

Nutrition as the Object of Scientific Study and a Target of Social Policies in Argentina: Pedro Escudero and the Instituto Nacional de la Nutrición, 1928–1946

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Abstract

This article analyzes the establishment of nutrition as an object of scientific study, and the target of public policies and the professional market in Argentina between late 1920s and mid-1940s. It focuses on the role of the physician Pedro Escudero and his collaborators at the Instituto Nacional de la Nutrición, who pioneered academic research on nutrition in Argentina, warned political authorities and civil society about the negative consequences of poor nutrition (they even proclaimed that an important part of the Argentine population was affected by this problem) and promoted professional training in this field.

Keywords: Nutrition; scientific research; health issues; experts; Argentina.

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Acronyms

ANM	National Academy of Medicine (Academia Nacional de Medicina)
CIMECS	Interdisciplinary Center for Social Sciences Methodology (Centro Interdisciplinario de Metodología de las Ciencias Sociales)
CONICET	National Council for Scientific and Technical Research (Consejo Nacional de Investigaciones Científicas y Técnicas)
FMC	Faculty of Medical Sciences
FLACSO	Latin American Social Sciences Institute (Facultad Latinoamericana de Ciencias Sociales)
ILO	International Labour Organization
INN	National Institute of Nutrition (Instituto Nacional de la Nutrición)
LNHC	League of Nations Health Committee
TCV	Total caloric value
UBA	Universidad de Buenos Aires
UNLP	Universidad Nacional de La Plata

INTRODUCTION

This study is part of an ongoing investigation aimed at understanding the interlinked process of establishing human nutrition both as a scientific topic and as the target of public policies and the professional market in Argentina from the late 1920s to the present day. The objective is to analyze the relationships between conducting scientific research on the production, commercialization, and consumption of food, the emergence of employment opportunities for those with a practical command of the knowledge furnished by these disciplines, and the definition of (and actions regarding) a set of problematic realities associated with these questions. In addition, attention is given to the historical evolution of this process, considering critical junctures that gave rise to significant changes in some or all of these spheres.

This study analyzes specific aspects of this process, framed within a period starting from around the late 1920s and ending in the mid-1940s. At that time, university professors and state technocrats representing different disciplines (physicians, dietitians, veterinarians, and agricultural engineers) were actively involved in the systematization and production of scientific knowledge regarding human nutrition. At the same time, occupations associated with the application of this know-how were created or consolidated and the Argentine political authorities enacted laws and decrees aimed at tackling problems related to food production, commercialization, and consumption. Within this broad framework, this paper studies the projects and actions of a specific group of actors: the physician Pedro Escudero and his collaborators at the National Institute of Nutrition (Instituto Nacional de la Nutrición, INN),¹ who played a leading role at the time in the production of scientific knowledge regarding nutrition and its configuration as a health problem.

The characteristics of Escudero's career and his actions correspond to a wider dynamic that involved a group of physicians who served as professors in the Faculty of Medical Sciences (FMS) of the Universidad de Buenos Aires (UBA) and were engaged in research activities. In line with this dynamic, and as has been studied in the case of tropical medicine (Zabala 2010) - defined locally in terms of the "regional pathologies" being researched - and experimental cancerology (Buschini 2016a), these physicians, in their efforts to consolidate the areas of knowledge in which they were active and/or to strengthen their positions within the university and professional spheres, secured the support of actors that included university authorities, state officials, and legislators who

1. The institution underwent three name changes during the period studied. Hereafter, this paper will refer to whichever name was in use at the time in question.

had the capacity to allocate funding and authorize the production of scientific research and/or the creation of medical assistance establishments. Thus, not only did they gain access to coveted leadership positions at university or state institutions – at which they oversaw the introduction of research programs and the establishment of disciplinary fields in Argentina – but they were also involved in the definition of (and actions regarding) health problems, an undertaking that constituted an important means of legitimization for their institutions.

Such career paths, to be sure, were related to internal developments at the FMS that were associated with the incorporation of the activity of research, and were connected to – and indeed favored or directly enabled by – the parallel phenomenon of the expansion of state intervention in health matters and the place of the medical profession in this context (Armus and Belmartino 2001; Belmartino 2005; Biernat 2015; Ramacciotti 2009). Thus, the case studied here is part of an evolution that transcends it, through which contemporaneous mutual reinforcement emerged between the establishment of areas of scientific and technical knowledge production and the expansion of the domains of state intervention and its capacities. This development has been the subject of recent studies that focus on multiple disciplinary fields, social problems, and levels of the state (Biernat and Ramacciotti 2012; Bohoslavsky and Soprano 2010; Frederic *et al.* 2010; Morresi and Vommaro 2011; Neiburg and Plotkin 2004; Plotkin and Zimmermann 2012).

1. NUTRITION AS A SUBJECT ON THE INTERNATIONAL STAGE

During the interwar period, human nutrition was transformed simultaneously – and interrelatedly – into the object of expert discourse founded on knowledge developed by different scientific disciplines, and of public policies. Thus, although the lead-up goes back to the early years of the 20th century, it was not until after World War I that different countries placed greater emphasis on the scientific study of questions concerning nutrition and took actions geared toward introducing changes to food production, commercialization, and consumption (Barona 2008, 2010; Vernon 2007; Weindling 1995a). Along with this and more importantly, as the specialized literature shows, in the 1920s and 1930s certain international public and private organizations adopted this matter as a central concern, promoted research activity, and recommended courses of action to countries (Barona 2008, 2010; Bizzo 2012, 2015; Weindling 1995a, 1995b).

