

To the Graduate Council:

I am submitting herewith a dissertation written by Ann Elizabeth Fowler La Berge entitled "Public Health in France and the French Public Health Movement, 1815-1848." I recommend that it be accepted in partial fulfillment of the requirements for the degree of Doctor of Philosophy, with a major in History.

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PUBLIC HEALTH IN FRANCE AND THE FRENCH

PUBLIC HEALTH MOVEMENT, 1815-1848

A Dissertation

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Doctor of Philosophy

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ABSTRACT

There had been much interest at both the official and professional levels in bringing about public health reform in France since the late eighteenth century. But this activity among doctors, scientists, and administrators was intensified after 1815. There developed in France between 1815 and 1848 a full-fledged public health movement in many ways analogous to the one in Great Britain during the same period. Especially important and central to the French public health movement were the Paris health council (board of health), a consultative body set up under the supervision of the prefect of police to give advice on matters of public health, the Royal Academy of Medicine, instituted in 1820 by Louis XVIII, with definite public health goals, and the Annales d'hygiène publique et de médecine légale, founded in 1829 by some of the leaders of the public health movement, such as L. R. Villermé and A. J. B. Parent-Duchâtelet. The Annales became the organ of the movement and the primary means of generating publicity for the movement at both the professional and governmental levels.

At the same time that the hygienists active in the public health movement, a quasi-official group, were seeking to increase awareness of the necessity of public health reform, the French national government also was taking an active interest in public health in some specific areas: the control of communicable diseases, the sanitary improvement of prisons, and the propagation of vaccination.

The scope of public health in the first half of the nineteenth century was all-encompassing, but French public hygienists were especially preoccupied with the public health problems associated with industrialization and urbanization. Because of the social consequences of these two phenomena characteristic of the period and their relationship to the public health, the public health movement was in part a movement for social reform. Many public hygienists considered public health reform as an important and inseparable aspect of social reform.

An examination of the French public health movement has shown it to have been a professional movement, quasi-official (most of the participants held their jobs at the discretion of the government), and lacking a voluntary or popular side. The achievements of the movement during the period were noteworthy, and in 1848 it reached its culmination with the passage of a national public health law. It seems that the French movement rivalled the British and was in many ways similar to the British before 1848, but that after 1848 leadership in public health passed into the hands of the British.

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PREFACE

Public health can be defined as the people's health, the health of a given society or population considered as a whole rather than individually. The ultimate goal of public health is to increase both the longevity and quality of life, with the immediate goal being the preservation of health by the prevention of disease. The goals of public health are accomplished by community and governmental efforts to educate people in matters of public and private hygiene, to provide an adequate sanitary environment that minimizes the risk of disease, to ensure an adequate standard of living for the maintenance of health, to facilitate the discovery and dissemination of specific preventive measures for specific diseases, and to establish adequate facilities for the treatment and care of those already afflicted with some disease.¹ For public health to be successful, a favorable climate of opinion among the population is necessary; the population must believe in the importance of public health and be willing to cooperate with public health authorities.

While public health is not a modern phenomenon, public health as we know it today, in terms of specific preventives for specific diseases, control of epidemic diseases, and adequate sanitation, dates primarily from the late nineteenth century. Before the nineteenth century public health was associated primarily with contagious and

¹This definition is based on one given in a general public health text. See W. Hobson, ed., The Theory and Practice of Public Health (London, 1961), x.

epidemic diseases and emergency situations. Before the nineteenth century the predominant epidemiological theory was contagionism. Contagionists believed that diseases were spread by living organisms transmitted from the afflicted to the healthy person either by immediate contact or by intermediate carriers, such as personal effects of the diseased person. The usual preventive measures were isolation and quarantine.

By the early nineteenth century only one disease, smallpox, had been definitely proved to be contagious. With the discovery of vaccination, a simple and effective preventive was made available to the mass of the population. The contagiousness or transmissibility of other diseases, however, came into question, and from about 1820 to the 1860's the epidemiological theory that won favor among the majority of doctors and hygienists in western Europe and the United States was anticontagionism. This new theory contributed, along with other developments in the period, to broadening the scope of public health and changing its emphasis.²

Not being able to find specific causes for specific diseases (in fact many diseases had not yet even been identified and differentiated, many being simply referred to as "fevers"), hygienists and doctors looked to social and environmental causes. Anticontagionists stressed both the social causes of disease, such as poverty and

²The definitive work on anticontagionism in the period is that of Erwin Ackerknecht, "Anticontagionism between 1821 and 1867," Bulletin of the History of Medicine (hereafter referred to as BHM), 22 (1948), 562-93.

overcrowded living conditions, as well as the environmental causes, mainly filth. If the causes of disease were social and environmental, then public health as a discipline had to encompass much more than it had traditionally. Preventive measures such as isolation and quarantine would no longer suffice. What was needed was to clean up the environment (sanitary reform) and to solve the social problems which contributed to disease (social reform). Thus the direction of the public health movements which grew up in some parts of western Europe and the United States in the first half of the nineteenth century was toward sanitary and social reform.

The influence of Enlightenment thought, the impact of industrialization and urbanization with their resultant social and sanitary problems, along with the prevailing theory of anticontagionism tended to enlarge the scope of public health to include anything that was in any way related to man's health. Early nineteenth century public health took on a decidedly social, humanitarian tone. Public health received its broadest possible interpretation as public health theorists saw it as intimately related to the society, economy, and political life of the nation. In fact it was often referred to as social or political hygiene (these terms were also applied to medicine). It was generally conceded that anything that was in any way related to man's health was a proper area of concern for the public hygienist.³

³See Iago Galdston, "Humanism and Public Health," BHM, 8 (Part 2, 1940), 1032-1039. Galdston's comments about the nature of public health in the early nineteenth century are similar to a comment made in the Royal Academy of Medicine by P. A. Piorry. Piorry stated that

Public health as a discipline was in its formative stages in the early nineteenth century. Like many of the social sciences public health was in the process of definition. The broad scope of public health at the time, and the fact that as a discipline it lacked precise definition, and was considered to be an aspect of social reform, accounts for the fact that certain things which today might not at first glance be considered as areas of public health concern, such as prisons, public lighting, and prostitution, were, during the first half of the nineteenth century considered the domain of the public hygienist.

With the coming of the age of bacteriology and the downfall of anticontagionism in the 1860's, public health emerged in its modern form. As the century progressed the faith of hygienists and doctors in the discovery of specific causes for disease, and hence specific preventives was realized. The old contagionist theory was revived, as most diseases were found to be transmissible in one way or another. But as Iago Galdston has pointed out, at the same time, the discovery of specific causes for disease brought with it a change in the nature of public health from the social, humanistic attitude which prevailed in the early nineteenth century to a much narrower approach, which

the realm of public health was everywhere, that nothing was outside its domain. See Piorry, "Rapport de la commission des épidémies sur les maladies épidémiques qui ont régné en France, en 1836, 1837, et 1838," Mémoires de l'Académie Royale de Médecine (hereafter referred to as Mém. de l'Acad. Roy. de Méd.), 7 (1838), 141-42.

came increasingly to mean vaccination, immunization, and sterilization, or the application of specific preventive measures for specific diseases.⁴ For the most part public health ceased to be an aspect of social and economic reform with the coming of the age of bacteriology. For from the 1860's on, it was more and more believed that the causes of diseases could be found, not in society and the environment, but in the laboratory. Public health moved from the observational to the experimental level, and became more tightly defined as a scientific discipline.

Thus public health like so many other aspects of modern civilization was going through a period of transition from traditional to modern in the first half of the nineteenth century. Considerable scholarship has been devoted to this era in which early modern European society was transformed into modern Europe by developments such as liberalism, nationalism, conservatism, socialism, and industrialization. William Langer, for example, wrote the longest synthetic work in the multi-authored series of which he is the editor, on only half of this era.⁵ Given the importance of the age and the diversity and complexity of the issues to be examined, it is not surprising that certain vital subjects have not received the attention they deserve. The history of public health is one of these topics.

⁴Galdston, "Humanism and Public Health."

⁵Political and Social Upheaval, 1832-1852 (New York, 1969).

The treatment of the early nineteenth century public health movements has been uneven. Several historians have examined the British public health movement.⁶ Aspects of the history of public health in the German states and the United States have received some coverage.⁷ The French public health movement of the same period, however, has not been so adequately investigated. Indeed, until recently, the only work of note in this field has been Erwin Ackerknecht's "Hygiene in France, 1815-1848," published in 1948.⁸ This article has been the major source

⁶B. L. Hutchins, The Public Health Agitation, 1833-1848 (London, 1909); S. E. Finer, The Life and Times of Sir Edwin Chadwick (London, 1952), which devotes considerable attention to Chadwick and the public health movement; R. A. Lewis, Edwin Chadwick and the Public Health Movement, 1832-1848 (London, 1952); and Edwin Chadwick's Report on the Sanitary Condition of the Labouring Population of Great Britain, edited and with an introduction by M. W. Flinn (Edinburgh, 1965). Flinn's introduction is the best and most concise statement about the British public health movement.

⁷A few examples are Erwin Ackerknecht, Rudolf Virchow: Doctor, Statesman, Anthropologist (Madison, Wis., 1953) in which the public health theories and activities of one of the leading German public hygienists are examined. Two works which treat the American public health movement are John Duffy, A History of Public Health in New York City, 1625-1866 (New York, 1968) and Wilson Smillie, Public Health. Its Promise for the Future (New York, 1955).

⁸BHM, 22 (1948), 117-155. The Ackerknecht article, with its detailed bibliography of the hygienic literature of the period, is the starting point for anyone interested in investigating the French public health movement of the first half of the nineteenth century. In his article Ackerknecht presented convincing evidence of the importance of the French public health movement, contending that France was at that time the world leader in public health. Ackerknecht offered several explanations as to why the French public health movement had hitherto been ignored. He pointed out that France was at the time the world leader in clinical medicine, so that medical historians had tended to concentrate on this aspect of medical history rather than on the public health movement. Furthermore the brilliant achievements of the age of bacteriology, which followed in the second half of the century, overshadowed the achievements of the hygienists. Finally, he suggested

of information for others who have in some way dealt with the French public health movement.⁹

In the absence of detailed monographs on the French public health movement, standard histories of early nineteenth century France rarely devote much attention to public health or even to medical developments in general. Sometimes even the nature of the topic of public health seems to put off historians. Although he mentioned the French public health movement and medical developments in several pages, Bertier de Sauvigny had this to say about public health in Restoration Paris:

If the subject were not too nauseating, a lot could be said about the garbage collection service and on the scarcity of, or to be more exact, the non-existence of those comfort stations to which a great Roman emperor (Vespasian) gave his name and which our century considers indispensable.¹⁰

that because the prevailing explanation of disease causation had been anticontagionism, which in the second half of the century had been proved erroneous, the movement had been ignored. A recent unpublished dissertation by George Sussman throws light on some aspects of the French public health movement. See George Sussman, "From Yellow Fever to Cholera. A Study of French Government Policy, Medical Professionalism, and Popular Movements in the Epidemic Crises of the Restoration and the July Monarchy" (unpublished Ph.D. dissertation, Yale University, 1971).

⁹George Rosen, A History of Public Health (New York, 1958), 169-70, 213, 250-63, 272-73; William Langer, Political and Social Upheaval, 191, notes 20 and 21. Langer even includes a section on public health in his bibliography, p. 618. However, nothing is listed for the French public health movement; M. W. Flinn, "Introduction" to the Chadwick report, 52; Guillaume de Bertier de Sauvigny, The Bourbon Restoration, trans. by Lynn Case (Philadelphia, 1966), 335-36; see also p. 471, in Bertier de Sauvigny's bibliography.

