

Food safety. Between the law and inspection practices in the local social framework. (Aragon 1850-1923)

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Introduction

A large part of the concern about the food supply in the societies of the Old Regime – and also in many industrialised societies of this period – focused on the availability of products and the lack of adequate distribution methods.¹ Although concerns about food safety existed at that time, more recent are the public and private means taken to protect public health through food inspection or the dissemination of information regarding the safe consumption of good quality food. Although the debate over regulations regarding the price or the quality of food is an old one, certainly the majority of the first national measures taken to control the food supply had to do with the urbanisation process, the increased gap that existed between food producers and consumers, the advances in microbiology and hygiene and the development of organic chemistry in the food industry. The history of food safety is a complex topic that brings into play a variety of factors and social agents, as well as a multitude of professional and scientific fields. In addition it lies in an area that, by its nature, is shadowy and oblique, into which European history was introduced a decade ago.² Although recent studies point to the decline of food consumption in the first stages of economic growth³, in the long term a decrease in the proportion of income spent on the consumption of food in industrialised areas occurred.⁴ Scientific development, the adoption of public measures and the perception of the topic are some of the areas of analysis.

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¹ FERRIÈRES, M. (2002) *Histoire des peurs alimentaires, du Moyen Âge à l'aube du Xxé siècle*, Paris Seuil. SORCINELLI, P. (1996) "L'alimentation et la santé" In FLANDRIN, J. L. MONTANARI, M. (Ed.) *Histoire de l'alimentation*, Paris, Fayard, p. 809, 822. For the hygienist FELIPE MONLAU, P. (1847) *Elementos de higiene pública*, Barcelona, Imp. de Pablo Riera, p. 365. SANTERO, F. J. (1885) "Abastecimiento de substancias alimenticias" In Idem, *Elementos de Higiene Privada y Pública*, Madrid, El Cosmos Editorial, p.267-271.

² SPIEKERMANN, U. (1997) "Was kann die Geschichtswissenschaft zur Analyse gegenwärtigen Ernährungsverhalten beitragen?" In BODENSTEDT, A. LOOS, S. OLTERS DORF, V. REINHARDT, D. SPIEKERMANN, U. (Ed.) (1997) *Materialien zur Ermittlung von Ernährungsverhalten*, Karlsruhe, Bundesforschungsanstalt für Ernährung, p. 13-21.

³ MARTÍNEZ CARRIÓN, J.M. (2002) "El nivel de vida en la España rural, siglo XVIII-XX. Nuevos enfoques, nuevos resultados" in MARTÍNEZ CARRIÓN, J.M. (Ed.) *El nivel de vida en la España rural. Siglos XVIII-XX*, Alicante, Publicaciones de la Universidad de Alicante, p. 36.

⁴ TEUTE BERG, H. J. (1975) "The General Relationship between Diet and Industrialization" in FORSTER, E. FORSTER, R. (Ed.) *European Diet from Pre-Industrial to Modern Times*, New York, San Francisco, Harper Torchbooks, p. 81. LIVI-BACCI, M. (1987) *Popolazione e Alimentazione*, Bologna, Il Mulino.

If we want to study in depth the evolution of food safety we have to begin exploring terms that depart from this denomination. In the past the terms “public health” or “public hygiene” encompassed, together with other aspects, what today we know as food safety. Within the “primary” or “original” contamination – that is to say biological – deriving from the very animals or plants from whence the products originate, livestock illnesses in this period gave rise to more laws regarding inspection and to repression with sanctions. Evidently too, there began to be discussion of the inadvisable presence of chemical substances such as copper, used to control parasites in the vineyards which then found its way into the grapes, or the influence of chemical fertilisers on plants. However, the aspect of biological analysis of vegetables and dangers posed was still in the early stages. “Secondary contamination”, that which occurred during production and processing, or in storage and sale, was what prompted most of the legal activity during this period, much more than concerns about original or biological contamination.

The topic of food safety encompasses not only the sanitary condition of food products but also their level of nutritive value. It was possible for the consumer to be exposed to dangerous products or to those of less nutritive value and with altered properties such as taste, smell, form etc. due to commercial criteria and preservation.⁵ During this period, attempts to control food contamination at all stages of production and distribution still did not exist, as they do today, nor was biological insecurity as prevalent. The first steps taken with regard to safety were linked to worries about the hygiene of food, first of all, and about its increasing alteration and adulteration through the input of chemicals in the production process. Government began to act in the 19th century when the first scientific studies initiated by university academics were established and the first professional links with this field were created. These led to the creation of the first general governmental control mechanisms. The evolution of scientific knowledge of the phenomena of fermentation and putrefaction of food, beginning in the 19th century involved not only Veterinary Science or the Agrarian Sciences, but also Chemistry, Biology, and Medicine introduced indirectly through the analysis of food.

Recently, the focus on measuring the standard of living or growth solely through variables of income has shifted and elements related to health and physical well-being,⁶ among others, have been introduced. It is valuable to explore the field of food safety from the vantage point of history, considering it as one more variable of growth and standard of living. Looking at it as an additional price of the “agrarian revolution” on the basis of environmental criteria or studying it as the “debit” side of the industrialisation process and food concentration, present interesting perspectives.⁷

⁵ TEUTEBERG, H.J. WIEGELMANN, G. (1972) *Der Wandel der Nahrungsgewohnheiten unter der Einfluss der Industrialisierung*, Göttingen, Vandenhoeck&Ruprecht.

⁶ MARTÍNEZ CARRIÓN, J.M. (2002) p. 17. CRAFTS, N.F.R. (1997) “The Human Development Index an changes in the standard of living: some historical comparisons” in *European Review of Economic History*, 1, p. 299-322. ENGERMAN, S.L. (1997) “The standard of living debate in international perspective: measures and indicators” in STECKEL, R.H. FLOUD, R. (Eds.) *Health and welfare during industrialization*, Chicago, The University of Chicago Press, p. 17-45.