In particular, the International Labour Organization (ILO) and the League of Nations Health Committee (LNHC) played a key role. In the 1920s, both organizations conducted research with different focuses. The ILO, with an economic and social outlook, oriented

its activities to the preparation of statistical data on food consumption by the working population; in turn, the LNHC took a biological approach, aimed at the study of the nutritional factors that guarantee a healthy diet and the quantities required by different population groups, such as newborns, children, pregnant women, and workers. In this case, according to Weindling, advances in biochemistry enabled the study of the value of nutrients; the results were used to supplant the approach taken up until that time, which solely considered the minimum energy requirements (provided by foods such as cereals, sugar, and fats), with one that also recognized the importance of "protective foods" (milk, vegetables, fruit, cod liver oil) rich in albumen, vitamins, and minerals. Since then, it has come to be recognized that a diet comprised of both types of foods in adequate proportions will assure optimum health and resistance to disease (Weindling 1995b: 333; League of Nations 1937: 11, 28).

In the following decade, against the backdrop of the international economic crisis, the efforts of both organizations tended to converge. In 1935, the General Assembly of the League of Nations urged the LNHC to go into greater depth than the studies that had been conducted in this field up until then, and to set up a mixed committee of experts composed of members of the LNHC, the ILO, and the International Institute of Agriculture, an organization headquartered in Rome that was established in 1905 to study questions concerning the production and sale of agricultural goods. The objective was to undertake a joint effort that incorporated physiological aspects of human nutrition and statistics, both regarding food consumption by different sectors of the population and its production and sale (Barona 2010; League of Nations 1936, 1937).

This task was executed between 1935 and 1937, and its results were published in a series of reports. The introduction to the final report, published in 1937, sets out the most relevant conclusions and the main recommendations, the scope of which was limited to a series of general principles because of the multiple nutritional situations and habits that existed (in terms of production, distribution, and consumption) (League of Nations 1937: 34). Of these, the most important included the following: first, recognition of nutrition as a national problem; second, the creation of national committees on nutrition staffed by scientists, economists, consumer representatives, and officials with responsibilities that included studying the consumption habits and nutritional status of all sectors of the population, adapting a series of general rules suited to national conditions (considering the specific foods these rules were to apply to as well as alternative means of obtaining these nutrients), analyzing the connection between food costs and income, and disseminating information among people in a position to influence the dietary habits of the population; third, strengthening efforts to improve nutrition through maternal and child centers and school canteens; fourth, studying how to lower food costs and assure access to certain

specific foods by the poorest segments of the population; and finally, incorporating nutrition-related content into the professional training of physicians and the ancillary medical occupations (League of Nations 1937: 34-56).

2. THE EMERGENCE OF NUTRITION AS AN OBJECT OF KNOWLEDGE AND INTERVENTION: HEALTH AND SCIENCE PROJECTS

During the years covered by this study, Argentina underwent a process whose characteristics very closely resembled those on the international level, with actions very similar to those recommended by the afore-mentioned organizations.² In these terms, as part of the initiatives and actions undertaken by researchers and technicians who inspected universities and state offices, the physician Pedro Escudero came to be of critical importance. In his view, medicine - through the specialized position of the dietary physician - should be a profession that brings together a group of ancillary disciplines and occupations concerned with nutritional issues.

To understand both the origin of these projects and their remarkable effectiveness, it is necessary to take stock of the place that medicine occupied in Argentine society at the time and Escudero's position within the field. As previous studies have shown, the Buenos Aires medical elite, in the final third of the 19th century, shaped a political project through which the practice of medicine was established as a liberal profession, and its practitioners as an expert body of the state, excluding or subordinating other actors that sought involvement in the domain (Armus 2000; González Leandri 2012). Thus, during this period, physicians occupied the various public offices which, in a fragmented and sometimes under-resourced manner, were geared toward the healthcare of the population (Belmartino 2005; Biernat 2015; Ramacciotti 2009). Notable among these were the National Department of Hygiene (Departamento Nacional de Higiene) and the National Commission of Regional Asylums and Hospitals (Comisión Nacional de Asilos y Hospitales Regionales), dependencies of the Ministry of the Interior and the Ministry of Foreign and Religious Affairs, respectively.

Alongside the Municipal Public Assistance department (Asistencia Pública Municipal) of the city of Buenos Aires, the dependencies that provincial governments began to establish, medical schools, and the National Academy of Medicine (Academia Nacional

2. The documents analyzed for this study, besides recognizing certain influences or venturing specific criticisms, do not draw emphatic conclusions about the existence of causal links between the national and international levels.

de Medicina, ANM), were all spaces that were constituted as poles of power and prestige within the profession, sometimes composed of actors who circulated from one institution to another and who competed with one another for resources, developing projects oriented at expanding state influence over health matters, fighting disease, and creating hospitals and scientific research establishments (Armus 2007; Belmartino 2005; Biernat 2015; Buschini and Zabala 2015; Ramacciotti 2009). During the decades covered by this study, with the cycles of epidemics brought under control, projects centered on chronic diseases also emerged (Armus 2007; Biernat 2010; Buschini 2016a) - including those related to nutrition.

Within this context, Escudero's professional trajectory was an eminent one: that of an actor who entered the profession's hallowed halls and brought forward initiatives concerning the very problem of health that he himself had done much to make visible. Escudero was born in the city of Buenos Aires in 1877 and, after completing his schooling, gained entry in 1897 to the FMC of the UBA to study Medicine. There, his achievements were outstanding, marked by excellent academic performance, political and cultural activism (he occupied senior positions in the Argentine Medical Circle [Círculo Médico Argentino], a reformist group within the school), and showed an early inclination toward clinical practice. After graduating, he continued along the same path and, in addition to private medical practice and his role as a founding member of the review *Argentina Médica* - created in 1903 with the aim of strengthening practical and experimental aspects within the profession - consolidated his professional practice at two establishments: the FMS and the Dr. Guillermo Rawson Municipal Hospital (hereinafter, Rawson Hospital). At the former, very soon after his arrival, he made efforts to join the teaching staff, as the many letters he sent to the university authorities attest; in this he was eventually successful, and thus began a period of service that reached its zenith in 1921 when he was appointed full clinical professor, a milestone in his professional development. In this setting, and without straying from it, he began to redouble his focus on the study of digestive conditions and nutrition. At Rawson Hospital, following a spell as a house physician, he was promoted to the position of head of clinical service. Each year, he published copious studies and directed several theses (Anonymous 1933; Escudero 1908, 1911, 1915, 1918, 1919, 1922).