¹⁰Bertier de Sauvigny, The Bourbon Restoration, 241.

The two volumes by Sébastien Charléty (Lavisserie series)¹¹ on the Restoration and July Monarchy contain no information on public health or even the history of medicine in general. Nor does Paul Beik in his small volume on the July Monarchy, nor Frederick Artz in his work on the Restoration pay any attention to public health.¹² Even Félix Ponteil in his thorough coverage of the period does not deal with public health or medicine.¹³ E. A. Hobsbawm makes reference to a group of reforming doctors in a footnote.¹⁴ Three widely used histories of modern France, those of Paul Gagnon, Gordon Wright, and Alfred Cobban, likewise devote no attention to public health or medicine.¹⁵

Historians have usually left medical history to medical doctors or medical historians, not considering medical history and the history of public health as an integral part of social and cultural history.

¹¹v. 4, La Restauration (1911) and v. 5, La Monarchie de juillet (1921) in Ernest Lavisserie, ed., Histoire de la France contemporaine (10 vols., Paris, 1911-1922).

¹²Beik, Louis Philippe and the July Monarchy (Princeton, N. J., 1965); Artz, France under the Bourbon Restoration, 1814-1830 (Cambridge, Mass., 1930).

¹³L'Eveil des nationalités et le mouvement libéral (1815-1848) (Paris, 1960). Vol. 15 in Peuples et civilisations.

¹⁴The Age of Revolution, 1789-1848 (New York, 1962), 242, note d.

¹⁵Gagnon, France Since 1789 (New York, 1964); Wright, France in Modern Times: 1760 to the Present (Chicago, 1960); Cobban, A History of Modern France (New York, 1965). An example of a recent work which does devote considerable attention to public health is Jean Tulard, Nouvelle histoire de Paris. Le consulat et l'empire (Paris, 1970). See "Les problèmes édilitaires," 227-242, and "Les épidémies," 279-290.

The standard approach should be broadened. Medical history in general and the history of public health in particular would benefit from treatment by professional historians and sociologists who might interpret the subject matter of these fields differently in comparison with physicians, medical historians, and medical librarians.

My objective, therefore, is to build on the suggestions found in Ackerknecht's 1948 article. My specific aim is to analyze and assess the public health movement of the period 1815-1848. I hope to place it in its proper historical perspective by viewing it from the point of view of the awareness of public health it generated. The essential argument of the thesis is that first there was an active public health movement in France in the first half of the nineteenth century and secondly that the efforts of hygienists who participated in this movement generated an awareness of the importance of public health at the professional and administrative levels without which later reforms might have been difficult if not impossible to achieve.

Because of limitations of time available for research, as well as the breadth of the topic, I have not been able to cover every aspect of public health. Such important items as military hygiene, colonial hygiene, rural hygiene, and personal hygiene have not been treated in more than a passing fashion. Rather I have chosen to emphasize the theoretical foundations of public health in France, the relationship between the statistics movement and the public health movement, industrialization and public health, the role of the national government in public health matters, urban health problems with emphasis on the city

of Paris, and finally the publicity given to public health in books and periodicals. The conclusion is an attempt to analyze and assess the public health movement and the growth of awareness of public health.

The research materials used were mainly printed sources; what archival material there was, was mostly destroyed in the Commune fire of 1870, and what remains is not of great significance. Some interesting material was available at the Archives of the Prefecture of Police in Paris, but the material at the National Archives was mostly disappointing. The main sources are the organ of the public health movement, the Annales d'hygiène publique et de médecine légale (1829--), the annual printed reports of the Paris health council (conseil de salubrité), which cover the period in its entirety, and the publications of the Académie des Sciences Morales et Politiques and the Académie Royale de Médecine. And, of course, there is the vast body of hygienic literature, so ably enumerated by Ackerknecht--numerous treatises by hygienists dealing with virtually every aspect of public health. I have researched all of these major sources in great detail.

There are other sources which I have examined either superficially or not at all, which might yield further insights into public health in France during the period. These include: the Archives of the Academy of Medicine, wherein were kept manuscripts submitted to the Academy which were not published by them, the library of the Faculty of Medicine, which might disclose additional information, especially in the area of health periodicals, and finally the vast area of newspapers and general periodicals. The number of newspapers and periodicals

published during the period is truly phenomenal, with four major dailies being published in Paris alone. It might be rewarding to examine these to find out the extent of their coverage of public health matters. Lack of time prevented my researching any more than medical periodicals and the government daily, the Moniteur universel. A detailed examination of the Moniteur universel yielded some interesting information, but not much.

I honestly do not think that a perusal of the major newspapers and periodicals will change the conclusions I have drawn about public health in France, 1815-1848, but it would lend more depth to the study and perhaps more support to the conclusions.

I have placed great emphasis on the city of Paris in the dissertation: in fact, roughly half of the dissertation deals specifically with public health in Paris. This is both logical and justifiable, for Paris was the seat of the public health movement and also the place where public health reforms were most urgent, given the rapid increase of population and the industrialization of the city during this period. Solutions to health problems tried elsewhere had usually been first experimented with in Paris. In matters of public health, Paris set the example for the rest of the nation. Finally, public health was primarily an urban problem during this period, for it was in the cities that mortality rates were the highest, that poverty and poor health were most noticeable, and where industrialization created new health problems, especially for the working classes.

I hope that this work will fill a gap in the history of public health in particular as well as in nineteenth century French history in general. I also hope that in the future more studies of this type will be done by historians and that general texts and works on the period will incorporate this sort of material.

CHAPTER I

INTRODUCTION

France in the years between 1815 and 1848 was the seat of an active public health movement composed of doctors, scientists and administrators. The French public health movement existed side by side with public health movements in other parts of western Europe and the United States, the most publicized of which has been the British movement. The movements for public health reform were one important aspect of the many social reform movements which characterized the early nineteenth century.

To what can the existence of an active public health movement in France between the years 1815-1848 be attributed? Such a movement, based on a desire for public health reform, was theoretically dependent on certain ideas inherited from the age of the Enlightenment. In addition, there were certain developments which were taking place in France during these years, notably industrialization, urbanization, the growth of the science of statistics, and various medical developments, which encouraged hygienists to advocate and try to implement public health reform. Even though there had been an interest in public health in France dating from the mid-eighteenth century, and even though certain public health institutions were in existence before 1815, it was only in the period 1815-1848 that these notions of public health received their full expression and that public health institutions flourished, due to the activities of the hygienists active in the public health movement.

Influenced by the current of humanitarianism inherited from the Enlightenment, nineteenth century French public hygienists favored public health reforms for the good of mankind; they believed that no one should have to suffer from bad health if it could be avoided by the application of wise measures. While eighteenth century humanitarians and reformers had been especially concerned about the lot of slaves, prisoners, and the insane, nineteenth century public hygienists devoted much attention to the health of the poor and the workers.

Adapting the philosophy of natural rights that had been popular in the eighteenth century to public health theory, some public hygienists included health as one of the natural rights of man which governments were instituted to protect. They believed that the government had a responsibility to protect the health of all members of society, for health was basic to the well-being of society.

Some hygienists, motivated by the current of liberal reform which characterized some parts of western society during the period, and therefore favoring the reform of society upon rational and humanitarian principles, viewed public health as an integral part of any major reform.¹ They thought that public health should be an aspect

¹For theorists who either admitted to being motivated by a sense of humanitarianism or who thought that humanitarianism was the main motivating factor of those who favored public health reform, see M. Thouvenel, Eléments d'hygiène (2 vols., Paris, 1840), 158-67; P. A. Piorry, "Extrait du rapport sur les épidémies qui ont régné en France de 1830 à 1836, au nom de la commission des épidémies," Mém. de l'Acad. Roy. de Méd., 5 (1836), 19; P. A. Piorry, "Rapport de la commission des épidémies sur les maladies épidémiques qui ont régné en France en 1836, 1837, et 1838," 141-42; L. R. Villermé, Les prisons

of any major reform because they believed that public health was essential to the prosperity and vitality of society. Just as enlightened governments would undertake reform on the basis of rational and humanitarian principles, so also would enlightened governments realize the importance of public health as a basic contributing factor to the well-being of society.²

telles qu'elles sont, et telles qu'elles devraient être (Paris, 1820), 42, 66-67, 120-121, 177, in which he spoke of the spirit of the age as being one of reform and the perfectioning of institutions; Villermé, Tableau de l'état physique et moral des ouvriers employés dans les manufactures de coton, de laine, et de soie (2 vols., Paris, 1840), II, 360, where Villermé said that the Industrial Society of Mulhouse clamored for a child labor law out of humanitarian reasons; I, 91, 93-108, for further discussion of child labor law; J. B. Monfalcon and A. P. I. de Polinière, Traité de la salubrité dans les grandes villes (Paris, 1846); see pages 92-93 on improving the lot of workers, 133, for the influence of humanitarianism on the lot of prisoners, and 131, for a discussion of health as a sacred right of all including prisoners; F. E. Fodéré, Essai historique et moral sur la pauvreté des nations (Paris, 1825); Fodéré's total approach is humanitarian--see especially 60, 323-29 and 410; on page 515 Fodéré commented that social reform, including public health, was demanded by justice and humanity; J. N. Hallé and P. H. Nysten, "Hygiène," in Dictionnaire des sciences médicales, ed. by F. P. Chaumeton and Mérat de Vaumartoise (60 vols., Paris, 1812-1822), v. 22, 549; Hallé attributed progress in naval and colonial hygiene more to humanitarians than to the vigilance of the government; he extolled the importance of interested humanitarians in convincing governments to help the unfortunate; Pigeotte, Lhoste, and Gréau maintained that society must take up the cause of the worker for humanitarian reasons in "Rapport fait au conseil de salubrité de Troyes, sur les accidents auxquels sont exposés les ouvriers employés dans les filatures de laine et de coton," Annales d'hygiène publique et de médecine légale (hereafter referred to as Annales), 12 (1834), 26-30; see also on humanitarian influence, Richard Shryock, "Medicine and Public Health," in The Nineteenth Century World: Readings for the History of Mankind, ed. by Gary Métraux and François Crouzet (N. Y., 1963), 222-23.

²Piorry, "Rapport de la commission des épidémies," 141; L. C. A. Motard, Essai d'hygiène générale (2 vols., Paris, 1841), 193; Fodéré, Essai sur la pauvreté, passim; Michel Lévy, Traité d'hygiène publique et privée (2 vols., Paris, 1844), 52; L. J. F. Delasiauve, De

Some hygienists, such as Philippe Buchez and F. E. Fodéré, assumed that the national government should be paternalistic and protective towards the population in matters of public health. According to them everyone was entitled to good health, and it was up to the national government to provide the means by which good health might be preserved and maintained. They felt that the government had a special obligation with regard to the poor and the workers. Other hygienists, such as L. R. Villermé and A. J. B. Parent-Duchâtelet did not advocate extensive involvement of the national government in matters of public health, but they believed that certain menaces to the health of the population should be dealt with by specific national legislation.³

l'organisation médicale en France sous le triple rapport de la pratique, des établissements de bienfaisance et de l'enseignement (Paris, 1843), 3-4, 10; L. Simon in Résumé complet d'hygiène publique et de médecine légale (Paris, 1830) gave a clear statement of the importance of public health for the well-being of society: (1) it is important that those who compose society be healthy and robust; and (2) it is important that they should live as long as possible and that until their death they should have enough energy to be useful to society (26-27).