⁷ FERNÁNDEZ PRIETO, L. (2003) “Tensions of Europe. La tecnología en la construcción de la Europa del siglo XX: Agricultura y alimentación” in *Historia Agraria* 31, p. 171-178.

The objective of this article is to present the topic as an integral element of economic agroindustrial history, as well as contemporary sociopolitics, and offer a general framework in two specific areas. First, the existing official regulations in Spain are analysed. Then an outline of the social practice of food safety in Aragón is presented, giving a brief summary of the facts at the local level and of the social and institutional players in the city of Zaragoza. It was the local government to which the State entrusted the organisation and management of the measures taken for food safety.

1. A look at food regulations in Spain. 1850-1923

Responsible self-policing, prevention and control are the bases of current legislation in matters of safety in the food industry, even though there remain basic deficiencies and problems. Measures taken by the government have increased its control over sanitary practices regarding the food supply. It can be said that in the field of regulations the government moved forward,⁸ but too often it was in response to already confirmed dangers or known problems. Additionally, the implementation of controls was hampered by significant problems in the financing of food supervision and also by relaxed social practices, while attempting to support the market and production.⁹ On occasion, measures were enacted in favour of or against diverse interests, which might be explored in future research of this sector. We see the broad outlines of its evolution during this period in Spain.

1-1 Between “Public health” and “freedom of industry”

When in 1917 the *Municipal Laboratory of Madrid* analysed 2369 food substances, fewer than half of those analysed met the standard. Adulteration was found in 56% and approximately 2.27% were of a dangerous nature.¹⁰ The “freedom of industry” and the “safeguarding of health on the part of the State” began to feel friction in this field from the 19th century. The first penal code laid out the responsibility of the businessman, producer or merchant. Nevertheless during many decades of the 19th century there were clashes between the newly established “freedom of industry” and state intervention in favour of the also new “public health” organisations. The perception of sanitary measures as hindrances to competition and a free market was central to the discussion regarding the building of a system of legal norms regarding the food supply, not just in Spain but also in Great Britain and France.¹¹ In 1895, faced with municipal ordinances which underlined the need to abide by norms determining the weight and characteristics of bread, some bakers asked the following question: “Can

⁸ CHASSEVANT, A. (1908) “Raport dur l’etat actuel de la lègislation concernant les aliments et la surveillance des aliments dans les divers pays” in Bericht über den XIV Kongress für Higiene und Demographie. Berlin 23-29 August 1907, Berlin, Verlag von August Hirschwald, p. 251-256.

⁹ BOSCH, J.M. (2003) (Ed.) *El derecho agroalimentario*, Barcelona, Cap. I, Cap. VI y Cap. VII.

¹⁰ GARCÍA FARIA, P. (1918?) “Discurso presentado en el Instituto de Ingenieros Civiles” in MEMBRILLERA, Francisco G de. *El problema sanitario en España*, Madrid, p. 115.

¹¹ BOURDIEU, J. PIET, L. STANZINI, A. (2004) “Crise sanitaire et marché de la viande en France (XVIII^e-XX^e siècles)” in *Revue h’histoire moderne et contemporaine*, 51-3, juillet-septembre, p. 121-156. FRENCH, M. PHILLIPS, J. (2004) “Protèger les consommateurs ou soutenir les producteurs? La politique alimentaire menèe para le Royaume-Unide 1945 à 1955” in *Revue h’histoire moderne et contemporaine*, 51-3, juillet-septembre, p. 157- 182.

an authority impose on a manufacturer the obligation to sell his product by portions based on weight, or size, whatever it decides...?"¹² The response to the legislation was positive, although not so to the inspection practice. In 1905 the conflict reappeared in Barcelona's City Government regarding the banning of food sold outside the market due to questions of hygiene and health regulations. The ruling favoured the merchants, to the extent that it placed "*restrictions on free commerce and industry, proclaimed and guaranteed in the general laws of the Realm*".¹³ In 1915 the Tarrasa meat sellers refused to accept the centralisation of distribution of meat by the City Government. The dispute was resolved in favour of the Government of Tarrasa since, as the verdict stated "*the principle of free industry is limited by the laws of public health*".¹⁴ The *Law of General Health* of 1904 had already set up health and sanitary regulations for the establishment of factories and workshops. The fact that health prevailed over freedom of industry was a given for scientists in the field of hygiene. That in addition it was necessary "*to respect the rights of industry to defend itself when it feels unjustly harmed by our decisions*", as the Veterinary Inspector of the *Municipal Laboratory of Vigo* stated, was an argument that began to be taken into account by the law from 1908 onwards. Defining public and private space and their health and economic management, always presented a problem. Nonetheless, several health workers declared themselves in favour of greater industrial inspection, defending the need to establish instruments of greater control and financing by the State.¹⁵

The rules related to food safety in this period were many, confusing, changing and lacking precise technical instructions.¹⁶ This lack led to multiple criteria for evaluation so that finally, it was up to the local authorities to decide what to do with contaminated food. Many of the real laws had been published as a result of complaints by individuals or entities, rather than as a demonstrated program of intervention by the Government.¹⁷ If repressive laws against fraud existed already in the first Penal Code, those related to prevention or direct inspection began to take shape at the end of the 19th century, in direct relationship to the acceptance of ideas of health and hygiene. A large part of the task of inspection took place in the midst of quarrels between the different professional fields – chemists, doctors, pharmacists and veterinarians – as to who would occupy the few administrative posts that had been created, and in the midst of a lack of means and also an excessive dependence on the criteria of the local administration. Miguel Bezares, Veterinary Inspector of the *Municipal Laboratory of Vigo* pointed to this deficient legislation.¹⁸

¹² MARTINEZ ALCUBILLA, A. (1895) "Libertad de industria. Fabricación de pan", p. XXVII-XXVIII.

¹³ *Gaceta de Madrid*, 4 de noviembre de 1905. *Sentencia del Tribunal Provincial de Barcelona confirmada por el Supremo*. p. 219.