Thus, by the start of the 1920s, Escudero had already secured a strong foothold among the Buenos Aires medical elite, and he went on to cap his standing in 1928 with a position on the ANM. It was this platform that allowed him, in 1928 - on the back of several reforms that were due to be implemented at Rawson Hospital - to successfully propose to the General Director of Public Assistance, Abel Zubizarreta, the establishment of an institute dedicated to the study and treatment of diseases related to nutrition; this institute eventually opened four years later under the name of the Municipal Institute of Nutritional Diseases (Instituto

Municipal de las Enfermedades de la Nutrición). In its initial form, it was modest in terms of its infrastructure, budget, and staff, and included only three departments: Medical, Care, Dietary Refectory (a food preparation service offering invalids the possibility of receiving nutritional assistance without the need to be admitted), and a Clinical and Experimental Laboratory (Escudero 1929, 1931).

3. THE MUNICIPAL INSTITUTE OF NUTRITIONAL DISEASES: FROM METABOLIC ACTIONS TO THE PROBLEM OF NUTRITION

At first, the Institute's activities were almost exclusively centered on research and medical treatment of metabolic diseases, primarily diabetes but also others such as gout, obesity, and aminoaciduria (Escudero 1929, 1931) – a specific type of nutritional disorders, to borrow a classification that Escudero himself used in those years. He argued at the time that nutrition is a phenomenon marked by three stages, each of which is characterized by its own diseases: first, diet in and of itself, understood to mean the selection and consumption of food; second, metabolism, the stage at which the system transforms matter and energy by burning and depositing nutrients in the tissue; and finally, excretion, in which the system eliminates used and unusable matter through the digestive tract, the kidneys, the lungs, and the skin (Escudero 1933). This broad definition, as well as covering metabolic conditions, applies to ailments such as cachexia, hypotrophy, underweight, scurvy, beriberi, osteomalacia, rickets, xerophthalmia, pellagra, simple endemic goiter, chloropenia, functional disorders (various forms of gastric and intestinal dyspepsia), organic disorders (gastritis, enteritis), edemas, anasarca, acidosis, uremia, constipation, and anuria, among others.

Gradually, the field of intervention of Escudero and the group of stable collaborators who began to support him was expanded to encompass the study of human nutrition from a broader perspective, including the clinical dimension of the aforementioned diseases as well as chemical, economic, and social factors (Escudero 1934a, 1936). The reasons for this expansion are not entirely clear, but there is some evidence to suggest that the Institute started to receive calls from actors such as public officials on the one hand, and the press on the other, to place increasing emphasis on problems related to nutrition. In the case of public officials, starting from 1929, technical services were provided to municipal (City Councils, Public Assistance Departments) and national state bodies (jails, National Education Board, the army), including pronouncements on the manufacture and sale of foods, the dietary regimen at public institutions (municipal hospitals, holiday camps, jails across the country, the army), and the nutritional status of the population, as exemplified by a report prepared in the province of San Juan (Escudero 1934a: 225-226; 1939: 98-99;

Cámara de Senadores de la República Argentina 1934: 37-38). According to Escudero, although the Institute was tasked only with the provision of nutritional assistance to the sick, officials made these requests because Argentina did not yet have any public office with an understanding of food or nutrition (Escudero 1934a: 225).

As to the press, in 1932 the editor of the daily newspaper *La Prensa*, Ezequiel Paz, gave Escudero a weekly opinion column on nutritional matters. The articles that appeared in *La Prensa* made a great impact on the public and were published as a compilation in the book *Alimentación* (Escudero 1934b). They covered a wide range of topics and included calls to university and political authorities and to society at large to heed the importance of nutrition from a health and economic standpoint. From his columns, Escudero postulated the existence in Argentina of a problem that, in his view, had until then been underestimated: undernourishment of significant sections of the population, "a menace that does not kill but results in the perpetuation of the individual into increasingly inferior children"³ (Escudero 1934b: 198).

To support this hypothesis, he availed himself of statistical indicators⁴ collected by different state bodies, and on this basis declared that a third of the population did not consume the basic requirements for healthy living (Escudero 1934b: 167). Escudero analyzed, in the first place, the official figures on infant mortality, which showed a significant disparity between regions but levels that were unacceptable everywhere, except for the Federal Capital and the provinces of Buenos Aires, Santiago del Estero, and Corrientes, where figures of less than 100 out of every 1000 were recorded. Escudero argued that in general terms the problem of infant mortality in Argentina was not so serious when the country was regarded as a whole (116/1,000, which in his judgement placed the country midway between Chile [268/1,000] and New Zealand [45/1,000]). However, he maintained that this was not true at a regional level, save for the above-mentioned provinces. He also stated that:

[...] [what] is striking is the proportion that infant mortality makes up of mortality in general. Indeed, in most provinces one-year-olds account for a third of overall mortality; for every three deaths, one corresponds to a babe in arms. It explains then that the average lifespan of the general population is low, if before turning one, they disappear in such high proportions.⁵ (Escudero 1934b: 170).