³Some of those who favored a paternalistic role for the national government and who believed that the government should take responsibility for the health of the people were P. J. B. Buchez, Introduction à l'étude des sciences médicales (Paris, 1838), 246; P. S. Thouvenel, Eléments d'hygiène, 239; J. J. Virey, Hygiène philosophique, appliquée à la politique et à la morale (Paris, 1831), xvii; Fodéré, Essai sur la pauvreté, passim; Fodéré's work is completely paternalistic--he thought a paternalistic government could solve the problems of health and poverty; A. Potton, De la prostitution et de la syphilis dans les grandes villes et dans la ville de Lyon en particulier (Paris, 1842), 182-83; on p. 235 Potton suggested thoroughgoing reform, for he pointed out that it would be necessary to remedy the vices of the industrial organization to solve the health problems of workers, and to get rid of prostitution; Ph. Patissier, Traité des maladies des artisans et de celles qui résultent de diverses professions d'après Ramazzini (Paris, 1822), liii, where he said that it was up to the government to take care of the old and infirm worker; P. A. Enault, in Choléra morbus. Conseils

If one assumes that public health is fundamental to the wealth and well-being of society, then the role of the doctor, as the preserver and restorer of health, becomes an important one. Various assumptions were made by hygienists with regard to the role of the doctor in society. A view held by some hygienists was that the doctor could best serve the interests of society if he functioned as a civil servant. Varying theories were advanced in which free medical service

hygiéniques à suivre pour s'en prévenir (Paris, 1831), 26-27, maintained that the government and the rich would take care of the health of the poor out of their own self-interest; Monfalcon and Polinière favored paternalistic legislation and governmental intervention to improve the lot of the workers in Traité de la salubrité, 19-92; L. F. Lélut, "De la santé du peuple," Mémoires de l'Académie des Sciences Morales et Politiques (hereafter referred to as Mém. de l'Acad. des Sci. Mor. et Pol.), VII (1850), 951; H. Frégier in Des classes dangereuses de la population dans les grandes villes et les moyens de les rendre meilleures (2 vols., Paris, 1840), II, 26, 145, called for government intervention to bring about factory legislation and to improve the condition of the poor; Delasiauve, De l'organisation médicale, 11-12, in which he called for government intervention to preserve the sanitary state of the people; he maintained that the government had a mission to provide for the public health; Alban de Villeneuve-Bargemont in Economie politique chrétienne (3 vols., Paris, 1834), 27-95, called for government intervention to protect the weak and the poor. In the case of L. R. Villermé, A. J. B. Parent-Duchâtelet, and Pigeotte, Lhoste, and Gréau, legislative intervention was advocated to improve the lot of the workers and to protect their health; however, these men, especially Parent and Villermé, did not advocate a total state health program as some of the other theorists did. See Villermé, Les prisons, 176-77, where he advocated that the government undertake prison reform and institute state inspectors for prisons and hospitals; see Tableau, II, 355-73, 93-108, in which Villermé pointed out the inconveniences of total laissez-faire with regard to industry and called for some factory legislation. See Parent-Duchâtelet, De la prostitution dans la ville de Paris (2 vols., Paris, 1836), II, 516-23, in which he called for national legislation to deal with prostitution; Pigeotte, Lhoste, and Gréau, in "Rapport fait au conseil de salubrité," 26-30, advocated factory legislation to benefit workers.

would be provided by doctors salaried by the state.⁴ A few theorists suggested that were the importance of public health for the well-being of society recognized, then public health might become an important aspect of domestic and foreign policy. These theorists envisaged a time when doctors would be called upon to render important policy-making decisions both at home and abroad.⁵

⁴A similar proposal for a nationwide system of cantonal doctors was made during the Revolution. See below, page 31, Buchez, Etude des sciences médicales, 247-48; Buchez advocated a nationwide medical service of cantonal doctors in which the doctor would function as a civil servant, salaried by the state, and in which medical care would be dispensed free of charge; the Academy of Medicine supported the system of cantonal doctors, but in fact the system was never spread throughout France. See I. Bricheteau, "Rapport de la commission des épidémies," Mém. de l'Acad. Roy. de Méd., 9 (1841), 32; in this same report Bricheteau said that doctors, not bureaucrats, were the ones who should handle the administration of public health in the countryside; Delasiauve in De l'organisation médicale, 189-203, favored doctors as civil servants, free medical care, and a nationwide system of medical service, to provide for the rural as well as the urban areas. Delasiauve commented (he was writing in 1843) that for ten years in the ministries and the academies various projects of law on medical reform had been discussed; he said maybe one day the Chambers would get around to reform (pp. 4-5); P. S. Thouvenel, Essai sur les devoirs publics et privés du médecin (Paris, 1806, M. D. Thesis), in which he said the doctor was a selfless, humanitarian person (11-12); L. B. A. Letourneur in Rapports du médecin avec la société en général (Paris, 1821, M. D. Thesis) viewed the doctor as a selfless public servant who should enlighten the populace in matters of hygiene; he also recommended a subscription by patients to assure that the doctor got paid.

⁵See especially Fodéré, Essai sur la pauvreté, iii-v, in which he stated that the doctor was the person most capable of solving social problems because of his intimate acquaintance with them, and also his humanitarian approach; F. V. Charles Menessier in Mission du médecin dans la société (Montpellier, 1850) saw the doctor as a social reformer and legislator; Piorry lamented the fact that doctors were so far away from public functions that they did not participate in national legislation, in "Rapport de la commission des épidémies"; Parent-Duchâtelet took the opposite point of view. He said that educated people had lost the respect of doctors in recent years because they spouted old wives tales without presenting scientific proof for their opinions; they exaggerated the dangers to health of various industries, etc., because

Probably the most commonly held assumption of the public hygienists was the belief in the concomitancy of public health and the progress of civilization, public health being the inevitable by-product of the advance of civilization. They explained why the advance of civilization was synonymous with public health progress in several ways. Some hygienists said it was attributable primarily to material improvements--a better standard of living due to increased wealth and more equal distribution of wealth. Hygienists generally believed that health and wealth went together, and that wealthy societies tended to be healthy societies. Another explanation as to why the public health improved with the advance of civilization was that of increased education, or as the hygienists often called it, "enlightenment." Enlightened individuals realized the importance of health, and so they practiced measures of personal hygiene. In the same way, hygienists assumed that enlightened governments, intent upon social and economic reform, would see public health as an integral part of that reform and would enact public health measures.⁶

they were armchair philosophers. Parent said that magistrates were reluctant to consult doctors because of this and only did it because the law required it. It is interesting to note that Parent spent his life testing old theories by means of experimentation and observation and application of the statistical method. He became a specialist in debunking old theories that would not stand up to his rigid experimentation. For more material on Parent, see below, page 314-20; for his comments on doctors, see "Des obstacles que les préjugés médicaux apportent dans quelques circonstances, à l'assainissement des villes et à l'établissement de certaines manufactures," Hygiène publique (hereafter referred to as HP) (2 vols., Paris, 1836), I, 53-55.

⁶For the most optimistic of the theorists, see Philippe Buchez and Ulysse Trélat, Précis élémentaire d'hygiène (Paris, 1825),

31-33; Alphonse Forcinal, De l'influence de la civilisation sur l'homme (Paris, 1832, M. D. Thesis); Thouvenel, Eléments d'hygiène, 177-78; Etienne Pariset, "Discours prononcé par le secrétaire perpétuel, dans la séance inaugurale, le 6 mai 1824," Mém. de l'Acad. Roy. de Méd., I (1828), 79-80; Villermé's point of view in the Tableau, I, 366, II, 25, 297-99, 326, 346, was that good health was dependent upon wealth, that the lot of workers was improving with industrialization and the progress of civilization; therefore, the health of the nation was improving; Motard, Essai d'hygiène, 83; J. F. Rameaux, Appréciation des progrès de l'hygiène publique depuis le commencement du 19^e siècle (Strasbourg, 1839); 18-20; J. F. Bérard, Discours sur les améliorations progressives de la santé publique (Paris, 1826); Bérard's whole speech is relevant; Lévy, Traité d'hygiène, II, 43-45, 482-83, 520; A. L. Gosse, Propositions générales sur les maladies causées par l'exercice des professions (Paris, 1816), 7; F. Méliér, Etude sur les subsistances envisagées dans leurs rapports avec les maladies et la mortalité (Paris, 1842), 22; P. A. Piorry, Des habitations et de l'influence de leurs dispositions sur l'homme, en santé et en maladie (Paris, 1838), 93-94; Joseph-Henri Réveillé-Parise, Physiologie et hygiène des hommes livrés aux travaux de l'esprit (4th ed., Paris, 1843), 22, 37; Hallé et Nysten, "Hygiène," 540-46, 550, 604; Parent-Duchâtelet, Prostitution, II, 494-96. A few theorists generally ascribed to this point of view, but with reservations. Eugène Buret in De la misère des classes laborieuses en Angleterre et en France (2 vols., Paris, 1840), I, 357-58, wondered if workers had shared in the progress of civilization; Fodéré was generally optimistic and expressed his belief in the progress of civilization, but he also felt he was living in an age of contradictions; he felt that the public health was neglected; he also noted that industrialization did not seem to be beneficial to society, and that it did not seem to be coinciding with a decrease in poverty and crime and an improvement in health; see Essai sur la pauvreté, II, 5-17, 57, 243-50, and also Leçons sur les épidémies et l'hygiène publique (4 vols., Paris, 1822-24), I, 29-30; J. J. Virey also had mixed emotions as to whether the public health had improved with the advance of civilization; on the one hand he felt that liberty was a by-product of the advance of civilization, and that liberty, civilization, and good health were concomitant; on the other hand, he feared that civilization had made life artificial, and furthermore noted that therapeutic medicine had made little progress; see Hygiène philosophique, I, vii-xiii, xvii-xxii. There were a few public hygienists who did not fully share in the prevailing optimism of the age. A few minor theorists did not believe that civilization was progressive, for they felt that it created as many if not more problems than it solved. Claude Villevert believed that civilization multiplied disease; see Considérations générales sur l'art de prévoir des maladies et sur celles qu'il est au pouvoir du médecin de prévenir (Paris, 1818, M. D. Thesis), 9; Auguste-Pierre Meirieu believed civilization to be a corrupting influence; sickness, he thought, increased with civilization, having become necessary in advanced societies because of the increase in disease; see Quelques réflexions sur l'influence de la civilisation dans les maladies (Paris, 1820, M. D. Thesis).

One aspect of this optimism regarding the progress of civilization was the belief that civilization diminished both the frequency and intensity of epidemics. This was explained by the fact that civilization was synonymous with better public health measures, a higher standard of living, and better and more effective means of dealing with epidemics, in part due to the progress of science. Hygienists pointed out that the worst epidemics obtained in the most barbarous and poverty-stricken societies. As no specific preventive was known for any disease at the time, except for smallpox, many theorists felt that the general progress of civilization was the best preventive against epidemic diseases.⁷

⁷Buchez and Trélat, Précis élémentaire, 31; Forcinal, De l'influence de la civilisation, 9; "Rapport de la commission chargée de rédiger un projet d'instruction relativement aux épidémies," Mém. de l'Acad. Roy. de Méd., I (1828), 248; Bricheteau, "Rapport de la commission des épidémies," Mém. de l'Acad. Roy. de Méd., 9 (1841), 32; Etienne Pariset, "Mémoire sur les causes de la peste et sur les moyens de la détruire," Annales, 6 (1831), 308-310; L. R. Villermé, "Les épidémies sous les rapports de l'hygiène publique, de la statistique médicale et de l'économie politique," Annales, 9 (1833), 7-18, 55-58; Rameaux, Progrès de l'hygiène, 19; Bérard, Les améliorations progressives, 107-08; Fodéré, Leçons sur les épidémies, I, 247; Menessier, Mission du médecin, 47-48; Jean-Baptiste-Isidore Bourdon, Mémoire sur la peste, la vérité sur les quarantaines (Paris, 1847), 13-16; L. Bourgouin, Exposition raisonnée des institutions sanitaires depuis leurs origines jusqu'à nos jours (Paris, 1829), 39; Bourdon and Bourgouin maintained that as civilization advances not only are there fewer epidemics and contagious diseases, but also that as men become more enlightened they come to realize that fewer diseases are contagious. For these men anticontagionism was a sign of progress; P. A. Enault, Choléra-morbus, 9-10; Pariset, Lévy, and Prus saw the progress of civilization as the best preventive against plague. See Lévy, Traité d'hygiène, II, 520, 525; Pariset, "Mémoire sur les causes de la peste," 308-310; René Prus, "Rapport de la peste et des quarantaines," Bulletin de l'Académie Royale de Médecine (hereafter referred to as Bull. de l'Acad. Roy. de Méd.), 11 (1846), 688; see also, "Rapport de Pariset, Bouilliaud, et Renoult sur l'oeuvre de Dr. L. Aubert, Sur la prophylaxie générale de la peste," Bull. de l'Acad. Roy. de Méd., 6 (1840-41), 795.