¹⁴ MARTÍNEZ ALCUBILLA, A. (1915) *Jurisprudencia*, p. 171.

¹⁵ COROLEU, W. (1929?) "Comentario a la ley de sanidad" en COURMONT, J. (1929?) *Manual de Higiene*, Barcelona, Hijos de J. Espasa, p. 76.

¹⁶ Ayuntamiento de Madrid. Laboratorio (1902) *Recopilación de las disposiciones vigentes relativas a la pureza de los alimentos*, Madrid, Imp. Municipal

¹⁷ MADRID MORENO, J. (1903-1910?) *Higiene de los alimentos y bebidas. Medios fáciles para reconocer sus adulteraciones y falsificaciones*, Barcelona, Sucesores de Manuel Soler Editores, p. 11.

¹⁸ GORDÓN ORDÁS, F. (1917) *Revista de Higiene y Sanidad Veterinaria*, T.VI, Abril 1916-marzo 1917. Leon, Est. Tipográfico de la Democracia, "Los inspectores veterinarios de sustancias alimenticias" p. 310.

In a context of multiple assessment criteria, the final decision on what to do with a food item which had gone stale was left to the local authorities. The figures published in the *Anuario Estadístico de España* (Spanish Data Yearbook) on food analyses carried out in that country's provinces in 1917 provided an example of the different inspection criteria being used. If we go by the Yearbook data, 42% of the food items inspected were produced in the province of San Sebastián and some 7% of the remainder in Logroño. This was followed by Pontevedra (5.83%), Madrid (5.765%) and Granada (5.24%).¹⁹ Independently of the existence of conditioning factors making it necessary to inspect to a greater or lesser degree – in the case of an important fishing or livestock industry and production of wine in a given province, for example – what is certain is that based on the same body of legislation, its application varied greatly and was strongly influenced by decisions made by local authorities.

Much of the legislation was of a scattered and situational character. At times it followed technological advances recommending the use of refrigerated rooms, through a royal decree in 1901; or it focused on the continuing problems associated with the use of chemical inputs in the food manufacturing process.²⁰ Specifically, at the beginning of the century, prohibitions or regulations were established regarding the use of sodium bisulfate²¹, with copper salts to color olive oil and tinned food²² or of red dye, used, among other things to color meats and wine. Salt-petre or boric or salicylic acids, used in tinned food, were the object of scientific criticism and regulation, as well as ice made to preserve food.

Much of the regulation derived from isolated rulings here and there that appeared as a result of demands by consumers, the health sector and also from conflicts of interest among producers.²³ This was the case with the production of artificial or adulterated wines and with the measures regulating alcohol²⁴ from the end of the 19th century. There were also laws relating to the mixture of oils and of their acidity.²⁵ Other regulations, such as the control of meats, tinned foods and sausages, became increasingly necessary as these products became part of the urban diet.²⁶ New problems, like that of

¹⁹ Ver anexo I Distribución provincial de análisis de sustancias alimentarias. 1917.

²⁰ SPIEKERMANN, U. (1997) "Zeitungsprünge: Lebensmittelkonservierung zwischen Haushalt und Industrie 1880-1940" en *Katalyse e.V. BUNTSTIFT e. V.* (Ed.), Köln, p. 30-42. TEUTEBERG, H.J. (1994) "Food adulteration and the beginnings of uniform food legislation in late nineteenth-century Germany" en BURNETT, J. DEREK, J.O. (Ed.) *The origins and Development of food policies in Europe*, London/ New York, Leicester University Press, p. 146-160.

²¹ *RO de 26 de febrero de 1898 sobre la prohibición del uso de la nivelina de demás productos antisépticos similares para la conservación de carnes y demás productos alimenticios. RO de 17 de octubre de 1908 recordando el cumplimiento de lo dispuesto en 1898.*

²² *RO de 9 de diciembre de 1891 y de 13 de septiembre de 1900 referentes a la prohibición absoluta del empleo de sales de cobre para el enverdecimiento de las conservas alimenticias.*

²³ ELLERBROCK, K.P. (1987) "Lebensmittelqualität vor dem Ersten Weltkrieg: Industrielle Produktion und staatliche Gesundheitspolitik" in TEUTEBERG, H.J. (Ed.) *Durchbruch zum modernen Massenkonsum. Lebensmittelmärkte und Lebensmittelqualität im Städtewachstum des Industriezeitalters*, Münster, p. 127-188.

²⁴ *About the wine regulations Legislación alimentaria : clasificada por alimentos 1908-1981*, Madrid, Hijos de E. Minuesa, 1981.

²⁵ *RO de 21 de julio de 1908 sobre mezclas de aceites de oliva y de semillas. RO de 7 de diciembre de 1908 sobre desnaturalización de aceites de semillas. RO de 25 de enero de 1921 modificando el decreto de 17 de septiembre de 1920 en lo referente al grado de acidez que puede tolerarse en el aceite.*

²⁶ *Circulas dirigida por la Dirección de Sanidad a los Gobernadores en 28 de Noviembre de 1900, encareciendo el mayor rigor en la inspección de carnes, embutidos y conservas. Decreto de 15 de abril de 1912 conteniendo el reglamento para la aplicación de la ley de 1 de agosto de 1905 (Disposiciones especiales respecto a las carnes, productos de carnicería, frutas, legumbres, pescado y conservas alimenticias. Ordenanza de 28 de junio de 1912 relativa a la coloración, conservación y embalaje de los productos alimenticios y de las bebidas.*

the importation and sale of frozen meats, also had to be confronted.²⁷ Ultimately, regulations were put in place regarding dates for the slaughter of livestock for later processing²⁸ The use of rubber and porcelain stoppers was banned in favour of the use of cork.²⁹ Laws like those relating to the falsification of coffee showed not just the fight against adulterations, which could be dangerous to health, but also a defense of coffee as a commercial food product, as opposed to others of a similar nature.³⁰

In 1908, RD of November 22 marked the first time that a set of general measures designed to avoid fraud regarding the food supply was fixed. The law marked an interest in prevention and inspection, not merely repression, of fraud. In addition, it established the need for municipal laboratories in urban centres of more than 10,000 inhabitants. Frequently, nevertheless, its precepts were reiterated in subsequent legislation until 1923, in order “*to excite the zeal of the authorities to fulfill what was already established*”.³¹ Although the purity of some products and their composition had already been legislated,³² the next step would be taken in 1920³³, when the technical instructions for the assessment of food, papers, devices and utensils regarding food were tested. This was a first attempt at compiling and defining the characteristics of suitability or purity of a series of food products, as well as prohibitions regarding them. Standardisation was linked to the power that market forces exerted on different products and to constantly changing qualitative definitions.³⁴ These elements of standardisation set the bases for inspection, at least regarding the role and intervention of government.

