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Excellence in Pharmacology with a Focus on International Prizes, 1900—2020

The word excellence is omnipresent in medicine, but how is it defined? Scientists have developed different scientometrical approaches to measure it, for instance by calculating impact factors for scientific journals or the Hirsch indices for individual researchers. Such numbers play roles in the scientific community. The public, however, is more interested in scientific awards. With an emphasis on the Nobel Prize, this talk critically discusses prizes as a parameter for excellence. How is excellence and prestige in medicine defined and produced in a Nobel Prize context? And more in general: What are the motives and functions of prizes?

Drawing on sources from the Nobel Prize archive (categories physiology or medicine and chemistry) and secondary literature, we will go beyond the Nobel laureates and pinpoint nominees and nominators in pharmacology to explore the networks behind the prize. In the last part of the presentation, we will go beyond the Nobel Prize and present first prize pattern results from studies of other major prizes in pharmacology from the 1950s onward.

Pharmacology occupies a special position in Baltic history and Nobel history. The Baltics were central to the development of pharmacology: the first laboratory for experimental pharmacology was founded in Dorpat (now Tartu) in Estonia in 1860. In Nobel Prize history, pharmacology is important not only because pharmacologists, compared to other medical disciplines, are overrepresented among the laureates, but also because of the large number of nominees in the field. We found that pharmacologists or scientists with strong ties to pharmacology focus accounted for 314 of the 5110 nominations in the category Physiology or Medicine from 1901 to 1953. The laureates and nominees in pharmacology is in terms of age (50+), gender (predominantly male), and nationality (European/North America) similar to the entire "Nobel population". A prominent scholar in this group is John Jacob Abel (1857—1938), nominated 17 times in the category Medicine and six times for the Nobel Prize in Chemistry. Educated by Oswald Schmiedeberg in Strasbourg, Abel established the department of pharmacology at the Johns Hopkins University in 1893. Due to his influence in the field in the United States, he is repeatedly referred to as the "father of American pharmacology".

Prizes play a central role in boosting the scientific reputation of individual researchers. They enable us to reconstruct and analyze trends in pharmacology and medicine over time. Looking back at the now almost one hundred and

twenty-year history of the Nobel Prize, it can be seen that the Nobel Prize in physiology or medicine is mainly awarded for basic research. Here, pharmacology occupies a special position, partly because it was established a few years before the first award ceremony in 1901, partly because pharmacologists were strongly active in the field of basic research, but also on a clinical level. In conclusion, pharmacologists were presented in Nobel nominations as already highly respected scientists with a comprehensive reputation and at the same time as broad-based innovators in a new research area, who both had a fundamental effect but were also pioneering through individual achievements.

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