The public hygienists who expressed these beliefs based their ideas on what they regarded as scientific evidence, in the form of statistics. Many of the hygienists agreed that the progress of civilization and public health could be carefully gauged by means of statistical analysis. Mortality statistics were considered an especially good indicator of the relative advancement and level of public health of a given society. What the statisticians showed was that men were living longer on the average than in the past, that the infant mortality rate was decreasing and that the average life expectancy at birth was increasing. In addition, a general increase in the total population was noticeable, and hygienists regarded this as a sign of progress. The public hygienists were certain that the statistics proved that better health and greater wealth prevailed.⁸

⁸For the belief that statistics offered scientific proof of the advance of civilization and public health, see Forcinal, De l'influence de la civilisation, 11-15; Rameaux, Progrès de l'hygiène, 3, 8-9, 18-20; Bérard, Les améliorations progressives, 60-93; Parent-Duchâtelet, Prostitution, I, 22-23; C. V. F. G. Prunelle, "De l'action de la médecine sur la population des états," Revue médicale historique et philosophique, I (1820), xv, xxxv-xxxvii; Prunelle said that the universal question of the age was whether the probable life expectancy and the average length of life had increased or decreased, and if the proportional increase noticeable in the most civilized of nations depended on an improvement in morals or medical practice; Menessier, Mission du médecin, 50-51; for the importance of the mortality rate as a means of measuring the progress of civilization and public health, see below, p. 38; the idea had become commonplace due to the publicity given to the works of Ivernois, Quetelet, and Villermé; see, for example, Fr. Dubois, rapporteur, "Rapport sur un mémoire de M. le dr. Toulmonde, ayant pour titre: Essai sur la topographie médicale de la ville de Sedan," Bull. de l'Acad. Roy. de Méd., 7 (1841-42), 97. Some of those who saw an increase in the total population as a sign of progress were Bérard, Les améliorations progressives, 75; Forcinal, De l'influence de la civilisation, 15-16; this was the older outlook. The newer point of view was that of Ivernois, Villermé, and Quetelet,

The prevailing theoretical beliefs of the hygienists, inherited from the age of the Enlightenment, explain why when confronted with certain developments in the nineteenth century, such as industrialization and urbanization, and given the growth of the science of statistics and the popularity of the epidemiological theory of anticontagionism, many doctors, scientists, and administrators began to favor public health reform as an important aspect of more general social reform.

One of the developments of the early nineteenth century which encouraged the growth of active public health movements was urbanization. At stake was the health of hundreds of thousands of people inhabiting big cities. Even though France was primarily an agricultural nation, it was in the cities, large and small, that the health problems were most acute, and where public health measures were most needed, or at least, where it was most noticeable that they were needed. The migration of people from the countryside to the cities was not characteristic of all of France in this period, but it was characteristic of Paris and of certain industrialized areas of France, especially the north and the northeast.

The population of the city of Paris increased rapidly after 1830, and the influx of people, many with little money and sporadic

that the distribution of the population was more important than the total population. See below, page 39, note 3; Lévy in Traité d'hygiène took the point of view that the simple increase of population was not necessarily an indication of wealth and progress; the quality of the increase also had to be considered; Lévy admitted to being influenced by Quetelet (II, 494-95);.

employment, created major public health problems for the municipal administration. Many of the urban health problems that the hygienists dealt with in the nineteenth century were not new, but they became more urgent than before in the face of rising population pressure and a changing climate of opinion which demanded better public health. The Paris cholera epidemic of 1832 and the increasing mortality rates in Paris as compared with the rest of the nation pointed up the deplorable state of public health in Paris.

The public health problems created by urbanization loomed so large in the public health movement that one can accurately say that the French public health movement was essentially an urban phenomenon, and recognized as such by the hygienists themselves.⁹ Not only was

⁹In "Essai sur les cloaques ou égouts de la ville de Paris, envisagés sous le rapport de l'hygiène publique et de la topographie médicale de cette ville," HP, I, 157, 161, Parent-Duchâtelet asserted the necessity of an adequate sewerage system for life in big cities; Monfalcon and Polinière in Traité de la salubrité, 34-40, maintained that without sanitary regulations and administration cities would be virtually uninhabitable; J. N. Hallé asserted the importance of urban planning for maintaining the public health in "Hygiène," 529, 550. Hallé also pointed out that public health existed primarily for city-dwellers, as for them it was indispensable. In the countryside, where it was not a necessity, public health was practically non-existent. See, for example, Athanase Follet, Considérations pratiques sur quelques points de l'hygiène (Paris, 1830, M. D. Thesis), 67; L. M. Hodel, Essai sur l'hygiène des campagnes du Département du Haut-Rhin et sur quelques moyens d'y perfectionner la médecine rurale (Strasbourg, 1828, M. D. Thesis), 10; Henri Bon, Recherches hygiéniques sur les habitants de la campagne de la commune de Iacane, arrondissement de Castres (Tarn) (Montpellier, 1837, M. D. Thesis), vi, 44-45; Lélut, "De la santé du peuple," 959-60 in which the author points out that it is justifiable that more attention has been given to public health in cities than in the countryside, because it is more of a necessity in the cities; Motard, Essai d'hygiène, I, 237-95; Lévy, Traité de l'hygiène, II, 539. For further discussion of urban public health, see below, Chapters VI and VII.

the French public health movement primarily an urban phenomenon, it was for the most part a Parisian phenomenon. Most of the innovations and much of the practical success of the movement were in Paris.

The industrialization of certain areas of France during the first half of the nineteenth century was one of the most significant developments that led to the growth of the French public health movement. After 1830 the area around Paris and part of northern and north-eastern France industrialized rapidly. Paris had one of the largest working class populations of any European city in the early nineteenth century. The social consequences of industrialization were publicized by socialists and humanitarians at home and abroad, who brought to the attention of the informed public and the government the situation of the working classes in industrialized areas. Both the British and the French national governments conducted official inquiries into the state of the working classes. As a result of all these developments the so-called "condition of the working classes" became a topic of major concern to a large group of public hygienists. As the public hygienists saw it, what was at stake was the health of a large and important segment of the French population, a segment which was becoming increasingly significant both economically and politically.¹⁰

It was not only a sense of humanitarianism that motivated hygienists and others to take an active interest in the health of the

¹⁰For further discussion of this whole question, see below, pages 82-90.

working classes. There was a widespread fear that the health of the working classes, especially in industrialized areas, was deteriorating to the point that the class was wasting away. The publication of statistics on army recruits showed how bad the health of the poor and workers really was in comparison with the more affluent members of society, and many feared that unless something was done to improve the health of these groups that the nation's youth would waste away. This deterioration of the working and lower classes was attributed by many reformers to the evils of industrialization. Such a situation implied both future military and economic weakness; as it was a prevalent belief that a vital, healthy population was a necessity for military and economic strength, hygienists and some other reformers thought that public health measures had to be taken to ensure the future vitality of the French populace.¹¹ Some hygienists took an interest in

¹¹Many hygienists as well as other reformers mention this as one of the primary reasons for advocating public health measures. See, for example, Buret, De la misère des classes laborieuses, 359-60; Thouvenin, "De l'influence de l'industrie," 36 (1846), 17-18, 32-33, 277, and 37 (1847), 96-101, 110-111; Villermé, Tableau, I, 312-315, II, 245-47; Villeneuve, rapporteur, "Rapport général sur les épidémies qui ont régné en France depuis 1771 jusqu'à 1830 exclusivement, et dont les relations sont parvenues à l'Académie," Mém. de l'Acad. Roy. de Méd., 3 (1833), 397-98; "Réforme industrielle. Enquête. De la condition misérable des hommes, femmes et enfans dans les manufactures; des causes de cette misère et des moyens d'y remédier," l'Atelier (Janv., 1841), 36; Lévy, Traité d'hygiène, I, 52. See also Motard, Essai d'hygiène, 363, 376-77; Monfalcon and Polinière, Traité de la salubrité, 114, 120; L. R. Villermé pointed out that prisoners condemned to forced labor worked 12 hours a day, with 2 hours off for meals and rest, whereas free workers normally worked 15-15 1/2 hours a day; in the same article he recommended a child labor law to prevent the wasting away of future generations of workers. See "Sur la durée trop longue du travail des enfans dans beaucoup de manufactures," Annales, 18 (1837), 168, 175.

improving the health of workers, because they feared working class uprisings if adequate measures were not taken to alleviate the plight of the workers. This was especially true after the troubles in Lyon in 1831 and 1834.¹²

In addition to urbanization and industrialization the emergence of the science of statistics and the prevailing epidemiological theory of anticontagionism encouraged the growth of an active public health movement in France after 1815. Anticontagionists believed that diseases were not immediately transmissible (contagious) from a sick to a healthy person, by a living organism, but rather developed because of certain environmental conditions. Filth and poverty were the two conditions thought most likely to cause disease in the early nineteenth century, although some hygienists still postulated the older climatic causes. Now if filth and poverty caused disease or created a situation in which disease-causing miasms could develop, then effective

¹²Villermé made reference to this attitude in Tableau, I, 72, where he commented with regard to cotton weavers in a factory in Sainte-Marie-aux-Mines, that they were too weak and had too little energy ever to rise up--therefore, there was nothing to fear from them. The Christian interventionist, Alban de Villeneuve-Bargemont said that he saw the signs of social revolution everywhere, that new ideologies were being formed, that something had to be done about the plight of the workers. He saw France on the eve of a great social transition. The alternatives he thought to be either violent revolution of the proletarian classes against the capitalists, or a paternalistic, Christian society. He said that if misery and pauperism were not solved, then the class struggle could only get worse; see Economie politique chrétienne, I, 25-95. Fodéré in Essai sur la pauvreté, 21, said that a state with an inadequate distribution of wealth was always on the verge of convulsion; he pointed out on page 68 that poverty was a threat to the security and tranquility of the state. It is interesting to note that Fodéré was writing before the insurrections of the early 1830's.

preventive measures would involve cleaning up the environment, or sanitary reform, and the elimination of poverty and its social consequences, or social reform.

Before the nineteenth century the term "public health" generally referred to the action of the government to prevent the spread of contagious and epidemic diseases. Public health administration was for the most part synonymous with such measures as quarantine and isolation in order to keep diseases out of a specified area. But with the adoption by a majority of doctors and hygienists of the anticontagionist theory, public health came to mean much more. For if the older methods did not work as they did not seem to in the early nineteenth century, then perhaps sanitary and social reform would.

