pathology Hilding Bergstrand, nominated Theiler. Bergstrand then performed the evaluation. (3)

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According to Crawford: "Committee members' own ideas about the kind of scientific work that should be honored with awards played a major role. In this they were guided both by their own research interests and by prior prize decisions."

What we can learn?

Research into the archives also reveals how much depends on the final vote. For instance, while Theiler won his Nobel Prize based on just three nominations, only one of which was detailed, Selman A. Waksman was nominated 39 times in six years before winning. [3]

Crawford calculates that each candidate, whether winning or losing, was nominated on average eight times. [2] "However, this figure masks the much higher number of nominations accumulated by perennial losers such as the physicists Arnold Sommerfeld [74], Vilhelm Bjerknes [54] and Friedrich Paschen [45], and the chemist Gilbert Newton Lewis [42].

She believes that: "Learning the names of the candidates and of those who nominated them as well as the specific scientific work for which they were put forth provides much information not only about what was considered scientific achievement in the first half of the 20th century, but also about who were considered the important scientists and the relations between them."

To this, we could add that learning the selection criteria would provide much information on how Nobel Laureates are selected, thus shedding light on what kind of discovery one of the most prestigious scientific prizes considers worthy of recognition.

If you have any comments on this story, or have done any research on this subject, we would love you hear from you. Please use our [feedback facility](#).

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