In this way an attempt was made to counter practices that contributed to false labeling and the substitution of inferior food products, or as Santos Arán pointed out in 1914, “*less expensive items which cannot have the select ingredients that are characteristic of the good*” products.³⁵ The manufacture and sale of margarine instead of lard was another example of this proliferation of substitutes and mixtures destined for the growing urban population. It was also possible to find bread crumbs, starch or cooked potato in cheeses.³⁶ Sugar cane, starch, mashed chestnut or potato, oatmeal or gypsum, among other things could be found added to honey. The addition of corn oil,

²⁷ RO 5 de marzo de 1920 sobre importación y venta de carnes congeladas procedentes del extranjero.

²⁸ RO de 9 de octubre 1883 dictando disposiciones sobre matanza de reses.

²⁹ RO 26 de junio de 1911 prohibiendo el taponamiento de botellas de agua con tapones de caucho y porcelana y permitiendo hacerlo solamente con tapones de corcho aséptico.

³⁰ Ley de 28 de noviembre de 1899, estableciendo un impuesto sobre la fabricación de achicoria y demás substancias que imiten el café o el té y prohibiendo además, la mezcla de la achicoria y demás substancias similares al café o el té. RO 31 de enero de 1922 prohibiendo la venta de café utilizado en infusiones.

³¹ RD 26 de abril de 1920 excitando al celo en el cumplimiento del RD de 22 de diciembre de 1908.

³² Legislación alimentaria : clasificada por alimentos 1908-1981, Madrid, Hijos de E. Minuesa, 1981

³³ RD de 17 de septiembre de 1920.

³⁴ STANZIANI, A. (2003) (Dir.) La qualité des produits en France, XVIII^e- XX^e siècles, Paris, Belin.

³⁵ ARAN, S. (1914) Mataderos, carnes y substancias alimenticias. Industrias de la carne, Sevilla, Talleres Gómez e Hijos, p. 378.

³⁶ MADRID MORENO, J. (1903-1910) p. 95 y 96.

castor oil or sesame oil to olive oil were common adulterations but forbidden by law if the olive oil was destined for human consumption. From a scientific point of view the only food standards that could guarantee the complete protection of the consumer were those established by law.

1-2 Laws regarding abattoirs: centralization, control and safety of the food supply

One of the conflictive items for the municipalities was the proposal to establish a central slaughterhouse as a way of both controlling hygiene and centralizing meat packing decisions. The local authorities faced arguments from their populations both in favor of and against the proposal, as well as pressure from veterinarians and provincial authorities. As was pointed out in 1900 by veterinary academic media, the slaughterhouses enabled municipalities to centralize municipal income and eased meat inspection, and therefore should be defended by the national government.³⁷ Despite the existence since 1834³⁸ of legislation “encouraging their placement”, it was eventually the urbanization and market concentration processes that encouraged the municipal treasuries, especially the urban ones, to bear the brunt of financing these facilities.

Laws regarding abattoirs comprised without a doubt some of the most important legislation regulating the control and safety of the food supply. In spite of that and of the measures taken by González Besada in 1905 calling once again for their construction in towns of more than 10,000 inhabitants, their expansion was slow. That and their functioning were the subject of much criticism among hygienists in the scientific community. Santos Arán, Inspector of Livestock Health in Seville and the author of many popular science books on the preservation and hygiene of the food supply, stated in 1914:

“The legislation regarding abattoirs is virtually unknown, not just by the municipal authorities but also by those who work there daily. It has been said many times that regulation is lacking. We feel that it would be preferable to uphold the existing laws paying more strict attention to compliance.”³⁹

If we take as a reference the inspection of carcasses of animals slaughtered in Spanish slaughterhouses in 1917, as published in the *Spanish Data Yearbook*, one should point out that some 60% of the carcasses inspected by veterinarians corresponded to four provincial capitals: Barcelona, Madrid, Zaragoza and Valencia, these being the main centers of consumption.⁴⁰ Out of the approximately four and a half million animals slaughtered in these slaughterhouses, some 0.39% had been rejected for consumption after inspection. The percentage of rejected carcasses, however, varied greatly from place to place. Thus, for example, while in a major cattle production and trade center such as Santander, 15% of the carcasses had been declared unfit for consumption, in the rest of the provinces, the percentage was not even as high as 1%. This showed the highly probable

³⁷ BOSCH I MIRALLES, A. (1900) p. 10.

³⁸ R.D 20 enero de 1834.

³⁹ ARAN, S. (1914) p. 5.

⁴⁰ Anexo II. Inspección veterinaria de mataderos. 1917.

existence of informal trading and slaughtering for own consumption outside the slaughterhouse, this being very difficult to control.

In 1918 the *General Law Regarding Abattoirs (Reglamento General de Mataderos*⁴¹) was passed, which besides developing centers for the slaughter of animals, clarified the criteria regarding those related to the process, such as veterinary inspectors. According to the law, municipalities of more than 2000 inhabitants had to build an abattoir or adapt an existing building to that use.