The acceptance by many doctors and hygienists of anticontagionism encouraged the growth of an active public health movement in France, as theories of disease prevention shifted from the traditional methods, undertaken only in time of emergency to the application of sanitary and social measures on a permanent basis. Optimistic that they had hit upon the key to disease prevention, French hygienists advocated both sanitary and social reform in an attempt to preserve the public health.

Even though the anticontagionists were later proved wrong, the sanitary reform that resulted from their attempts to apply the anticontagionist theory was a most important aspect of the development of modern public health. Even though the social causes of disease were later de-emphasized when specific germs were found to be the cause of

specific diseases, this social theory of epidemiology was an important aspect of the early nineteenth century public health movement. Because of the social, humanitarian aspect of early nineteenth century public health, the public health movements can be placed alongside other social reform movements of the period.

The emergence of the science of statistics in the early nineteenth century also contributed to the growth of the French public health movement, for statistical analysis lent what was considered to be scientific proof to many of the theories postulated by the hygienists. Statistical analysis was an important tool for hygienists, for they could use it to measure the level of health of a given group or nation. The numerical method was also useful in the presentation of facts related to the effects of various health reforms and improvements. Even though statistics as a discipline was in its infancy throughout the period, it was an important contributing factor to the development of the public health movement, primarily because it provided a scientific basis for public health.

In addition to ideas inherited from the age of the Enlightenment, the development of industrialization and urbanization, the prevailing theory of anticontagionism, and the emergence of the science of statistics, there is one other factor which must be briefly examined in order to understand why an active public health movement developed in France after 1815. There had been a background of interest in public health in France since the mid-eighteenth century and certain public health institutions were already in existence by 1815.

Three public health institutions which antedated the period under discussion were the Royal Society of Medicine, the Paris prefecture of police, and its predecessor the lieutenancy of police and the Paris health council.

Two of these institutions, the lieutenancy of police and the Royal Society of Medicine, dated from the pre-Revolutionary period. The office in charge of the public health under the Ancien Régime was the lieutenancy of police, created by an edict of 1667, whose duties included certain aspects of public health, especially with regard to the city of Paris. These public health duties were enlarged in the eighteenth century, and under Lenoir, lieutenant of police from 1774 to 1785, it was decided that assistants and consultants were necessary. Two pharmacists were appointed to deal with questions related to health: M. Pia was put in charge of the first-aid boxes (boîtes de secours) situated along the Seine to provide help to the drowning, an innovation of the former police lieutenant, Sartine; M. Cadet de Vaux, given the title of inspector-general, was to deal with all other aspects of public health. Cadet de Vaux was responsible for several public health reforms in the city of Paris, such as the suppression of cemeteries in the center of the city and the suppression of burials in churches.¹³

¹³Elouin, A. Trébuchet, and E. Labat, Nouveau dictionnaire de police (2 vols., Paris, 1835), I, LII-CXXVII; V. de Moléon, ed., Rapports généraux sur les travaux du conseil de salubrité de la ville de Paris, et du département de la Seine, exécutés depuis l'année 1802 jusqu'à l'année 1826 (Paris, 1828), 101-102 (hereafter referred to as R. G., followed by the year of the report); for information on Cadet de Vaux and his illustrious family, see Alex Berman, "The Cadet Circle: Representatives of an Era in French Pharmacy," BHM, 40 (1966), 101-111.

Until the middle of the eighteenth century public health institutions made little progress. But then in the second half of the century at the same time that the public health activities of the police lieutenants were enlarged, a new institution with public health goals was created: the Royal Society of Medicine, founded by Necker in 1776. The prevention of epidemics and epizootics was the main public health concern of the Royal Society of Medicine. Yet in their many reports the members also dealt with other health topics, such as mineral waters, secret remedies, mephitism of cesspits, pure food and drink, exhumations, and other topics. The Royal Society of Medicine had propitious beginnings, but it, along with the lieutenancy of police, was suppressed during the Revolution. Both institutions were later to be revived under different names.¹⁴

While some interesting public health programs were debated in committee meetings of the National Constituent Assembly (1790-91), notably the establishment of a system of cantonal doctors throughout France and the creation of departmental health councils with independent power, neither of these programs was effected during the Revolutionary period.¹⁵

¹⁴C. C. H. Marc, "Introduction," Annales, 1 (1829), xiv-xvi; "Ordonnances relatives à l'Académie Royale de Médecine," Mém. de l'Acad. Roy. de Méd., I (1828), 1-2; Henry Ingrand, Le comité de salubrité de l'Assemblée nationale constituante (1790-91) (Thesis, Université de Paris, 1934), 21-26. See also, Caroline Hannaway, "The Société Royale de Médecine and Epidemics in the Ancien Régime," BHM, 46 (1972), 257-73.

¹⁵Ingrand, Le comité de salubrité, 32-104; Rosen, History of Public Health, 167-68.

Under Napoleon (in 1800) the lieutenancy of police was revived as the prefecture of police, whose responsibilities included the administration of the public health for the city of Paris. Napoleon's first prefect of police, Count Dubois, following the advice of one of his consultants, the pharmacist, Ch.-Louis Cadet-Gassicourt, put into practice the idea of a health council, which had been promoted during the Revolution. In 1802 the Paris health council was created to serve as an advisory body to the prefect of police in matters of public health.¹⁶

By 1815 France had a background of interest in public health dating from the eighteenth century. The city of Paris possessed two institutions in charge of public health administration. But without the growth of awareness of the importance of public health after 1815 and the development of an active French public health movement, it is doubtful that these institutions would have developed into viable public health institutions as in fact they did in the first half of the nineteenth century. Nor would the Royal Academy of Medicine, founded in 1820, have developed as it did.

Louis XVIII's revival of the Royal Society of Medicine as the Royal Academy of Medicine in 1820 was not attributable to the public health movement which had hardly got underway by this time. In 1820

¹⁶A. Vivien, Etudes administratives. Le préfet de police (Paris, 1842), 4-7, 13-15; Elquin, Trébuchet, and Labat, Dictionnaire de police, I, XCIXI; Maurice Félix, Le régime administratif et financier de la ville de Paris et du Département de la Seine (2 vols., Paris, 1957), II, 141-42; John Phillip Stead, The Police of Paris (London, 1957), 75-78. For information on Cadet-Gassicourt, see Berman, The Cadet Circle."

the older, narrow concept of public health and the theory of contagionism still held sway, and so the Royal Academy of Medicine was created in the image of its predecessor with the same public health goals, the most important of which was the prevention of epidemics.

The Royal Academy of Medicine, which developed into the most prestigious medical body in the world by the 1840's owed its reputation and prestige to its illustrious membership and to the fact that Paris was both the world center for the study of clinical medicine and the center of an active public health movement. The growth of awareness of the importance of public health among many doctors along with the development of an active public health movement was one of the most important factors that contributed to the prestige and authority of the Royal Academy of Medicine. The existence of an active public health movement encouraged among the members of the Royal Academy of Medicine a continuing interest in certain aspects of public health. Without the public health movement, the Royal Academy of Medicine might still have become a prestigious medical institution, but its emphasis on public health problems and the time it devoted to public health would no doubt have been greatly diminished.

The development of the prefecture of police and the Paris health council into important public health institutions was directly related to the public health movement and the growth of awareness of public health brought about by the movement. One of the main duties of the prefect of police was the administration of the public health in Paris. The attention devoted to public health by a prefect depended on the

exigencies of the moment as well as on his own beliefs in the relative importance of public health. In terms of public health Count Dubois, the first prefect of police, set a good example. But the office, being newly created, could have developed in several ways. After 1815 the attention paid to public health by the Parisian prefects of police increased as the period progressed. This increasing interest in public health problems was partly due to the growing magnitude of the problems themselves and partly because of the effectiveness with which public health problems were publicized by the hygienists active in the public health movement.

The evolution of the Paris health council into the leading public health authority in France by the 1830's was dependent on several developments. Because the health council was an advisory body, the extent of its activity was determined by the amount of advice sought by the prefects of police. Its influence was closely related to the soundness of the advice it gave. From its inception some of the best qualified doctors and scientists in France served on the Paris health council. The prefects sought the advice of the health council and its opinions set a public health precedent which could be followed throughout the nation. Growing awareness of public health problems meant more work for the Paris health council and its increased activity in turn created more awareness of the problems confronting not only Paris but other large cities as well. At one time or another most of the leaders of the public health movement served on the Paris health council. Without the development of a public health movement centered in Paris, the

Paris health council might well have withered into insignificance.

The point to be made is that even though there was a background of interest in public health in France before the nineteenth century, and even though there did exist in Paris two public health institutions, these institutional foundations, along with the theoretical foundations inherited from the age of the Enlightenment, probably would not have led to an active French public health movement had it not been for the developments of the first half of the nineteenth century. When coupled with public health problems created by industrialization and urbanization, and the emergence of the science of statistics, and the victory of the anticontagionists, they did however contribute to the development of a viable French public health movement.

In spite of the fact that there had been some interest in public health before 1815 and the creation of some institutions devoted to the administration of public health and the solving of public health problems, in fact little progress had been made. Most of the public health problems had not yet been adequately studied, not to mention solved. A few reforms had been made, such as moving cemeteries out of the city centers, but the major public health problems of water supply, sewerage, housing, occupational health and many more still remained to be solved. In addition, there were urgent new problems created by the urbanization and industrialization of some areas of France. It was in the first half of the nineteenth century that public hygienists, encouraged by reforming administrators, investigated the major public health problems of the age and made real progress toward the solving

of some of these problems. The participants in the French public health movement, 1815-1848 through their publications and activities brought about a growth of awareness of public health without which later reform might not have taken place.

CHAPTER II

STATISTICS AND PUBLIC HEALTH

An important aspect of the nineteenth century public health movement in France was the "statistics movement" dating from the 1820's and 1830's.¹ Statistical analysis was an important tool of the public hygienists for several reasons. First of all, public hygienists could use statistical analysis to buttress their theories about the concomitancy of the advance of civilization and the progress of public health. The use of statistical analysis seemed to offer scientific proof that this theory was correct. Secondly, the numerical method was used by hygienists as a means of measuring the effects of various public health improvements and reforms. For example, hygienists measured the decline in morbidity and mortality rates in places like prisons and hospitals as their sanitary states improved. Thirdly, statistical analysis could

¹The term "statistics movement" was used by Erwin Ackerknecht in "Villermé and Quetelet," BHM, 26 (1952), 317-29. This article is based on letters exchanged between the two statisticians and provides some interesting insights into the international correspondence of nineteenth century statisticians. The nineteenth century hygienists often used the term "statistics" to refer to what today is called statistical analysis. In the nineteenth century the term statistics itself was relatively new, having first been employed by a German statistician, Gottfried Achenwall, in 1749, to mean "the descriptive analysis of the political, economic, and social organization of states." On the origin of the term see George Rosen, A History of Public Health, 175; L. R. Villermé, Population, Hygiène, Extrait du Journal des cours publics de la ville de Paris (Paris, 1828), 2.

be used to answer various health questions, especially those related to the causes of disease and mortality.

Public hygienists believed that by use of statistical analysis they could measure the level of advancement of a given society and hence the level of attainment of public health. Prominent nineteenth century statisticians who dealt with population and public health like Adolphe Quetelet, L. R. Villermé, L. F. Benoiston de Chateauneuf, Edouard Mallet, and Francis d'Ivernois used statistical analysis to try to determine the level of advancement of various societies based on an analysis of population statistics. The figures they used were the mortality rates, emphasized by Ivernois as being the barometer of a society, the average length of life (vie moyenne), and the probable life expectancy (vie probable).² They believed that a low comparative mortality rate, a

²The average length of life (vie moyenne) is the average of the total number of years lived by those who died in a given year; the average life expectancy (vie probable) is calculated by the list of deaths according to the age of death; the average life expectancy is that age at which half of those born died, while the other half were still living.

