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DOSSIER

TRANSNATIONAL SCIENCE DURING THE COLD WAR

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ABSTRACT: The aim of this paper is to describe the early stages of Mexican nuclearization that took place in connection with radioisotopes. This history requires a multilayered narrative with an emphasis on North-South asymmetric relations and on the value of education and training in the creation of international asymmetrical networks. Radioisotopes were involved in exchanges with the United States since the late 1940s, but also with Canada. We also describe the context of the implementation of Eisenhower's Atoms for Peace initiative in Mexico, which opened the door to training programs at both the *Comisión Nacional de Energía Nuclear* and the *Universidad Nacional Autónoma de México*. Radioisotopes became the best example of the peaceful application

of atomic energy, and as such they fitted the Mexican nuclearization process that was and still is defined by its commitment to pacifism. In 1955, Mexico became one of the 16 members of the atomic fallout network established by the United Nations. The first generation of Mexican (female) radio-chemists was trained as part of this network. By the end of the 1960s, radioisotopes and biological markers were being produced in a research reactor and prepared and distributed by the CNEN within Mexico. We end this paper with a brief reflection on North-South nuclear exchanges and the particularities of the Mexican case.

Peaceful atoms in agriculture and food: how the politics of the Cold War shaped agricultural research using isotopes and radiation in post war divided Germany

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ABSTRACT: During the Cold War, the super powers advanced nuclear literacy and access to nuclear resources and technology to a first-class power factor. Both national governments and international organizations developed nuclear programs in a variety of areas and promoted the development of nuclear applications in new environments. Research into the use of isotopes and radiation in agriculture, food production, and storage gained major importance as governments tried to promote the possibility of a peaceful use of atomic energy. This study is situated in divided Germany as the intersection of the competing socio-political systems and focuses on the period of the late 1940s and 1950s. It is argued that political interests and international power relations decisively shaped the development of «nuclear agriculture». The aim is to explore whether and how politicians in both parts of the divided country fostered the new field and exerted authority over the scientists. Finally, it examines the ways in which researchers adapted to the altered political conditions and expectations within the two political structures, by now fundamentally different.

Transnational science and collaborative networks. The case of Genetics and Radiobiology in Mexico, 1950-1970

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ABSTRACT: The transnational approach of science and technology studies (S&TS) abandons the nation as a unit of analysis in order to understand the development of science history. It also abandons Euro-US-centered narratives in order to explain the role of international collaborative networks and the circulation of knowledge, people, artifacts, and scientific practices. It is precisely from this perspective that the development of genetics and radiobiology in Mexico will be analyzed, together with the pioneering work of the Mexican physician-turned-geneticist Alfonso León de Garay, who spent two years in the Galton Laboratory in London under the supervision of Lionel Penrose. Upon his return, de Garay founded the Genetics and Radiobiology Program of the National Commission of Nuclear Energy, based on local needs and the aim of working beyond geographical limitations to thereby facilitate the circulation of knowledge, practices, and individuals. The three main lines of research conducted in the years after its foundation, which were in accord with international projects while responding to the national context, were: first, cytogenetic studies of certain abnormalities and cytogenetic and anthropological studies for the Olympic Games held in Mexico in 1968; second, study of the effects of radiation on hereditary material; and third, studies of population genetics in *Drosophila* and in Mexican indigenous groups. The program played a key role in reshaping the scientific careers of Mexican geneticists and in transferring locally sourced research to broader networks. This case shows the importance of international collaborative networks and circulation in the constitution of national scientific elites and also identifies the national and transnational concerns that shaped local practices.

Human population studies and the World Health Organization

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ABSTRACT: This essay draws attention to the role of the WHO in shaping research agendas in the biomedical sciences in the postwar era. It considers in particular the genetic studies of human populations that were pursued under the aegis of the WHO from the late 1950s to 1970s. The study provides insights into how human and medical genetics entered the agenda of the WHO. At the same time, the population studies become a focus for tracking changing notions of international relations, cooperation, and development and their impact on research in biology and medicine in the post-World War II era. After a brief discussion of the early history of the WHO and its position in Cold War politics, the essay considers the WHO program in radiation protection and heredity and how the genetic study of «vanishing» human populations and a world-wide genetic study of newborns fitted this broader agenda. It then considers in more detail the kind of support offered by the WHO for these projects. The essay

highlights the role of single individuals in taking advantage of WHO support for pushing their research agendas while establishing a trend towards cooperative international projects in biology.

Quickening nature's pulse: atomic agriculture at the International Atomic Energy Agency

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1.—Introduction. 2.—Favors from nature. 3.—Empire-building at the International Atomic Energy Agency. 4.—Claiming victories. 5.—Conclusion.

ABSTRACT: Mutation breeders in the 1960s seemed poised to use atomic energy to speed up mutation rates in plants in order to develop new crop varieties for the benefit of all people. Although skepticism had slowed this work in the United States, the International Atomic Energy Agency (IAEA) nurtured the scientific field, its community of experts, and an imagined version of the future that put humans in control of their destiny. The IAEA acted as a center of dissemination and support for experts and ideas, even when they had fallen from favor elsewhere. Through the lens of the IAEA, plant breeding bore the appearance of a socially progressive, ultra-modern science destined to alleviate population pressures. Administrators at the IAEA were also desperate for success stories, hoping to highlight mutation plant breeding as a potential solution to the world's ills. The community of mutation plant breeders gained a lifeline from the consistent clarion call of the Vienna-based agency to use atomic energy to understand the natural world and quicken its pulse with radioisotopes.

ARTICLES

Identity and social integration: analysis of sociability in a mutual aid society (1902-1933)

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ABSTRACT: This article studies the sociability evidenced in the fiestas and other celebrations held by the Breastfeeding Infant Clinic and periodically organized by La Conciliación Mutual Aid Society between 1902 and 1933 as recreational acts with educational purposes. La Conciliación (1902-1984) was founded in Pamplona as an exclusively male Catholic association (women were admitted from 1936) composed of workers, employers and protector members, with labor, healthcare, and economic objectives under a Mixed Board of Governors with representatives from the three cohorts. The description of the events and

the analyses of the emotional practices are based on newspaper reports and the association's archives. The acts organized by the Breastfeeding Infant Clinic served to stimulate positive emotions and maternal feelings of piety and charity and to arouse a sense of social utility in the upper social classes. We acknowledge the regulatory component of the emotions that appeared in the fiesta of La Conciliation: conferences and social events proposed a social model that reinforced the participation of members and their families in the association's ideological and religious goals. The performative character of emotions was designed to reinforce the identity of the members of La Conciliation and their social integration in the city. This model of sociability strengthened the project of La Conciliation.

The social catholic doctrine in the industrializing process of Francoist Spain: the case of the Alter pharmaceutical group

Raúl Rodríguez Nozal and Antonio González Bueno 433

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ABSTRACT: Alter Laboratories and the group of companies developed by Juan José Alonso Grijalba (1894-1962) under Franco's regime held the Catholic social doctrine as the foundation of his business. This pharmacist was a strong advocate and propagandist of these ideas. In this paper, we outline the biography of this entrepreneur, describe his ideological principles, and analyze how these theories were implemented in the Alter Laboratories in their economic, cultural-recreational, and moral-religious dimensions. The business approach revealed by the writings of Juan José Alonso is a «patriarchal patronage»; his goal appears to have been the conversion of Alter into a «factory convent» with the programmatic foundations of Catholic humanism, in which the employer assumes a clearly despotic role and the intervention of workers is reduced to accepting the standards and perks offered by the employer.

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