3. Translation by *Apuntes*.

4. Claudia Daniel has conducted detailed studies on the production of statistical information in Argentina and its employment as an instrument to make an impact on the definition and identification of social problems. Regarding the production and use of statistics in the medical field during the first half of the 20th century, see Daniel (2012).

5. Translation by *Apuntes*.

Expressed in more simple terms, what this meant was that one in every three deaths was a child. According to the available data, this was close to the prevailing situation in several provinces; in others, the situation was even more critical, such as in Jujuy and San Juan, where the figure was nearer to one in two.

As to the causes of this phenomenon, in the first instance, he identified four groups, two of which were directly associated with the fact that families could not provide the nutritional resources that, from a nutritional sciences standpoint, guaranteed optimal health (Escudero 1934b: 171). Second, he appealed to Military Health department (Sanidad Militar) statistics, which had been taken over ten conscriptions and covered a total of 426,298 citizens over 20 years of age. Drawing on this data, he asserted that a third of the Argentine population of 20-year-olds could be deemed sick, half of them on nutritional grounds. Alongside this, 10% of the population had what he called "constitutional problems" (height, bodyweight and thoracic perimeter), with this percentage rising to 34% in the case of conscripts regarded as sick. According to Escudero, individuals with such characteristics were "degenerates" (in a physical and/or moral sense) as a result of the deficient nutrition of their parents and grandparents (Escudero 1934b: 183). Finally, Federal Capital statistics showed a high rate of mortality among individuals between the ages of 20 and 39, which meant a significant financial loss given that they were part of the working-age population. Added to this was the fact that mortality among the native population at that time was greater than among the foreign-born population, which is consistent with the hypothesis that "constitutional problems" in the country perpetuated themselves down the generations (Escudero 1934b: 185-193).

For these reasons, Escudero argued that Argentine men of all ages were degenerating (Escudero 1934b: 193) and, given this diagnosis, he made it his aim to draw attention to the existence of a social problem that needed to be addressed. Indeed, in one of his first columns, he proposed an idea whose importance can be seen in the light of subsequent events: after noting what had been achieved in other countries (Germany, France, Japan, the United Kingdom, the United States, and the Soviet Union), he proposed that "if there were in the country a technical office, made up of dietitians, agricultural engineers, chemists, and economists, some remedy would have been proposed for this ridiculous illness: arriving at malnutrition while, elsewhere, food is thrown into the waste basket"⁶ (Escudero 1934b: 13).⁷

6. Translation by Apuntes.

7. Through more direct channels, Escudero had asked the director of public assistance to grant the Institute under his charge a so-called technical distribution statute, to provide it with its own building and the resources necessary to discharge its responsibilities (Escudero 1934a: 225). Another document that

4. THE CONSOLIDATION OF THE INN: SCIENTIFIC RESEARCH, MEDICAL CARE, AND SOCIAL ASSISTANCE

Whether it was the climate of opinion that these columns engendered, the social consequences of the economic crisis that Argentina underwent as part of the Great Depression worldwide, the relationships that Escudero upheld with important figures in society and the state, or a combination of these factors, the Institute's fortunes stirred the interest of the national political authorities.

First, through a bill authored by Senator Carlos Serrey, Law N° 11912 that was approved in 1934, transforming the existing body into the National Institute of Nutrition (Instituto Municipal de la Nutrición) and granting it a subsidy of 150,000 pesos. The law also provided for the Institute's autonomy from Rawson Hospital, allowing it to expand its activities. In return, it was required to provide services to the state. During the parliamentary discussion of the law, the legislators' interventions betrayed some of the concerns that the problem of nutrition was beginning to awake among the national authorities, and how the form that these concerns took was influenced by the discourses emanating from certain actors from universities, who were also recognized for their fundamental technical expertise in addressing the problems identified. For example, Senator Carlos Bruchmann, rapporteur to the Budget Commission, cited the measures that had been taken in a range of countries in relation to the problem of nutrition; these included the establishment of scientific centers for the study of the issue, in recognition of its perceived importance to the population's health and to economic activity (Cámara de Senadores de la República Argentina 1934: 34). Conversely, Argentina's only such establishment was the one led by Escudero, whose work, although commendable, drew on insufficient resources (Cámara de Senadores de la República Argentina 1934: 34). Thus, Bruchmann expressed his support for Serrey's bill, given the necessity to have access to a body that could serve as a source of information for food producers (crop and livestock farmers) and could take responsibility for the population's nutrition, thus contributing to the nascent social policy concerning the life of the working class, which already encompassed actions related to housing and working conditions but not, at that time, nutrition (Cámara de Senadores de la República Argentina 1934: 34-35).

attests to Escudero's active attempts to strengthen the Institute's position is a letter he sent in 1930 to the dean of the FMS, Julio Iribarne, in which he requested leave because of "the demands of the foundation of the National Institute of Nutrition" (translation by *Apuntes*) (Escudero 1930). No other document has come to light to suggest that there was already a project in existence at that time to bring the Institute under the administrative auspices of the state.

Second, Decree N° 125808/38 of 1938, promulgated by President Agustín Justo, granted the Institute national status, placing it, as the INN, under the auspices of the Ministry of Foreign and Religious Affairs and thereby extending its infrastructural and budgetary reach even more. That same year, further measures taken by the new president, Roberto Ortiz, strengthened this state support. In the message with which he opened the regular session of the Honorable National Congress, it can be seen how the conception of the state's role began to change in terms of guaranteeing certain living conditions for the most vulnerable sectors of the population, considering their nutritional needs among other issues.