In three letters written to Dr. Villermé, Sir Francis d'Ivernois stressed the importance of the mortality rate as an indicator of the relative prosperity of a given population. See especially the first letter in which he emphasized the importance of the average life expectancy and the average longevity as the best means of measuring the affluence of a given civilization as well as the material progress. Another interesting point that Ivernois brought out in the letters was his belief that both a low mortality rate and a low birth rate were signs of an affluent advanced society. This theory was contrary to the generally accepted belief that the optimum situation was a low mortality rate and a high birth rate. The first letter was Sur la mortalité proportionnelle des populations normandes considérée comme mesure de leur aisance et de leur civilisation (Geneva, 1833); the second letter was "Exposé des principales erreurs qui prévalent sur le sujet des populations; graves et nombreuses aberrations des écrivains

high average longevity rate, and a high probable life expectancy were nearly always evidence of the progress of public health and civilization.³ Statistical analysis showed that in the advanced countries of western Europe as time went on people on the average tended to live longer, life expectancy tended to increase, and overall mortality tended to decrease. Statistical analysis thus seemed to offer scientific proof of the general belief in the continuing progress of civilization.⁴

qui font autorité sur la matière," Bibliothèque universelle de Genève, 54 (Sept., 1833), 1-50, part I and 54 (Oct., 1833), 139-178, part II; the third letter was Sur la mortalité proportionnelle des peuples considérée comme mesure de leur aisance et de leur civilisation. Analyse des quinze registres de l'Etat civil en France. Pour les années, 1817-1831 (Paris, 1834).

³The two figures--average length of life and average life expectancy--alone were not enough, for the composition and distribution of the population by age also had to be considered. Quetelet pointed out, for example, that the measure of years alone was not enough, as years differ in quality. The ten years between 30 and 40, for example, were more important for the material productivity and the vitality of a nation than the ten years between birth and 10. Adolphe Quetelet, Sur l'homme et le développement de ses facultés, ou essai de physique sociale (Paris, 1835), 272-327. For a good biography of the Belgian statistician, Adolphe Quetelet, see Frank H. Hankins, Adolphe Quetelet as Statistician. Studies in History, Economics, Public Law, edited by the Faculty of Political Science of Columbia University, Vol. XXXI, No. 4 (New York, 1908).

⁴See for example, Quetelet, ibid.; Ivernois, ibid.; L. F. Benoiston de Chateaufort, "Mémoire sur la durée de la vie humaine dans plusieurs des principaux états de l'Europe," Séances et travaux l'Académie des Sciences Morales et Politiques (hereafter referred to as Séances et trava. l'Acad. de Sci. Mor. et Pol.), 10 (1846), 31-51; L. F. Benoiston de Chateaufort, "Institut Royal de France. Académie Royale des Sciences, Note lue à l'Académie des Sciences dans sa séance du 30 janvier 1826, sur les changemens qu'ont subis les lois de la mortalité en Europe, depuis un demi-siècle (1775-1825)," Le Moniteur universel, 6 fev. 1826, 148; Edouard Mallet, "Recherches historiques et statistiques sur la population de Genève, son mouvement annuel et sa longévité depuis le XVI^e siècle jusqu'à nos jours (1549-1833)," Annales, 17 (1837), 5-172;

Public hygienists also found that the numerical method was a convenient way of measuring the effects of public health reforms and improvements on rates of morbidity and mortality. The effectiveness of sanitary reform in public places like prisons and hospitals could be accurately measured, as could for example, the prevalence of venereal disease among prostitutes as a result of the institution of a sanitary program designed to lower the rate of venereal disease. What the numerical method plainly showed was either that public health reform was effective, or that if it was not, then other causes of disease and mortality had to be searched out.⁵

The third main area in which the use of statistical analysis proved useful to public hygienists was in answering health questions. Some of the most important questions considered by hygienists and statisticians dealt with the causes of disease and mortality. Many of the treatises written by both hygienists and statisticians were attempts

J. H. Fourier, "Notions générales sur la population," Recherches Statistiques de la ville de Paris, I (1821), ix-lxviii. Fourier shared many of the ideas of Villermé, Quetelet, and Ivernois with regard to population statistics and the significance of these as providing proof for advancement of civil and public health progress. L. R. Villermé, "De la mortalité dans les divers quartiers de la ville de Paris, et des causes qui la rendent très différente dans plusieurs d'entre eux, ainsi que dans les divers quartiers de beaucoup de grandes villes," Annales, 3 (1830), 294-341; L. R. Villermé, "Mémoire sur la taille de l'homme en France," Annales, 1 (1829), 351-399.

⁵See for example, L. R. Villermé, "Mémoire sur la mortalité dans les prisons," Annales, 1 (1829), 1-100; L. R. Villermé, "Note sur la mortalité parmi les forçats du bagne de Rochefort, sur la fréquence de leurs maladies, et sur la grande tendance que celles-ci ont à se terminer par la mort," Annales, 6 (1831), 113-127; A. Trébuchet in F. S. Ratier, "Mémoire en réponse à cette question: quelles sont les mesures les plus propres à arrêter la propagation de la maladie vénérienne?" Annales, 16 (1836), note 1, 282 and note 1, 284.

to assess to what extent various factors might be the cause of disease and mortality among a particular group of people, or a given population. The hygienists believed that only if such causes were discovered, could adequate preventive measures be taken.⁶

L. R. Villermé and the Statistics Movement in France

Within the French public health movement it was primarily L. R. Villermé who tried to answer public health questions by use of statistical analysis. Villermé sought to increase the awareness among French hygienists of the research being done in statistical analysis throughout Europe by publicizing the work of renowned statisticians and hygienists who used statistical analysis to answer health questions.

Louis René Villermé was perhaps the most prominent man in the French public health movement, as well known for his statistical studies as for the Tableau de l'état physique et moral des ouvriers, even though it is for the latter work that he is best remembered. Little attention has been paid to his statistical work.⁷ Yet probably

⁶Quetelet (Physique sociale, 133-271) divided the general causes of mortality into two main areas: natural causes, such as climate, sex, age, time in history and seasons, and human causes, such as profession, degree of affluence, moral and psychological influences, and educational, political, and religious influences.

⁷His only biographer, Delabroise, does not even mention it. Marcel Delabroise, Un médecin hygiéniste et sociologue: Louis-René Villermé (1782-1863) (Thesis, U. of Paris, 1939); Emile Mireaux discusses him briefly as a statistician in "Un chirurgien-sociologue: Louis-René Villermé," Revue des Deux Mondes (15 jan. 1962), No. 2, 201-212; Pierre Astruc mentions him as a statistician, but does not give any details, "L. R. Villermé," Progrès Médical (supplément illustré, 1^{er} octobre, 1932), 49-54; of course, Ackerknecht deals with the subject extensively, primarily in "Villermé and Quetelet."

the most important study Villermé did, as far as influencing the public health movement, was his study on mortality rates in the different arrondissements of Paris, and in the poor and rich departments of France.

The underlying hypothesis which Villermé sought to prove by use of statistical analysis was the relationship between misery, poor health, and high mortality rates, and affluence, good health, and low mortality rates. Two important articles dealing with this subject were published, the first dealing with a comparison of the poor and rich departments of France, and the poor and rich areas of the city of Paris, and the second dealing primarily with Paris.⁸

In the first article Villermé attempted to provide an answer to the controversy over whether the rich were healthier and lived longer than the poor. In comparing a wealthy arrondissement of Paris, the

⁸"Mémoire sur la mortalité en France dans la classe aisée et dans la classe indigente," Mém. de l'Acad. Roy. de Méd., I (1828), 51-98; "De la mortalité dans les divers quartiers de la ville de Paris, et des causes qui la rendent très différente dans plusieurs d'entre eux, ainsi que dans les divers quartiers de beaucoup de grandes villes," Annales, 3 (1830), 294-341. The first article was originally read to the Royal Academy of Medicine in 1826. See "Rapport lu à l'Académie Royale de Médecine au nom de la commission de statistique relatif au mouvement de la population dans les douze arrondissements principaux de la ville de Paris, pendant les cinq années 1817, 1818, 1819, 1820, et 1821," Archives générales de médecine, X (1826), 216-47. For the first article Villermé listed the statistical sources used as the following: the statistical research done for the department of the Seine under the direction of the Prefect of the Seine (Chabrol, Recherches statistiques sur la ville de Paris, vols. I-IV, Paris, 1821-29), the monthly mortality records kept in one arrondissement of Paris, the tables furnished by the hospital administration, and the tables of population movement provided by the Minister of the Interior.

first, with a poor one, the twelfth, Villermé found that in the first the mortality rate at home was only $1/58.24$ while in the twelfth it was $1/42.63$.⁹ If the hospital mortality rate was added, the difference was even more striking; $1/41.20$ in the first and $1/24.21$ in the twelfth. Concentrating on an even more limited area, Villermé then compared mortality rates in a wealthy quarter, the Ile St. Louis, with those in a poor quarter, the Arsenal, and found the same relationship between wealth and poverty and mortality rates; on the Ile St. Louis the mortality rate was $1/46.4$, while in the Arsenal it was $1/38.36$. Narrowing down the sampling even further, Villermé then chose a crowded street, where the inhabitants lived in unhealthy dwellings, the Rue de la Mortellerie, and compared it with the four quais of the Ile St. Louis, where the apartments were large and spacious and the inhabitants materially well-off. The number of deaths at home on the Rue de la Mortellerie was $1/32.68$, while for the four quais of the Ile St. Louis it was $1/52.40$.

Finally, using information from tax tables, Villermé set up a table ranging the arrondissements from the wealthiest to the poorest. He then correlated this with the ratio of at-home deaths and found that with one exception the wealthiest arrondissements had the lowest rates of at-home deaths and vice versa.

⁹At home deaths (décès à domicile). In other words hospital and hospice deaths were not included.

In order to find out whether the relationship between poverty and high mortality might apply elsewhere, Villermé then turned to the departments of France for further observations. He compared the mortality rates of various departments of France which could be classified as rich or poor, and found the average mortality of the rich departments to be 1/46.31 while that of the poor was 1/33.72. These results confirmed his Parisian findings.

Villermé concluded in his first article that mortality in France and the average length of life were directly related to the degree of affluence or poverty. The difference was so great that in some of the rich departments the mortality rate was as low as 1/50, while in the twelfth arrondissement of Paris, the mortality rate was more than twice as high, 1/24.21.

It was the attempt to single out specific causes of differing mortality rates that distinguished this second article from the first, for the conclusions reached were the same.¹⁰ Villermé examined the causes which might have contributed to varying degrees of healthfulness

¹⁰The material for this article came from the Recherches statistiques de la ville de Paris, under the direction of Villot, head of the bureau of Archives and Statistics of the Department of the Seine. In 1825 Villot had addressed to the Royal Academy of Medicine a series of tables in manuscript on the movement of population in Paris from 1817 to 1821. The Academy had designated a commission to make a report on Villot's work, with Villermé being named the reporter for the commission (other members of the commission were Desgenettes, Desmarest, Esquirol, J. B. Fourier, Jacquemin, and Yvain). Villermé enlarged the work to include the years 1822-26, taken out of the recently published, Vol. IV of the Recherches statistiques. See Villermé, "De la mortalité dans les divers quartiers," 294; and "Rapport lu à l'Académie," 216-47.

and differing mortality rates from one arrondissement to another. He checked the distance from and proximity to the river as a possible factor, but no constant correlation could be established. He then considered various climatic conditions which might exert an influence on the mortality rate, such as height of ground, type of soil, etc. These elements also did not seem to exert an appreciable influence on mortality rates. Nor did the width of streets, the height of houses, the availability of gardens and squares, the direction of streets and winds, and the available sunlight seem to have any direct influence on mortality rates. Nor was the purity of water found to be a significant factor.

