

# Science and Society: The role of professional Biochemistry in the Chilean Scientific Institutionalization between 1957 and 1980



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## Abstract

Is important to study the history of experimental sciences research in Chile to understand the social impact of science in the country. In 1957, the University of Chile creates the first experimental science career in the country: Biochemistry. This career sparked new possibilities for scientific labor and public space for professional scientists. Later, in 1967, President Frei created the National Commission of Science and Technology, which was highly influenced by this new generations of professionals.

Among these scientists, foundational for biochemistry, can be distinguished for its scientific contributions and its participation in the public policy discussion: **Oswaldo Cori (O.C)**, cofounder of the Biochemistry career and investigator of biomolecules; **Hermann Niemyer (H.N)**, founder of the first Ph.D. program in science and researcher in carbohydrate metabolism; **Jorge Allende (J.A)**, coordinator of the first Molecular Biology classes and one of the principal researchers of the biosynthesis of proteins. From these personalities and their research, the relationship between biochemistry and the national science institutionalization can be traced.

This scientific sociohistorical work aims to analyze and interpret the scientific contributions of these pioneers in biochemistry to the institutionalization and strengthening of the experimental sciences between 1957 and 1980. We have discovered connections between these investigators and how the lack of resources and poor conditions of making science pushed them to seek for representativity and lead them to important position in the principal institutions that administrates scientific research. The relevance of this project is to contribute to the disciplinary understandings of the public science institutions in Chile

## Biochemistry and Science in Chile

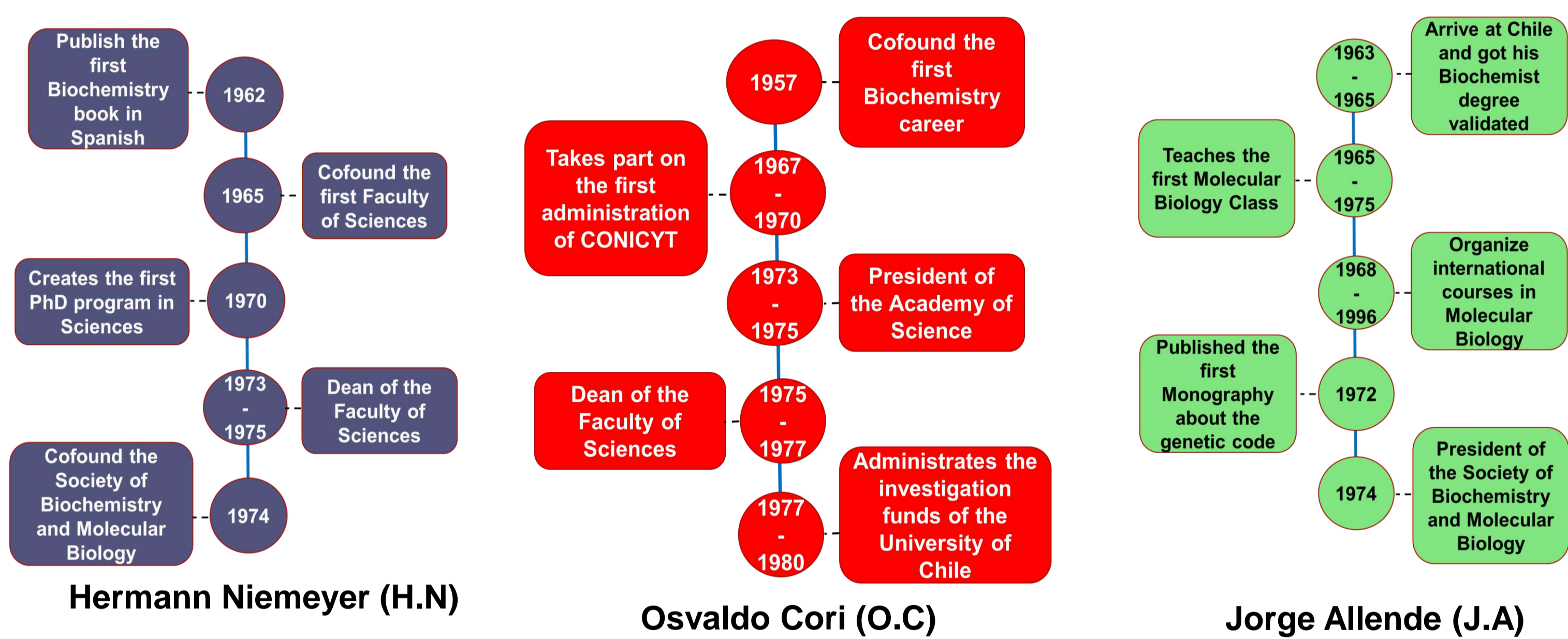


Figure 1| Timelines of the main exponents of modern Biochemistry in Chile.