Ortiz began by acknowledging a worldwide crisis, manifested through popular movements and reactions by the middle classes in which the central factor, he maintained, was that central governments had neglected the social mission for which they were responsible (Ortiz 1938: 8). However, he went on, the League of Nations had recently spoken out about this situation and its member countries had begun to understand "the meaning and effectiveness of its technical bodies, dedicated to specific problems of an economic-hygiene-, and health-related character"⁸ (Ortiz 1938: 8). Moving on from the international plain to that of Argentina, Ortiz proposed that the government's actions should be oriented toward this goal, centering the state's protective mission on procuring the common good. He said that he had witnessed, during his visits to the Argentine interior, entire populations lacking essential means of support, with widespread disease and malnutrition among children and physical and moral distress among adults. Given the social consequences of this situation - which he defined in terms of the diminishing bodily health of the population, declining birth rates, increasing infant mortality, and the gradual depopulation of certain parts of the country to the detriment of other more prosperous ones - he called for the usual specific actions such as national subscriptions or votes for special funding, to be cast aside in favor of laws that consolidated social policies, including those regarding nutrition.

Ortiz's intervention, to be sure, was not alien to a climate of ideas shared between actors with different political allegiances. In the 1930s, various laws and decrees related to nutrition, including measures related to the Institute led by Escudero were passed. In 1934, Law N° 11838 was approved, which authorized the disbursement of 1 million pesos or its equivalent in products to the National Child Assistance Board (Junta Nacional de Ayuda al Niño) to tackle hunger and the cold. Two years later, in 1936, the Directorate of Maternity and Infancy (Dirección de Maternidad e Infancia) was created through Law

8. Translation by *Apuntes*.

N° 12341, whose functions included ensuring the nutrition of children between birth and school age. This law had its origins in a bill introduced by socialist Senator Alfredo Palacios, who stressed its importance in a lengthy address to parliament that was later published in abridged form in the book *Dolor argentino*. Palacios described the living conditions in the different Argentine provinces, basing his line of argument on his own findings during trips to the interior, on statistics he had obtained from state entities, and on the opinions of physicians - including Escudero and the renowned sanitarian Gregorio Aróz Alfaro. Palacios also highlighted the high levels of infant mortality, illiteracy, and school dropouts, which he directly associated with nutrition (Palacios 1937). Finally, between 1938 and 1939, Law N° 12558 (Protection of School-Aged Children, [Protección a los Niños en Edad Escolar]) and Decree N° 28207 were enacted; both provided for the establishment of a National School Assistance Commission (Comisión Nacional de Ayuda Escolar), to be charged with implementing this law and opening school canteens across the country.

The assistance received by the INN at this time helped the organization become more institutionalized, whereby it laid the foundations for its operations between 1935 and 1938, and was more active thereafter. With these resources, it was able to expand its infrastructural capacities once more and to ensure a stable staff, which in 1945 - the only year for which data is available - totaled 385 members (Escudero 1945; Escudero 1946). The staff, which included 244 specialists (physicians, dietitians, nurses, agricultural engineers, and chemists), operated out of the Institute's headquarters as well as the different divisions where the related specialties were based - Teaching, Food, Social Action, Research, and Assistance to the Nutritionally Ill (or hospital) - and allowed the INN to discharge the different functions for which it had been created, such as scientific research, technical services for the state, medical care, social assistance, professional training, and public education.

4.1 Medical care and social action at the INN: the "vigilance of the healthy man"

Two important divisions within the Institute were Assistance to the Nutritionally Ill and Social Action. The former provided a means of continuity with the previous stage and its main characteristic was to keep admissions to a minimum given the peculiarities of chronic diseases. To this end, the Institute only had 60 beds, for the treatment of acute cases and the hospitalization of those for whom it was necessary to conduct studies (Escudero 1946: 26).

The activities comprising social action formed a more significant part of the overall framework, given the INN's role in how society and the state responded at that time to the population's (poor) nutrition. To understand how the work of this area was organized, it is worth turning to the conception of health to which Escudero subscribed

from at least the mid-1930s – as part of the growing importance that physicians placed upon non-communicable diseases to the detriment of contagious ones. Consequently, he established a distinction between specific prophylaxes (those administered when a disease is communicable because it depends on a live agent) and non-specific prophylaxes (when the disease is not communicable and has its origins in a lifestyle that differs from biological conditions considered normal, primarily associated with nutrition and labor, and secondarily in connection with housing and dress) (Escudero 1938a: 11). In the case of the former, in the second half of the 19th century and the early years of the 20th, the steps to be taken were centered on isolation and disinfection. In the case of the latter, the actions were geared toward creating centers for cures, complemented by social action, which was understood to mean prevention, follow-up, and rehabilitation (Escudero 1938a). The INN's social actions thus aimed at organizing what it defined in terms of "the vigilance and protection of the healthy man,"⁹ which referred to the fact that it concerned individuals who for whatever reason required specific care (newborns, children, workers, pregnant women, and mothers) regarding their nutrition and their work during the different stages of their life. This involved actions such as check-ups for pregnant women and mothers, nutritional guidance for nursing mothers and school-aged children, medical exams for adults, providing nutritional advice, overseeing the recovery of the sick and wounded, and so on.

Along with this, a key dimension of the "vigilance and protection of the healthy man" undertaken by the INN was nutritional assistance to sick adults, healthy adults, children, and newborns (Escudero 1938a: 16-17; 1939: 26-27); this endeavor added to the work of an extensive group of public and private entities that operated in Argentina at the time. According to a study carried out by INN between 1936 and 1937, in the city of Buenos Aires there were 83 institutions engaged in this effort, which had a total of 245 canteens (Escudero and Rothman 1938b). The specific way in which INN offered nutritional assistance, however – and therein lies the importance of framing the context in which it did its work – depended on the contribution of dietetics in terms of the cost and quality of the food provided, and the aforementioned institutions were evaluated on this basis.