According to the just-cited criteria the arrondissement which should have had the lowest mortality rate, according to the traditionally accepted causes of mortality, in actuality had the next to the highest mortality rate. Based on all his research, Villermé could not find any explanation of the great differences in mortality rate from one arrondissement to another in the geographical location or in the climatic circumstances, or in what was generally regarded as a healthful situation.

In addition, hygienists generally believed that high population density was related to high mortality rates. Because in most cases mortality rates had been found to be higher in cities than in small towns and in the countryside, they had concluded that houses crowded together and narrow streets were causes of unhealthiness and that a dense population, which meant a corruption of breathing air, would

cause a high mortality rate. Based on the population density of the twelve arrondissements of Paris, the conclusions simply did not hold true when Villermé put them to the test. Villermé found that some of the most densely populated arrondissements had the lowest mortality rates and vice versa.¹¹

Villermé then examined the influence that cleanliness, good clothing, and good food and drink might have on mortality rates. As all these things were related to a certain degree of affluence, Villermé concluded that a comparison of the wealth of the people living in different areas would be a way to measure the influence of these factors on health and mortality rates. Finally, Villermé was able to establish a definite correlation. With one exception, as the proportion of poor in a given arrondissement increased, so did the mortality rates. Conversely, the wealthiest arrondissements also had the lowest mortality rates.

The final, somewhat revolutionary conclusion that Villermé reached by use of statistical analysis with regard to mortality rates in Paris was that the location and exposition of dwellings, the proximity or lack of it to the Seine, the prevailing winds, the agglomeration of houses, and the population density, in other words, all the circumstances which doctors had said exerted such a great influence on health--none of these things could explain the marked difference in

¹¹Population density is not the same as overcrowdedness. For this distinction and the findings of the Cholera Commission, see below, page 127.

mortality rates. Villermé concluded that they exerted no evident action on mortality, the effect of these causes being masked by the affluence or misery of the population.

Thus Villermé's findings reinforced the commonly held public health theory that the advance of public health was concomitant with the advance of civilization. A higher standard of living was an important aspect of the advance of civilization and also seemed to be a major factor in the causation of disease and mortality.

As a result of statistical studies carried out independently, other statisticians and hygienists, both French and foreign, arrived at conclusions similar to those of Villermé. In an 1830 article L. F. Benoiston de Chateauneuf,¹² the only Frenchman besides Villermé who did

¹²Benoiston de Chateauneuf was an important participant in the French public health movement. Many of his works appeared in the Annales, the organ of the movement. Along with Villermé he was a member of the Academy of Political and Moral Sciences, and chosen by the Academy to participate in the inquiry into the state of the working classes in France. Villermé was a member of Section IV, Economie Politique et Statistique. Benoiston de Chateauneuf was an "académicien libre," and therefore not attached to any particular section. Villermé's part of the inquiry was the famous Tableau. Benoiston de Chateauneuf investigated rural areas and Villermé did industrial areas. See Mém. de l'Acad. des Sci. Mor. et Pol., II (1839), li-lxiii. Villermé and Benoiston de Chateauneuf collaborated on other works as well, at the request of the Academy, Benoiston de Chateauneuf being interested in many of the same problems as was Villermé. See, for example, Benoiston de Chateauneuf and Villermé, "Rapport d'un voyage fait dans les cinq départements de la Bretagne, pendant les années 1840, 1841, d'après les ordres de l'Académie des Sciences morales et politiques," Mém. de l'Acad. des Sci. Mor. et Pol., IV (1844), 635-782. Villermé made use of the work of Benoiston de Chateauneuf, using him as a source and adding some of his tables as an appendix to the end of his article on mortality in Paris.

extensive work both in the area of statistics and public health, sought to answer one main question: was the mortality rate higher among the poor than among the rich?¹³ For the rich group Benoiston chose 1600 names from among the princes and peers of England and France as well as men in high military and administrative positions. He calculated the mortality rates for this group for a ten year period (1820-30) from the ages of 30-90 by ten year groupings. For the poor control group he chose the population of the twelfth arrondissement of Paris, which was inhabited by workers, ragpickers, day laborers and the like. He took several years of civil registers and compiled a group of 2000 people, 3/4 of whom had died in hospitals. The results of his comparison showed that the mortality rates for the poor were significantly higher than those for the rich; in some of the age brackets the rates were almost twice as high. Benoiston de Chateauneuf concluded that money conserved life, and that the life span was closely related to the wealth one possessed.¹⁴

Other statisticians whose works were published in the Annales, and who were therefore well known to the participants in the public

¹³"De la durée de la vie chez le riche et chez le pauvre," Annales, 3 (1830), 5-15. The article had originally been an essay sent to the Royal Academy of Sciences.

¹⁴In a report read to the Academy of Political and Moral Sciences on 25 July 1840, entitled "Sur la durée de la vie chez les savants et les gens de lettres," he related profession and longevity. This time he assumed that profession was the determining factor of longevity rather than wealth, an idea which was probably an oversimplification. In Mem. de l'Acad. des Sci. Mor. et Pol., III (1841), 627-653.

health movement, arrived at similar conclusions regarding the influence of affluence on longevity and mortality. J. L. Casper of Berlin, for example, tried to relate civil state to longevity in an attempt to find out if marriage had an influence on the length of life.¹⁵ From the documents he could find (he mentions that mortuary registers often did not list the civil state of the deceased) he discovered that married people lived longer than single people. Speculating as to why this might be the case, he suggested that perhaps married women were more affluent than single women and that they got better care from their husbands and children. Casper also suggested that perhaps the married lived longer, because they were wealthier, that is, perhaps only the relatively wealthy could afford to marry in the first place. Casper concluded that it might very well be the level of affluence that was influencing longevity rather than civil state.

Several Genevan statisticians reached conclusions which lent strength to the Villermé hypothesis.¹⁶ In 1847 Marc de'Espine set out

¹⁵"De l'influence du mariage sur la durée de la vie humaine," Annales, 14 (1835), 227-239.

¹⁶Geneva had been an important center for statistical studies since the eighteenth century. In the early nineteenth century there were at least four important statisticians in Geneva, all of whose works were regularly published in the Annales: H. C. Lombard, Marc d'Espine, Edouard Mallet, and Sir Francis d'Ivernois. Geneva was a good place for statistical studies for records had been accurately kept for a long time. Mortality records according to age had been kept since 1560, and probable life expectancies and average length of life had been figured out by various statisticians from the sixteenth century (Cramer: 1560-1770; Joly and Odier: 1771-1813; Mallet: 1814-1833). Marc de'Espine also felt that the city was convenient for statistical studies, as it was composed of what he called "a

to re-examine the influence of affluence and misery on mortality rates, as it applied to material he had on deaths in the canton of Geneva from 1838 to 1843. Having set up a control group of rich and poor from among the citizens who had died, he found the average age of death among the rich to be 53.2 years, while among the poor it was 40.8, with the average for the population as a whole for those years being 42.2. He concluded that misery shortened life by about two years, while affluence prolonged it by about eleven years.¹⁷

H. C. Lombard of Geneva in a study relating the influence of professions on mortality arrived at conclusions which also reinforced the Villermé hypothesis. In an attempt to determine exactly what the

complete and natural population." This material on Geneva comes from Marc d'Espine, "Notice statistique sur les lois de mortalité et de survivance aux divers âges de la vie humaine, sur la vie moyenne et la vie probable d'après les 10,203 décès qui ont eu lieu dans le canton de Genève pendant les 8 années de 1838 à 1845," Annales, 38 (1847), 289-322. Sir Francis d'Ivernois did not share this opinion, however. He believed that peculiar circumstances prevailed in Geneva which made it a bad place to use as an example. He said that statistical generalizations made using Geneva as a base were likely to be inaccurate. See "Exposé des principales erreurs qui prévalent sur le sujet des populations: graves et nombreuses aberrations des écrivains qui font autorité sur la matière," Bibliothèque universelle de Genève, 54 (1833), part I, 1-50, sept. 1833; part II, 139-178, oct. 1833. This article was the "Second letter to Dr. Villermé."

¹⁷"Influence de l'aisance et de la misère sur la mortalité. Recherches critiques et statistiques," Annales, 37 (1847), 323-57, and continued in 38 (1847), 5-32. Villermé reported on Espine's work at the Academy of Political and Moral Sciences, praising his work in the field of public health in Geneva and also his research on wealth as related to mortality. See Séances et trav. de l'Acad. des Sci. Mor. et Pol., 12 (1847), 242-248.

influence of profession on longevity rates might be, Lombard chose 8,488 men from the Geneva mortuary register for the years 1796-1830, the register supplying not only the age of the deceased, but also the profession. He divided all professions into three areas: liberal and comfortable professions, industrial professions, and day laborers. He then examined longevity rates prevailing within the groupings and was able to make certain generalizations about what he found. The affluence associated with the professions seemed to be the major determining factor, with the difference in longevity between the poor classes and the affluent classes of workers being $7\frac{1}{2}$ years or $\frac{1}{8}$ of the total life span. Lombard did find other important influences on longevity, and thus concluded that the influence of profession upon longevity was significant. But the most important determining factor seemed to be the level of affluence related to the profession. Lombard's conclusions were supportive of the Villermé hypothesis, a fact to which he referred.¹⁸

Research into population statistics led Sir Francis d'Ivernois¹⁹ of Geneva to accept wholeheartedly the Villermé hypothesis of the

¹⁸"De l'influence des professions sur la durée de la vie," Annales, 14 (1835), 88-131.

¹⁹Perhaps the most interesting of the Genevan statisticians, Ivernois had been in exile in England from 1792-1814 (Ackerknecht, "Villermé and Quetelet," 325). He and Villermé carried on an active correspondence during the 1830's, Ivernois' principal ideas being succinctly expressed in three letters written to Villermé in 1833 and 1834, all three of which were analyzed in the bibliographical section of the Annales. For reviews of the first two letters, see "Bibliographie," 12 (1834), 200-03; for a review of the third letter, see "Bibliographie," 13 (1835), 519.

correlation of affluence and longevity and low mortality. Ivernois modified the Villermé thesis a bit, by emphasizing that it was more non-misery that prolonged life, rather than affluence. Ivernois showed how the infant mortality rate was a sure guide to the misery or affluence of a civilization, maintaining that the most affluent countries had fewer babies and conserved them better, while poorer countries had higher birth rates accompanied by a high infant mortality rate. Ivernois agreed with Laplace, the famous astronomer, statistician and mathematician, in asserting that the prosperity of a nation could be judged by an analysis of its population.²⁰

Ivernois' optimism with regard to generally accepted and statistically proved beliefs about increasing longevity and probable life expectancies as well as declining mortality rates was guarded. Emphasizing the influence of affluence on these rates, he suggested that this favorable situation was probably limited primarily to the affluent population in the cities, rather than being a widespread phenomenon, as the figures had led hygienists and statisticians to believe. If the lower classes and rural inhabitants had improved mortality rates, he did not think this was attributable to a higher standard of living, as was usually ascertained, but rather to a decrease in famines and plagues.²¹

²⁰First letter to Villermé, Sur la mortalité proportionnelle des populations normandes.

²¹Third letter to Villermé, Sur la mortalité proportionnelle des peuples.