## Main objective

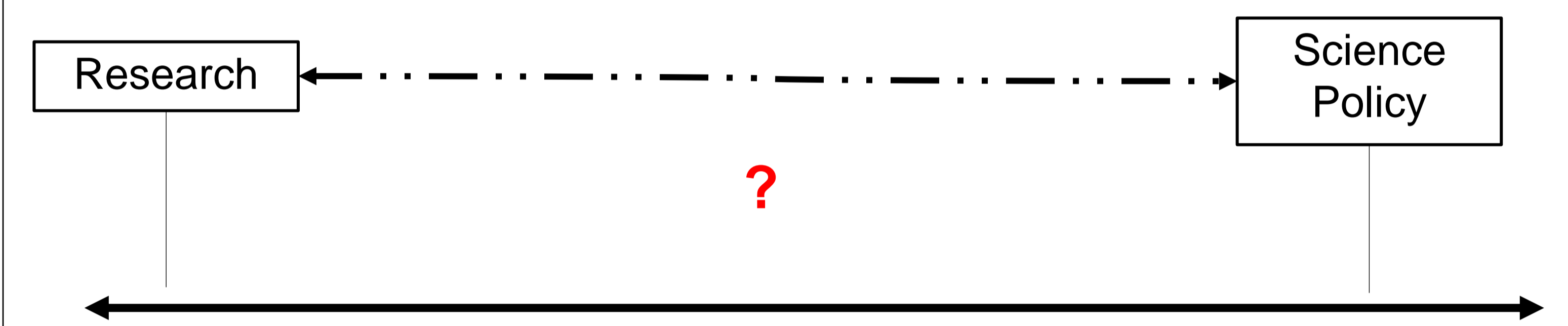


Figure 2| The main goal of this investigation. How the emergence of professional Biochemistry in Chile (since 1957) shapes the relationship between science policy and research?. This is going to be represented by the three main exponents in Biochemistry in the second half of the 20<sup>th</sup> century (specifically between 1957 and 1980).