1-3 Organisation of the food inspection

Coinciding with the process of establishing a liberal government, the first legislative references to food control began to be established. At the beginning of 1812 the Constitution created, as part of the role of government, the policing of health regulations and shortly after emphasised the need to monitor food of all kinds. In its early stages, public control of the food supply was linked to agriculture, veterinarians and health. The *Ley General de Sanidad* (General Health Regulation) of 1855 established a series of services to be performed by veterinarians from each legal jurisdiction although, in practice, their results were minimal. Legislation through numerous laws began to include concerns about fraud involving the food supply. The Royal Decree of January 5, 1887 in referring to food inspection, established the need to monitor, test and analyse foods, charging the authorities with this responsibility and recommending that the city governments establish municipal chemical laboratories.

The Local Board of Health, the Municipal Laboratory, the Police in charge of the Sanitation of Wholesale Foods and the Inspectors of Abattoirs and Meats formed the local legal framework within which food safety was managed. The general Sanitation laws applied to this local framework “*vigilance guarding against adulteration or breakdown of food substances, with the inspection of markets and establishments selling food and drink*” or the “*hygiene and vigilance of abattoirs and markets*”.⁴² However, the local administration had, in any great measure, neither the means nor the dedication necessary to act effectively. It was also constrained by its own dynamic of action and by the constraints of economic and political power held within the local framework.

If we focus on the organisation of rules regarding the control of sanitation as it referred to the food supply, we find that it was, for all practical purposes, nonexistent. The Local Board of Health and Hygiene Laboratory (*Junta Provincial de Sanidad y Laboratorio de Higiene*) included, from their inception in the law of 1855 and its reform in 1904, a plurality of members from the scientific as well as the political sectors. Among the functions in the purview of the local health authority in 1904, however, there are no references to the food supply. Their work centred on the water supply, hospitals, educational institutions to mention only a few. Only the Local Hygiene Laboratory dealt with the inspection of food, beverages and condiments. Services that it provided were either of a private or an

⁴¹ RO 5 de diciembre de 1918.

⁴² Instrucción General de Sanidad 1904.

official nature depending on the source of a particular problem. Later, the inspectors of Livestock Health and Hygiene would also exercise their prerogatives with regard to the inspection of animals. Veterinary Customs inspection of beef and other imported meat items was established in 1883 after some problems of contamination in Port Bou. After this, at the end of the first decade of the 20th century, the team of “Provincial Inspectors of Livestock Health and Hygiene and of Ports and Frontiers” was created within the Agriculture Ministry. The inspections were subject to the board mentioned above so that the final decisions were based not so much on a technical scientific determination, but on political interests.

2. The field of food safety and its social practice: the local framework.

2-1 First steps of the food safety: Inspectors of meat and other foodstuffs.

As Martin Bruegel and Alessandro Stanziani recently pointed out, the concept of a safe food supply depended on a spacial and temporary framework, the relationships in force among economic groups, social movements, scientific representatives and on the actions of government agents in this context.⁴³ The local framework represents a good way to analyse the social practice of the food safety. We see the broad outlines of its evolution during this period in the province of Zaragoza.

In 1859 the February 24 Regulation for Meat Inspection appeared. This regulation became the first food control instrument to be applied in different localities. On the one hand, this service involved *scientific professionals* – mostly veterinarians – who would carry out the duties of foodstuff inspectors. On the other hand, its financing was tied to the municipal treasuries. Up to 1864 however, no economic remuneration was established for these inspectors. As from this date, the tax on meat production would include a percentage per animal slaughtered in each locality that would be used to pay the fees of inspectors. The actual wages received by inspectors would then be tied to their services and to each municipality's finances.

⁴³ BRUEGEL, M. STANZIANI, A. (2004) “Pour une histoire de la “sécurité alimentaire” in *Revue d'histoire moderne et contemporaine*, 51-3, juillet-septembre, p. 8. For the USA LAW, M. T. (2003) “The Origins of the State Pure Food Regulation” in *Journal of Economic History*, 64/4, p. 1103-1130.

Inspectors of meat and other foodstuffs in the Zaragoza Municipalities. 1864

	Nº of Municipalities	%
Without an inspector	73	49.66
With an inspector	66	44.90
No data	8	5.44
Total	147	100.00

	Nº of Inspectors	%
Inspectors named in 1864	59	89.39
Inspectors named before 1864	7	10.61
Total	66	100.00

Source: ADPZ. Reports on inspections and animals slaughtered in 147 municipalities. 1864

By 1864, 49% of the municipalities had not named any inspectors. These municipalities excused themselves from naming an inspector due to their low meat consumption, economic difficulties and a lack of veterinarians. Two years later in Aragón, for example, no inspector had been named yet in many of its rural municipalities.⁴⁴ Although the provincial authorities had demanded that inspectors be named in circulars sent to all the municipalities, it is clear from the facts that the law had not been strictly observed. As had been the case with other sanitary rulings before, the “*meat inspector*” had existed informally in many municipalities, based on traditional methods that had nothing to do with science or the academic media. It was only at the end of the 19th Century that this task fell to the lot of local veterinarians, who would also be in charge of inspecting slaughterhouses in those municipalities in which they existed.

2-2. The local field in food inspection

According to Municipal Law, hygiene and control of the food supply depended on the local authorities. Josep Pujol Andreu recently pointed out that changes in food standards were not only due to family income but were also the result of the supply of some foods. Without a doubt the inability of producers, suppliers and distributors to offer inexpensive meat of good quality affected the consumption of meat in urban centres compared to other types of products.⁴⁵ Something similar could be said of milk, whose high risk of bacterial infection and difficulties in its conservation made it a sticking point for health authorities and academic researchers during the 19th century and a good part of the 20th.

If we focus on the mechanisms of local control, the highest authority in matters of hygiene in the province rested with the Civil Governor who was advised by the Inspector and the *Local Board of Health*. It was the local government, however, that ruled on most of these activities. In 1886 the

⁴⁴ SANZ LAFUENTE, G. (2005).

⁴⁵ PUJOL ANDREU, J. (2003) p. 251 y 252.