Three disciplines were central to this effort: dietary technique, culinary art, and dietary economics. The first concerned the procedures used to prepare a diet for the healthy and the sick man alike, and was based on sciences such as physics and chemistry. Culinary art, for its part, related to how food was prepared and the recipes that could be followed given the available ingredients and the requirements of dietary technique.

9. Translation by *Apuntes*.

Central to these disciplines were the "laws of nutrition," the principles through which Escudero systematized (and selectively appropriated) the internationally-available knowledge on the questions to be considered when preparing a dietary regimen "free of all errors"¹⁰ (Escudero 1938b: 32). In Escudero's view, there were four such laws: the first was the law of quantity, and held that the nutrients consumed should be sufficient to cover the system's calorific demands and to ensure that all substances eliminated by the body were replaced. Two concepts helped in quantifying this requirement: total caloric value (TCV), which established the necessary quantity of nutrients that contributed heat and energy for the system to recover heat lost; and balance, associated with "plastic" or tissue-forming foods (nitrogen, water, minerals, and vitamins) that replace the tissue-forming elements constantly eliminated by the system. These concepts were based on the notions of: "sufficient regimen," when the food consumed sustains health and the normal vital functions of growing, staying active, and reproducing; "insufficient regimen," when any of these functions is diminished or altered; "generous regimen," when moderate weight gain occurs due to an accumulation of reserves; and "excessive regimen," which leads to obesity due to the accumulation of fat.

The second law, that of quality, held that the composition of the diet must provide all the substances that make up the body. Thus, an "inadequate regimen" implied the absence or insufficiency of a given substance. In turn, an "incomplete regimen" was marked by the absence of more than one dietary substance in the daily regimen. This could result in, the phenomena of underweight, when weight loss is the product of the consumption of reserves without health consequences because it does not affect the tissues; and malnourishment, when weight loss leads to the consumption of the constituent parts of the body: water, proteins, and minerals. The third law was that of harmony, which held that the different principles comprising nutrition should be disseminated in a proportionate manner; this was expressed through a series of coefficients, such as that corresponding to protein (which marked the relationship between TCV and proteins) or calcium-phosphorous (which indicated the predominance of one substance over another), to cite two examples. Finally, the law of adequacy established the importance of nutrition and its fitness for the system, which included consideration of variations relating to sex, biological life stage, and tastes and habits (Escudero 1938b).

The preparation of any dietary regimen, therefore, was to consider these laws. However, given the social context in which the activities of the nascent field of dietetics took place, these laws turned out to be insufficient. Drawing on his own statistics and others obtained

10. Translation by *Apuntes*.

from the National Department of Labor, Escudero affirmed that in those years spending on food constituted the largest outlay in the budget of the average family, and that such spending increased in relative terms the lower the income. Therefore, rational nutritional requirements had to be met at a minimal cost, in terms of the value of the raw materials, preparation costs, and savings through waste reduction (Escudero and Pierángeli 1938). Dietary economics, in this regard, considered the price and nutritional value (in terms of calorie content and the quantity and quality of proteins, fats, minerals, vitamins, and cellulose) of each food before its inclusion in a dietary regimen.

Knowledge of dietetics thus enabled the proposal of dietary regimen founded on both medical and economic criteria, covering healthy and sick individuals at different stages of their lives. This technical base was invoked by Escudero when he called for the INN to oversee the coordination of the different bodies through which the state sought to tackle the problem of poor diet and malnutrition that affected the population during the period studied. Thus, he argued that the INN should administer nutritional assistance starting from puberty, as well as acting as a point of reference for the activities undertaken by the Directorate of Maternity and Infancy (for pregnant women, newborns, and children up to the age of six) and the National School Assistance Commission (for school-aged children) (Escudero 1939: 100–101).

However, institutional reports prepared in the following years suggest that these attempts at coordination were fruitless. This, to be sure, was consistent with the high level of fragmentation that characterized the approach the Argentine state took to health policies, and with the disputes over responsibilities that arose between the actors who had dealings with the different state offices.¹¹ Despite these disputes, the INN succeeded in becoming a reference point for the institutions that oversaw the nutrition of certain sectors of the population. According to Escudero and Rothman, between 1938 and 1942, the institution received enquiries from 35 institutions, including national ministries (Justice and Public Education, Agriculture, Navy), provincial education boards, charitable societies based in the capital and the interior, cooperatives, schools and homes, and other private institutions, all of which asked about the quality of the nutrition offered by the establishments for which

11. On this matter, Escudero acknowledged in a 1945 article that "the regulation of Law N° 12558 undermined the verity of its application and the school canteens were fertile ground for political interests. All of the efforts that the National Institute of Nutrition made in favor of the school canteens were in vain; from social workers, who had nothing to do with the science of nutrition, to semi-literates, without any more intellectual preparation than what they learned at elementary school, occupied the positions and functions that were [previously] reserved to dietitians" (Translation by *Apuntes*) (Escudero 1945: 119).

they were responsible, and on some occasions requested assistance in preparing dietary records (Escudero and Rothman 1943).

4.2 Research at the INN

Along with the sections engaged in medical assistance and social action, research was expanded on the basis of three guiding objectives. First, research and technical services founded on disciplines such as biology, chemistry, biochemistry, and agricultural engineering, were organized into the sections of Experimental Farm-Regional Stations, Chemistry, Bacteriology, Plant and Animal Microscopy, Biology, and Anaphylaxis. This research covered different aspects of nutrition and foods, such as the preparation of chemical composition tables for the foods available in the country – key to devising recipe books based on medical and economic criteria; the presence of micro-organisms in foods consumed in the city of Buenos Aires (lard, cream, bread, fish, cheese, yerba mate, breast milk, ice cream, etc.); the nutritional requirements of individuals at different life stages (of particular importance were the studies conducted regarding the requirements of nursing mothers and children); the physiological effects of different vitamins on animals; and soil conditioning to increase the efficiency of certain crops.