## Methods and Results

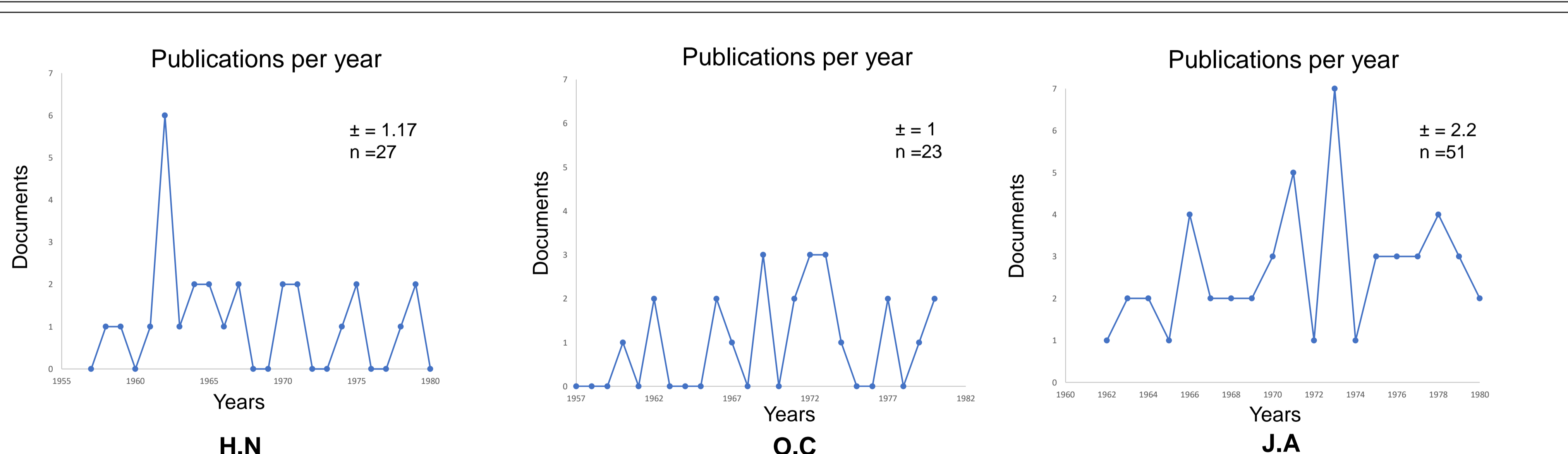
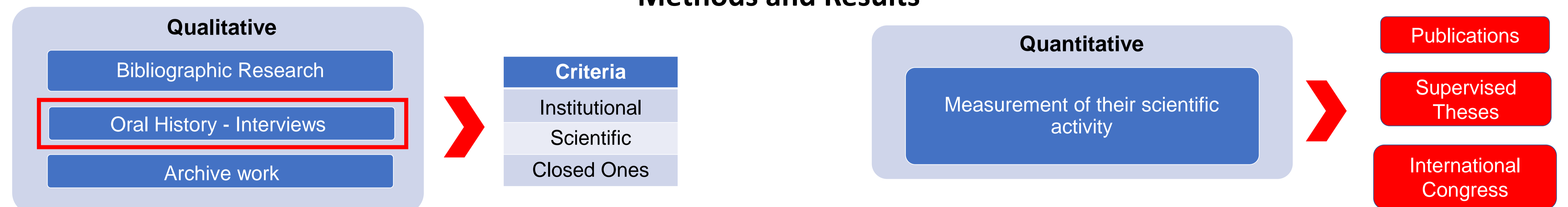


Figure 3| Number of publications that the three subjects have in total between the years 1957 and 1980. This information helps us understand how much his scientific activity was producing alongside their public contributions analyzed before. We can see that J.A was the most "productive" in terms of publications and O.C the less, even though the latter had a more active part in the public sphere.