Municipal Laboratory of Zaragoza was established. The responsibility for inspection of food substances rested with this *Municipal Laboratory* and its director could undertake inspections whenever he felt it was timely or when other competent authorities authorised it.⁴⁶ Notwithstanding, a large part of the work of inspection in the local framework was carried out at this time in the midst of a precarious economic situation, of tensions⁴⁷, of a lack of means and of the search for professional recognition among scientists. Still, in 1888 the possibility was being discussed of recasting all the positions of meat inspectors that had been in existence since 1859 – often without any scientific training – and handing this activity over to a veterinarian.⁴⁸ In 1909, motivated by new regulations that required compliance with the health laws, the Government of Zaragoza undertook to investigate the possibility of reorganising these health inspection services. The final report urged that the actual job of inspection “*be given to an individual from the corps of municipal veterinarians as befits their professional practice*” while the market inspectors with less training would be in charge of gathering samples for them.⁴⁹ In spite of the vacillation by the meat inspectors at the end of the century, who continued their activities outside the realm of science, inspection jobs were turned over to medical, scientific and veterinary personnel once the *Municipal Laboratory* was set up.⁵⁰

Although science professionals were increasing their presence in local official organisations, another problem, that of the lack of resources earmarked for inspection, was a recurring topic until the 1920’s. The lack of permanent headquarters for the *Municipal Laboratory*, resulting in its continual relocation was denounced by those responsible for its function.⁵¹ In the same vein, it was noted that budget items covering health and inspection in general were missing.⁵² The report presented in 1909 stated that an organisation, in order to function according to the existing legal guidelines, must have “*a very large expenditure in the municipal budget.*” The report argued for the gradual implementation of services that either didn’t exist at the time or existed only on paper. The same report recommended the necessity of acquiring “*updated equipment for the laboratory*” and “*a microscope*” for the corps of inspectors of the abattoir of Zaragoza.⁵³ In 1911 the lack of a municipal budget to carry out meat inspection in some areas of the city was mentioned.⁵⁴ In 1914 one of the town councillors requested

⁴⁶ JUNTA PROVINCIAL DE SANIDAD (1915) *Reglamento de Higiene municipal de la Ciudad de Zaragoza, Zaragoza*, Imprenta del Hospicio Provincial, p. 13-15.

⁴⁷ PAQUY, L. (2004) “Santé publique, repression des fraudes et action municipale à la fin du XIX^e siècle: le laboratoire grenoblois d’anayles alimentaires” in *Revue d’histoire moderne et contemporaine*, 51-3, juillet-septembre, p. 65.

⁴⁸ AMZ. Fomento-Higiene. Concesión de licencia de inspectores de carnes. (53).

⁴⁹ AMZ. Gobernación-Higiene. Informe con motivo de las nuevas disposiciones en materia de sanidad municipal. 1909 (1902).

⁵⁰ AMZ. Gobernación-Higiene. Provisión de plazas con destino al Laboratorio Municipal. (424)

⁵¹ AMZ. Gobernación-Higiene. Traslado del Laboratorio. 1911. (65) Municipal. AMZ. Gobernación-Higiene. Director del Laboratorio participa la imposibilidad de funcionamiento. 1916. (1068). AMZ. Gobernación-Higiene. Expediente construcción de Laboratorio Municipal. 1914 (323).

⁵² AMZ. Gobernación-Higiene. Ruego del Sr. Macipe para que la Alcaldía facilite las cantidades necesarias para los servicios sanitarios. 1911 (1617). AMZ. Gobernación-Higiene. Denuncia del Sr. Gros sobre la falta de inspección sanitaria en Villamayor. 1914 (1289). AMZ. Gobernación-Higiene. Demanda de inspección sanitaria en los barrios de Arrabal y Montemolín. 1914. (2683).

⁵³ AMZ. Gobernación-Higiene. Informe con motivo de las nuevas disposiciones en materia de sanidad municipal. 1909 (1902).

⁵⁴ AMZ. Gobernación-Higiene. Sobre la inspección de carnes en Casablanca. 1911. (1902).

that a search be done of the analyses carried out. The object was to record the areas in which the government was actually performing its job.⁵⁵

The fact that water played a relevant role in the transmission of dangerous microorganisms was well-known among local academics. Assuring the sanitary quality of water in processes associated with the food industry was, without a doubt a first step in building a safe food supply. In 1877 Zaragoza had approximately 84,000 inhabitants and an annual mortality rate of 47 per 1000. The lack of an underground sewer system and city plumbing along with the lack of guaranteed potable water were highlighted in the first studies of city hygiene and sanitation, at the end of the decade of the eighteen seventies. This despite the fact that plans for a sewer system had been drawn up in 1866.⁵⁶ The attention to water quality was of growing importance – although not completely corrected in the municipality – from the first decades of the 20th century.⁵⁷ Still as late as 1918 it was pointed out that Zaragoza had water of average quality and a sewer system that was also deficient.⁵⁸ In the thirties attention was drawn to the use of private wells which had no control whatsoever, both for private and industry use and the existence of these “black” wells was criticised. In 1933 the Report of work undertaken by the Municipal Bacteriological Laboratory showed that 42.27% of the analyses done were of water, as opposed to 0.32% which were done of milk.⁵⁹

In spite of the fact that at times one spoke of a “food police” these inspection institutions did not function as such in this period in Zaragoza. When in 1904 the health police was organised,⁶⁰ it was linked more to controlling the possession of non-registered domestic animals than to inspections in the field. The social practice of inspection by health police of wholesale food tended to avoid conflict⁶¹ and to assure the income of the very Town Government of Zaragoza which confronted possible fraud in the town treasury. This took precedence over establishing a real mechanism of inspection of producers and distributors.