The second was social research – part of the Social Research subsection of the Social Action division – which was originally intended to go in two directions, though the available documents would suggest that only studies related to the first of these were undertaken: on the one hand, establishing the “organic” and socioeconomic status of the family through surveys on income levels, type of diet, and health status; and on the other, inquiring into the moral status of the family through studies on behavioral problems and moral health.

With respect to the first type of social research, studies were conducted that were pioneering in Argentina – similar works had been promoted by international organizations and carried out in different countries – and entailed the use of social science techniques such as surveys to generate knowledge on which to base public policy formulation. In the period studied, three surveys were conducted: one in the city of Buenos Aires between 1936 and 1937, one in the city of Mendoza in the mid-1940s, and another in the Buenos Aires locality of Avellaneda at the same time. These studies enquired into family composition, housing characteristics, the family budget, the composition of spending, and the health status of family members (Aguilar 2015; Escudero and Rothman 1938c, 1938d; 1938e; Escudero and Reynés 1947).

Finally, the Food Division was responsible for economic research, which entailed analyzing the prices of foods on the market and calculating what percentage of income was

necessary for a daily diet in accordance with the laws of nutrition. All studies of this type were conducted in Buenos Aires during the period in question, although their replication throughout the country on a regular basis was deemed important. To this end, the thousand "normal calories" - with normality defined as the guarantee of adequate sustenance in line with the four laws of nutrition - was established as a unit of analysis, a minimum income was defined utilizing available statistical data, and market food prices were ascertained. Based on these three elements, it was possible to determine whether income levels were sufficient to ensure an adequate diet (Escudero and Rothman 1938a, 1945).

5. THE CONVERSION OF ACADEMIC KNOWLEDGE INTO A PROFESSIONAL OCCUPATION: THE DIETARY PHYSICIAN AND THE DIETICIAN

A final aspect to consider concerns a question that, interpreted in the light of conceptual tools provided by the sociology of the professions, has two components (Sarfatti Larson 1990): on the one hand, the training of suitable individuals for the application of the knowledge generated by nutritional sciences; and on the other hand, the restriction of job positions to duly-trained individuals and the consequent establishment of protected markets based on prerogatives conferred by the state. This translates into the establishment of higher education processes aimed at setting boundaries between professionals and laypeople and the consequent control of labor supply in markets. These professions thus are highly appealing for the legal protections they afford, the technical autonomy of the practitioners, and the generous pay conditions they tend to assure. Likewise, the trained professionals acquire an outstanding place in society and therefore occupy a privileged position in the production and circulation of discourse on important areas of social life, with effects on practices. According to Sarfatti Larson, the widespread dissemination of knowledge among the population through the primary and secondary education system, as well as the mass media completes this process insofar as it legitimizes in the eyes of laypeople the know-how claimed by experts, as well as assuring them legal recognition by the state (Sarfatti Larson 1990).

As to the status of dietetics in Argentina during the period of study, the first initiatives in this area were aimed at the creation of new university degree programs or specializations within those already in existence. On the one hand, in 1935 the Municipal School of Dietetics (Escuela Municipal de Dietistas) began operations as part of the Municipal Institute of Nutrition, and was nationalized three years later along with the Institute. The school offered a three-year degree program for dietitians, with the option of an intermediate degree program for nutrition assistants, structured into two cycles during which the technical and economic aspects of nutrition were taught in reference to both the healthy and sick populations. Content ranged from human anatomy and physiology

geared toward the study of nutrition, chemistry, and food technology (including the chemistry of living matter and the industrial chemistry of foods, as well as legal regulations concerning the inspection of food conditions), the physiology of pregnancy and children, dietary economics, nourishment for the healthy man, nourishment for the healthy child, general nutritional pathology, diet therapy for children and adults, dietary technique, and culinary art. The graduates of the program, all of them females,¹² obtained a degree accrediting them as dietitians, which allowed them to practice their profession by engaging in a series of activities that the creators of the new occupation imagined would promote the consolidation of labor markets:

[...] the prescription, practice, and vigilance of nutrition for healthy people, considered individually and collectively; the practice and vigilance of nutrition for the sick who are under the direct control of a physician or a medical institution[;] management and work at technical offices, public or private, that address economic, commercial, or industrial questions related to foods and nutrition [; and] the teaching at schools and colleges of all subjects related to biology, hygiene, and the home economics of foods and nutrition.¹³ (Escudero 1939: 25).

On the other hand, in 1936 and 1938, respectively, the Chair of Clinical Nutrition (with Escudero as the tenured professor) and a specialized course in Dietary Medicine were created at the FMS of the UBA. The chair, aimed at students in the final year of their medical studies, included theoretical and practical classes about normal nutrition and nutrition-related diseases, the latter including patient care. Meanwhile, the specialization in Dietary Medicine was a two-year cycle open to physicians who held degrees from national universities or who had validated their degrees. The course was similar to that provided by the School of Dietitians, but without the content aimed at imparting basic medical concepts or those centered on dietary technique or culinary art; in the case of the former, this was for obvious reasons, and in the case of the latter two, in keeping with the conception of the physician's occupation as one that prescribed but did not execute (Escudero 1939: 38).

The implementation of these degree programs was successful in terms of enrollment, and there were signs of support from state authorities in the context of the growing importance placed on the problem of the population's nutrition and the place occupied

12. The founders of the School of Dietitians believed the profession ought to be practiced by women, and indeed this stipulation formed part of the institution's rules. For an analysis of this matter, see Buschini (2016b).