## Early Conclusions

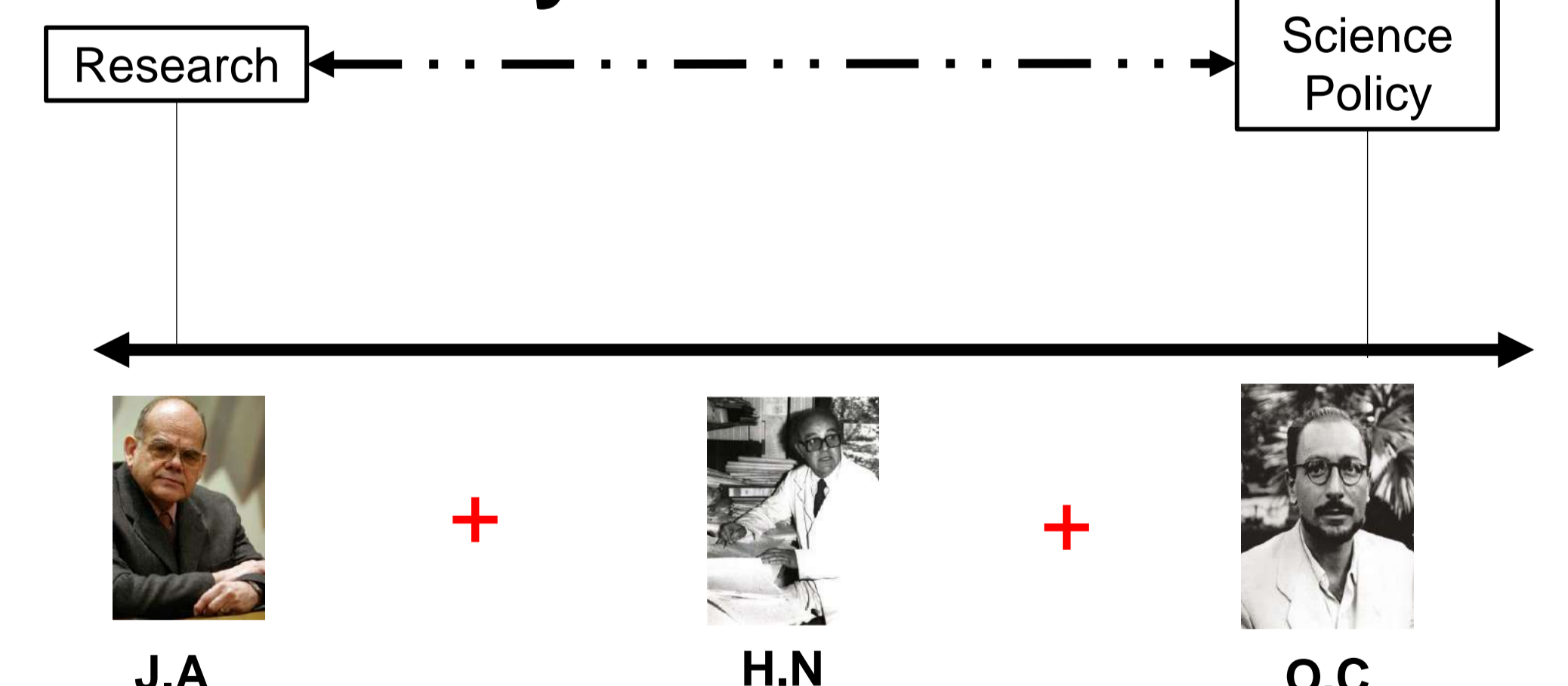


Figure 5| The sum of the contributions of the three biochemist help to develop the scientific institutionalization and science policy in Chile.

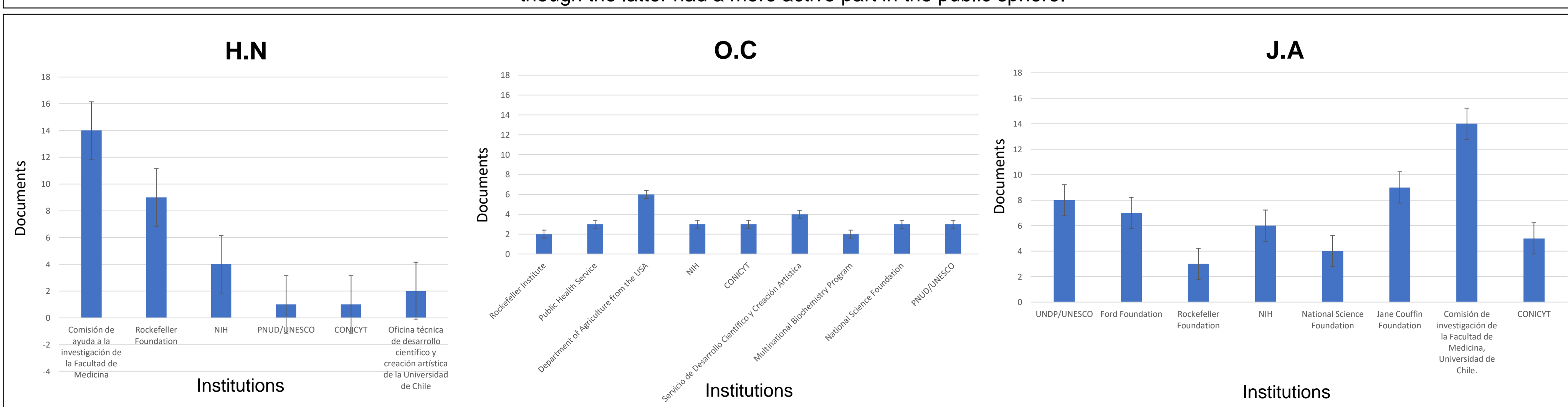


Figure 4| Funding of the publications made by the researchers between the years 1957 and 1980. These data can help us understand the many connections that the biochemistry field has.

## Future work

An in depth analysis with the interviews is going to take part for the final part of this investigation to iterate the qualitative part of this job with the quantitative one. Refinement and additions to the quantitative analysis is constantly being adjusted throughout the development of the final part of this research work.

## Acknowledgements

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