⁵⁵ AMZ. Gobernación-Higiene. Registro de análisis en el Laboratorio. 1914. (2330)

⁵⁶ ASIRON Y SEVILLA, V. (1885) “Condiciones sanitarias de Zaragoza. Medios prácticos y adecuados para su mejoramiento, disminución de la mortalidad y aumento de la vida de sus habitantes”, in ATENEO DE ZARAGOZA. *Certamen científico y literario celebrado en la misma ciudad en 17 de octubre de 1884*, Zaragoza, Tip. del Hospicio Provincial, p. 53.

⁵⁷ FUENTES Y GRACIA, L. (1911) *Medios prácticos para conseguir el saneamiento de las poblaciones en general y de Zaragoza en particular*, Zaragoza, Imprenta del Hospicio, p. 124.

⁵⁸ MEMBRILLERA, Francisco G de (1918?) p. 45 y 46.

⁵⁹ AMZ. Laboratorio. Memoria de los trabajos realizados en el Laboratorio de Bacteriología en 1933. (616).

⁶⁰ INSPECCIÓN GENERAL DE SANIDAD INTERIOR (1904) Reglamento de policía sanitaria de los animales domésticos, Madrid, Imprenta de la Gaceta de Madrid, p.7.

⁶¹ Anales del Instituto Municipal de Higiene de Zaragoza, “Llanas Aguillaniedo. Químico que fue del Laboratorio Municipal”, Vol. III, N° 1, Abril 1954.

Sanctions imposed by the health police on wholesale food in Zaragoza. 1921

TYPE OF SANCTION	Nº sanctions	%
Unreported Livestock	49	79.03
Unauthorised sale of products	7	11.29
Unauthorised advertising of products	2	3.23
Unauthorised transfer of livestock	1	1.61
Unreported livestock illness	1	1.61
Sale of products in inferior condition	1	1.61
Failure to advertise the supply	1	1.61
Total	62	100.00

Source: AMZ. Hacienda. Wholesale food. Charges brought by the health police against the wholesale food industry in Zaragoza. (1921)

On another front, the abattoirs and markets were not able for a time to cope with a growing supply.⁶² Although the legislation called for centralisation based on the argument for sanitation, it is evident that in a city like Zaragoza which had only one abattoir until well into the 20th century, there would be difficulty in supplying the whole city. In 1914 one of the town council members sued for the construction of new abattoirs in the rural areas with the objective of establishing greater sanitary control. Moreover, there were frequent lawsuits against the force that was the inspection services since the abattoirs depended on the meat sellers and suppliers rather than the veterinary inspectors.⁶³

Around the sugar industry there grew a modern and protected food complex in Zaragoza.⁶⁴ The power of this complex was reflected in its ability to maintain certain important legal food regulations from the end of the century. An example was the campaign against saccharine – the so-called “poor man’s sugar” – as a food product and especially in industrial use.⁶⁵ This prohibition was not confined to Spain. It can be found in other countries and is always linked to the interests of the sugar industry and the politics of prohibition in Europe.⁶⁶ The *Municipal Laboratory of Zaragoza* undertook analyses of products that contained saccharine instead of sugar and brought charges against the producers underlining the necessity of defending the sugar industry in Aragón.⁶⁷ The strength of this industry on a national scale and within Aragón guaranteed it certain independence in its function and favorable legislation.

⁶² PEDROCCO, G. (1996) “L’industrie alimentaire et les nouvelles techniques de conservation” en FLANDRIN, J.L. MONTANARI, M. (Ed.) *Histoire de l’alimentation*, Paris, Fayard, p. 779 y 780.

⁶³ AMZ. Gobernación-Higiene. Construcción de mataderos en los barrios rurales. 1914 (2259).

⁶⁴ GERMÁN ZUBERO, L. (2003) “Características del desarrollo del complejo remolachero-azucarero en España, 1882-2000” in BARRIELA LÓPEZ, C. DI VITTORIO, A. (Eds.) *Las industrias agroalimentarias en Italia y España durante el siglo XIX y XX*, Alicante, Publicaciones de la Universidad de Alicante, p. 225-356.

⁶⁵ *RO de 3 de abril de 1889 prohibiendo el uso de la sacarina y substancias análogas en los alimentos y bebidas, y considerándola sólo como un medicamento. RO de 17 de septiembre de 1909 adoptando medidas conducentes a vigorizar la constante investigación de los alimentos, confituras y bebidas en que suele utilizarse la sacarina y a que se castiguen con la mayor severidad las infracciones que se comprueben por parte de las autoridades provinciales y municipales. RD 19 de noviembre de 1916 sobre la competencia para juzgar y castigar el empleo de sacarina en los alimentos y bebidas.*

⁶⁶ MERKI, Ch. M. (1994) “Sugar versus saccharin: sweetener policy before World War I” in BURNETT, J. DEREK, J.O. (Ed.) *The origins and Development of food policies in Europe*, London/ New York, Leicester University Press, p. 192-202.

⁶⁷ *Anales del Instituto Municipal de Higiene de Zaragoza*, Don Hilarión Gimeno y Fernández Vizcarra. Primer Director del Laboratorio Municipal de Zaragoza, Vol. II, nº1, Abril, 1953, p. 22.

With regard to wine, recent studies have underlined the fact that the link between the technology of viniculture and scientific production became much closer from the end of the 19th century.⁶⁸ Nevertheless and although the modernisation of production existed, it is also certain that doubtful practices continued to correct or mask deficiencies in wines, such as the additions of gypsum, spices to improve the taste, alcohol to increase its strength or other substances to accentuate the colour. Similar practices were employed in the case of oil.⁶⁹ The analysis of wine required a more complicated laboratory process. Among additives used to improve, preserve or mask the original product were sulfuric acid – substituting for gypsum – iron sulfite, borax, lead, copper or zinc, salicylic acid to delay fermentation, lead oxide to correct acidity and sweeten it instead of sugar – or sacharine. Among those used to augment the colour were elderberries, red powder derived from insects, red dye or the so-called “vinolina”.⁷⁰ In this same industrial sector there were as many frauds generated as charges brought against them. The applicable laws were numerous and difficult to enforce with the existing methods of inspection. The lawsuits filed with the Government of Zaragoza regarding the establishment of the inspection of wine were routine from the end of the 19th century to the first decades of the 20th. A large part of these lawsuits originated with council members who mentioned the continuous refinement of fraud. The methods taken by the Government focused much more on control of the wine sellers than on the wine producers.⁷¹

It is difficult to know, from existing sources in Zaragoza, whether the labours of inspection focused on the industrial centres or on the food distributors. To be able to analyse which were the areas of greater intervention from the *Municipal Laboratories* – production or distribution –, to see which industrial sector – the traditional or the innovative – was the target of the inspection and what kinds of industries were the focus, would reveal much information about food safety.