13. Translation by *Apuntes*.

by the dietitian in this process. Of note is the promulgation of executive branch decrees (Decree N° 125808/38; Decree N° 128428/42, Decree N° 135354/42) through which scholarships were created so that people from other provinces or neighboring countries who wanted to study for these degrees could relocate to the city of Buenos Aires, and a building within the INN was converted to house them. The scholarships entailed specific conditions, such as the requirement for Argentine dietary physicians to live in their home provinces for at least two years following the completion of the specialization course, or, in the case of physicians from other parts of Latin America, evidence of a commitment on the part of a public institution in their country of origin to hire them upon their return. At the same time, the state regulated the responsibilities corresponding to the new occupations, and recognized the requirement for the degrees that these programs conferred for accessing certain positions and in terms of regulating their responsibilities. In this regard, neither the research carried out to date nor the available documentation allow for anything beyond proving the existence of these official provisions, and the question of whether the legally established responsibilities were respected is one to be addressed by further research.

This is also true in the case of the formation of labor markets for the new occupations and the actual performance of the graduates. However, data provided by Escudero do allow for a few observations in this regard. First, between 1938 and 1944, both enrollment and the number of graduates were considerable, totaling 103 dietary physicians out of 259 who began the course (of these, 15 were scholarship holders from elsewhere in Latin America, and 15 from the provinces of Argentina) and 104 dietitians out of 598 who enrolled graduated (52 of whom were scholarship holders from the provinces, and nine were from other Latin American countries) (Escudero 1945: 96-100). Second, the graduates were successful in finding jobs, largely in state entities (whether in the INN itself or in provincial entities created in those years to formulate and implement nutrition policies), and to a lesser extent in private hospitals and clinics or as private practitioners (Escudero 1945: 105).

In parallel to the training of a body of specialists in dietetics, there were intense efforts to disseminate knowledge to the population via two routes. The first included articles in daily newspapers, radio conferences, popular publications and talks, whether in factories and cultural associations or through visits made by delegations to primary and middle-level educational institutions. The second route was the incorporation of content related to nutrition in the primary and secondary curriculum, which also included teacher training. The content of these interventions included nutritional rules to follow for the different stages and situations of life, variations depending on the time of year, and recipes that illustrated the laws of nutrition, among others, in addition to rules applicable to the activities of the INN. The stated objective of these actions was to alert the population to the importance

of an adequate diet and provide the means of training them in this regard. Under the proposed interpretive perspective, these efforts also constituted a means of legitimizing expertise – and those who possessed it – to prescribe practices around which professional markets began to be formed and public policies defined.

FINAL COMMENTS

This paper studies the way in which human nutrition constituted itself, in an inter-related manner, as a scientific problem and an object of public policies and the professional market in Argentina between the end of the 1920s and the mid-1940s, centering its focus on the projects and actions of the physician Perdo Escudero and his collaborators. The closely interwoven character of the afore-mentioned dimensions was, to be sure, a noteworthy feature of the process. Thus, Escudero's initiatives to establish dietetics in Argentina – a discipline that was then coming to the fore on the international stage – and the needs of the national authorities were mutually reinforcing in a context in which the population was feeling the consequences of the international economic crisis, and the state was becoming increasingly firm in its conviction that it had to expand its social policy intervention.

Escudero, through his public interventions, teaching activity, and the technical services provided through the Municipal Institute of Nutritional Diseases, proclaimed the existence of scientific criteria with which to identify and respond to problems concerning the production, commercialization, and consumption of food in Argentina. The national authorities, for their part, gave credence to these interventions, appropriated the discourses, and provided resources to drive the development of the institutional initiatives led by Escudero. As the driving forces behind dietetics – Escudero and the stable group of collaborators that began to work around him – gradually acquired new resources; they also deepened their research, extended the scope of their actions aimed at nutritional assistance for the population, trained professionals, and engaged in the dissemination of knowledge regarding the discipline. In this context, the influence of dietetics on society grew considerably; it manifested itself on a number of levels and can be attested through significant examples, such as the technical assistance requested by multiple state organizations and civil society organizations and the creation of provincial dependencies for the implementation of nutrition policies where dietary physicians and dietitians were hired.

Of course, the limitations of this stylized presentation of events should not be overlooked, insofar as it constitutes an overview of a case that had not previously been explored and as such does not cover the details in any great depth. Indeed, a study that goes into specific aspects of the INN's activities in more detail will undoubtedly find that in the context of the highly fragmented state apparatus, in which the different actors fought over scarce

resources, the intervention proposals brought forward by these actors were not always well received or implemented; some indications of this can be seen in the comments made by Escudero regarding the vagaries associated with the implementation of Law N° 12558.

As is usually the case in the analysis of any historical process, the demarcation of the period analyzed involved a certain degree of arbitrariness, insofar as it is possible to establish lines of continuity with prior and subsequent events. The decision to end the analysis in the mid-1940s, and more specifically at the point when the first term of Juan Domingo Perón began, is due to a change that took place then and which affected the INN; this is associated with the intensity of the process of centralizing the state apparatus starting from 1943 and ending with the consolidation of the first Peron presidency, even when trends in the opposite direction continued (Campione 1996). In the health sphere, this led to the unification of what had until then been a group of disparate organizations through the creation in 1943 of the National Directorate of Public Health and Social Assistance (Dirección Nacional de Salud Pública y Asistencia Social), which was granted the status of a secretariat in 1946 and of a ministry in 1949 (Belmartino 2005; Ramacciotti 2009). Thus, starting from 1946, the INN came under the auspices of this new organization and, although it retained the functions it had performed up until then, its activities came to be framed by the organizational hierarchy of which it was now part, with higher-level institutions that could direct and limit its actions. This point in time also marked the departure of Pedro Escudero, who resigned from the chair of the Clinical Nutrition in 1946 and from his position as director of the INN the following year.

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