⁶⁸ PAN MONTOJO, J. (2003) “Las industrias vinícolas españolas: desarrollo y diversificación productiva entre el siglo XVIII y 1960” in BARCIELA LÓPEZ, C. DI VITTORIO, A. (Eds.) *Las industrias agroalimentarias en Italia y España durante el siglo XIX y XX*, Alicante, Publicaciones de la Universidad de Alicante, p. 313-334. SABIO ALCUTEN, A. (1995) *Viñedo y vino en el campo de Cariñena. Los protagonistas de las transformaciones (1860-1930)*, Zaragoza, Centro de Estudios Darocenses - Instituto Fernando El Católico.

⁶⁹ PUJOL ANDREU, J. (2003) “ Sobre los orígenes de la industrialización en el sector alimentario: Cataluña, 1880-1935” in BARCIELA LÓPEZ, C. DI VITTORIO, A. (Eds.) *Las industrias agroalimentarias en Italia y España durante el siglo XIX y XX*, Alicante, Publicaciones de la Universidad de Alicante, p. 257.

⁷⁰ MADRID MORENO, J. (1903-1910) p. 9, 103, 122, 142.

⁷¹ AMZ. Gobernación-Higiene. Ruego del Sr. Gracia sobre la consideración de las denuncias de vinos enyesados. 1911. (447). AMZ. Gobernación-Higiene. Ruego del Sr. Macipe sobre la inspección de las tiendas de vinos. 1911. (1947). AMZ. Gobernación-Higiene. Ruego del Sr. Funes sobre la inspección de vinos. (503). 1916.

**ANNEXED I. Distribution of the analyses of foodstuffs
in the capital of the provinces in Spain. 1917**

CAPITAL OF THE PROVINCE	Nº ANALYSIS	POPULATION	ANALYSIS/10000 INHABITANTS	NOT ADULTERATED	%	ADULTERATED	%	DANGEROUS	%
ALBACETE	176	31960	55,07	166	94,32	10	5,68	0	0
ALICANTE	51	63908	7,98	28	54,9	23	45,1	0	0
ALMERÍA	21	50194	4,18	4	19,05	17	80,95	0	0
BADAJOS	10	37967	2,63	8	80	2	20	0	0
BARCELONA	538	710335	7,57	420	78,07	118	21,93	43	36,44
BILBAO	703	112819	62,31	561	79,8	142	20,2	37	26,06
BURGOS	29	32301	8,98	18	62,07	11	37,93	0	0
CÁCERES	1197	23563	508,00	1063	88,81	134	11,19	1	0,75
CADIZ	367	76718	47,84	329	89,65	38	10,35	0	0
CASTELLÓN	2149	34457	623,68	2110	98,19	39	1,81	0	0
CÓRDOBA	49	73710	6,65	48	97,96	1	2,04	1	100
CUENCA	90	12816	70,22	88	97,78	2	2,22	0	0
GRANADA	2155	103368	208,48	2001	92,85	154	7,15	24	15,58
HUESCA	8	13921	5,75	0	0	8	100	8	100
JAEN	239	33444	71,46	192	80,33	47	19,67	0	0
LÉRIDA	34	38165	8,91	16	47,06	18	52,94	0	0
LOGROÑO	3076	26806	1147,50	2778	90,31	298	9,69	7	2,35
MADRID	2369	750896	31,55	1039	43,86	1330	56,14	54	4,06
MÁLAGA	390	150584	25,90	226	57,95	164	42,05	0	0
ORENSE	417	17581	237,19	237	56,83	180	43,17	4	2,22
OVIEDO	1730	69375	249,37	1305	75,43	425	24,57	2	0,47
PALENCIA	2	19543	1,02	2	100	0	0	0	0
PALMA M.	191	77418	24,67	126	65,97	65	34,03	0	0
PAMPLONA	323	32635	98,97	219	67,8	104	32,2	8	7,69
PONTEVEDRA	2398	26944	889,99	2015	84,03	383	15,97	0	0
SALAMANCA	63	32414	19,44	10	15,87	53	84,13	0	0
SAN SEBASTIAN	17659	61774	2858,65	17200	97,4	459	2,6	118	25,71
SANTANDER	140	72469	19,32	94	67,14	46	32,86	0	0
SEGOVIA	51	16013	31,85	29	56,86	22	43,14	0	0
SEVILLA	480	205529	23,35	361	75,21	119	24,79	0	0
SORIA	9	7619	11,81	7	77,78	2	22,22	1	50
STA CRUZ TFE.	318	52432	60,65	180	56,6	138	43,4	5	3,62
TERUEL	3	12010	2,50	1	33,33	2	66,67	0	0
TOLEDO	408	25251	161,58	370	90,69	38	9,31	0	0
VALENCIA	169	251258	6,73	148	87,57	21	12,43	2	9,52
VALLADOLID	192	76791	25,00	34	17,71	158	82,29	34	21,52
VITORIA	1825	34785	524,65	1589	87,07	236	12,93	0	0
ZAMORA	97	17567	55,22	47	48,45	50	51,55	0	0
ZARAGOZA	1033	141350	73,08	776	75,12	257	24,88	0	0
TOTALES	41159	3628690	113,43	35845	87,09	5314	12,91	349	6,57

Source: Anuario Estadístico de España. 1917