The Villermé hypothesis, which affirmed that poverty was the main cause of disease and differences in mortality, gained widespread acceptance among the French hygienists. The fact that the hypothesis had been statistically "proved" not only by Villermé, but also by other prominent European statisticians and hygienists as well contributed to its acceptance. The Villermé hypothesis reaffirmed the beliefs of many hygienists that the causes of disease were primarily social in origin, rather than biological or chemical. This led them to advance the so-called social theory of epidemiology. It was this theory that received official sanction in the report of the cholera commission following the Paris cholera epidemic of 1832.²²

As public hygienist and statistician, Villermé was the most important Frenchman in the international "statistics movement." It was he who corresponded with famous foreign statisticians such as Quetelet and Sir Francis d'Ivernois and who assured the publicity of their work in France.²³ He drew attention to the importance of

²²For more information on the social theory of epidemiology, the importance of the Villermé thesis, and the report of the cholera commission, see below, pages 122-27.

²³The correspondence of Villermé and Sir Francis d'Ivernois has already been mentioned. We know that Ivernois wrote three long letters to Dr. Villermé, because they were all published either in pamphlet form or as articles in journals. In addition they were reported on in the Annales. Yet unfortunately no letters from Villermé have been discovered, nor has any mention of them been made. It is possible that additional correspondence between Villermé and Ivernois took place, but as yet I have not found the correspondence or any reference to it. Quetelet, the prominent Belgian statistician, and Villermé carried on an active correspondence, dating from the 1820's when Quetelet visited Paris and made the acquaintance of Fourier,

statistics and the progress being made in the field in both the Royal Academy of Medicine and in the Academy of Political and Moral Sciences.

As one of the most influential editors of the Annales d'hygiène publique et de médecine légale, he did perhaps his most important service to the concept of statistics as a vital tool for public hygienists by assuring the continued publicity of statistics and the statistics movement. In the Annales were published significant articles by statisticians from all over Europe, as well as France. The works of Casper, Espine, Mallet, Lombard, Ivernois, Quetelet, and Benoiston de Chateauneuf all appeared in the Annales. For example, by 1835 when Quetelet's famous work, Sur l'homme et le développement de ses facultés ou essai de physique sociale was published, much of the material contained therein had already appeared as articles in the Annales.²⁴

Villermé, and other statisticians. Villermé was greatly interested in the statistical work of Quetelet and sought to publicize his work in France whenever possible. For example, in 1835 when Quetelet's famous work, Sur l'homme et le développement de ses facultés, ou essai de physique sociale, was published, much of the material had already appeared as articles in the Annales. Quetelet was elected a corresponding member of the Academy of Political and Moral Sciences, where Villermé was a member of the Statistical Section. Villermé also reported on the works of Quetelet in the Royal Academy of Medicine, stressing the importance of Quetelet's work and emphasizing the significance of statistical research in general. For the correspondence between Villermé and Quetelet, see Ackerknecht, "Villermé and Quetelet"; for articles by Quetelet which appeared in the Annales, see especially 3 (1830), 24-36; 7 (1832), 361-68; 9 (1833), 308-336; 10 (1833), 5-27; 12 (1834), 294-311; for a report in the Royal Academy of Medicine of Quetelet's work by Villermé, see "Bibliographie," Annales 8 (1832), 459-66.

²⁴See footnote 21 for a listing of these articles.

New books dealing with the subject were reviewed in the bibliographical section, and occasionally letters exchanged between Villermé and other statisticians were reprinted. By publicizing statistical work of a high quality being done elsewhere, as in Prussia, Belgium, Geneva, and Great Britain, Villermé and the other editors of the Annales hoped to improve the accuracy of French statistics and thereby to make them more useful to public hygienists and others. For example, censuses taken in other countries were reported on in the Annales, thereby giving Villermé a chance to comment on the insufficiency of French statistics. The Annales, under the editorship of Villermé and other prominent French hygienists and doctors, served as the forum for the exchange of statistical knowledge as it related to public health.

In addition, through the reports of Villermé and others at the Royal Academy of Medicine, the Royal Academy of Sciences, and the Academy of Political and Moral Sciences, French doctors and public hygienists became acquainted with statistical work being done elsewhere in Europe on the topic of population statistics and public health. For example, Villermé reported on censuses taken both in Sardinia and Prussia to the Academy of Political and Moral Sciences.²⁵ In his reports he

²⁵Séances et Trav. de l'Acad. des Sci. Mor. et Pol., séance du 16 mai 1846, 9 (1846), 470-72; Villermé read a report on Recensement des états prussiens en 1843 by M. W. Dieterici, director of the Bureau of Statistics in Berlin; "Recensement de la population sarde pour l'année 1838," Rapport verbal fait à l'Académie des Sciences Morales et Politiques, dans sa séance du 6 juin 1840, Annales, 24 (1840), 241-64. The title of the Sardinian work was Informazioni statistiche, etc. Censimento della popolazione (Turin, 1839).

stressed the superiority of Sardinian and Prussian official statistics to French official statistics, which were known to have substantial gaps with regard to inclusion of data.

When the Academy of Political and Moral Sciences was resuscitated in 1832 (it had been suppressed in 1803), the importance of statistics was recognized, one of the sections of the Academy being devoted to Political Economy and Statistics. Villermé belonged to this section. Other renowned statisticians were also connected with the academy: Benoiston de Chateauneuf was admitted as an "académicien libre"; Malthus was a foreign associate; and Quetelet was a corresponding member.

The Academy of Medicine, of which Villermé was a member, also considered statistical topics.²⁶ It was a statistical commission from the Academy of Medicine which in 1826 did much of the research on mortality rates in Paris, based on information in the Recherches statistiques de la ville de Paris, and arrived at the tentative conclusion, which Villermé would later elaborate on, that poverty, and not other conditions, was the primary cause of bad health and high mortality in certain areas of Paris. Both J. B. Fourier and Villermé were members of this commission.²⁷

²⁶After its reorganization in 1829, the Academy was divided into eleven classes; No. 8 was devoted to public hygiene, legal medicine and medical police; in section 8 there were six titular members and four adjuncts. See Mém. de l'Acad. Roy. de Méd., 2 (1833), 61-65.

²⁷Villermé, "Rapport lu à l'Académie Royale de Médecine au nom de la commission de statistique," Archives générales de médecine, X (1826), 216-47. See below for information on the Recherches statistiques and on J. B. Fourier.

While the Academy of Sciences was not, for the most part, directly involved with public health, from time to time public health topics, such as smallpox and vaccination claimed the attention of the members. The primary statistical spokesman of the Academy of Sciences was Alexandre Moreau de Jonnès, the head of the statistics office at the Ministry of Commerce.

Villermé rendered an important service to the French public health movement, not only by his own original research in the area of statistics, but also by publicizing in periodicals and in the learned academies the statistical work being done throughout Europe. The publicity given by Villermé to the work being done elsewhere in statistics contributed to the growth of awareness among French public hygienists of the importance of statistical analysis as a tool for the furtherance of public health research and public health measures.

Official Statistical Publications

By the 1830's many French public hygienists and statisticians recognized the importance of statistical analysis as a tool for dealing with questions of public health. In addition, by the 1830's it was apparent to the national government, the Parisian administration, and the medical profession that statistical analysis was a tool that could serve them well.²⁸

²⁸See Bull. de l'Acad. Roy. de Méd., 16 (1837), séances du 2 et 9 mai, 684-714, for an interesting discussion of the usefulness of statistics as a tool for doctors.

Indeed the gathering of statistical information by governments was by no means new in Europe. Monarchs had found that it was most advantageous to have an exact accounting of their population and their resources, the collection of such information dating from the seventeenth and eighteenth centuries in France.

As early as the reign of Louis XIV the French government had displayed an interest in keeping accurate statistical records of the French population. If, after all, population was a sign of wealth and power as it was believed, then it was important to have accurate figures concerning it. The first attempt at a systematic assessment of the French population dated from the late seventeenth century. In 1697 the Intendants were ordered by the central authority to prepare reports on their particular areas of jurisdiction, which were to include detailed historical, political, economic, and demographic descriptions. These reports, which were submitted from 1697 to 1700 served as the basis for most eighteenth century French population studies.²⁹

In 1796 the French national government began publishing an annual statistical report, the Annuaire of the Bureau of Longitude,

²⁹Paul E. Vincent, "French Demography in the Eighteenth Century," Population Studies, 1 (1947/48), 44-45, 51-53. During the eighteenth century numerous studies on the French population were published, the most famous and important being that of Montyon, Recherches et considérations sur la population de la France, published in 1778 under the name of Moheau. This work is often considered the first real population treatise in the French language. See Vincent, "French Demography," 55-59.

which contained, along with much other statistical information, birth and death statistics. The Annuaire continued to be published throughout our period, but, as will be pointed out shortly, left much to be desired as far as the statisticians were concerned.

Both before and during our period useful statistical records were kept in Paris in the form of civil registers. Specific regulations with regard to the compilation of statistical information on the city of Paris dated from 1670, when Colbert ordered that each month an extract of the civil registers should be compiled, giving births, deaths, marriages, and the number of patients admitted to hospitals. These figures were then to be compiled annually and published along with remarks on the various diseases observed during the year. The regulations went into effect in 1708.³⁰

In the period 1815-1848 two major official statistical collections were undertaken in France, the Statistique générale de la France and the Recherches statistiques de la ville de Paris. The Recherches statistiques de la ville de Paris, undertaken in the 1820's, was a project of the two prefects of the Seine during the period, Chabrol and Rambuteau. The first four volumes were published between 1821 and 1829 when Chabrol was prefect of the Seine, and volume 5 was published in 1844 under the prefecture of Rambuteau. While the collection consisted of statistical information on all aspects of Prisian life, it

³⁰"Statistique. Mouvement de la population de la ville de Paris. Rapport fait à M. le préfet de la Seine, sur le recensement de 1846," Annales, 39 (1848), 200.

was the population statistics that most interested the public hygienists.

In charge of researching, coordinating, and tabulating the statistical information in the collection was Villot, archivist and head of the statistical office at the prefecture of the Seine. J. B. Fourier, the celebrated statistician of the age, authored the introductory essays to volumes I-IV, discussing the theory of probability and the methodology involved in the gathering and interpretation of statistics.³¹

In 1835 were published the first two volumes of a multi-volume statistical collection, undertaken by the national government, the Statistique générale de la France. Volumes continued to be published throughout the period and by 1852 thirteen volumes had appeared. Although fourteen topics were to be dealt with, population was the topic of major interest to the public hygienists. Volume 3, published in 1837, contained population statistics for the nation.³²

Alexandre Moreau de Jonnès, head of the statistical office of the Ministry of Commerce, was named director of the program. Moreau

³¹Hankins, Adolphe Quetelet, 49-50; Villermé, "Des épidémies sous les rapports de l'hygiène publique, de la statistique médicale et de l'économie politique," Annales, 9 (1833), 13. See in volume I, for example, the article by Fourier, "Notions générales sur la population," Recherches statistiques, I (1821), IX-LXVIII.

³²The other topics covered in the collection were territory, agriculture, mines, industry, commerce, navigation, colonies, interior administration, finance, military force, marine, justice, and public instruction. The title of volume 3 was Territoire et population. It was actually the first volume of the project, as the first two volumes published in 1835 were sample volumes whose purpose was to explain the program being undertaken. These volumes, entitled Documents statistiques. Programme et spécimen were submitted to the king for his approval before the continuation of the project.

de Jonnès, who had entered the administration in 1817, after a career as a naval officer, had concerned himself with statistics through the years. When Thiers became Minister of Commerce in 1834, Moreau de Jonnès was put in charge of the statistical office.³³

There was no direct relationship between the official French statistical collections and the public health movement. The collections were not undertaken for public health reasons. Nor were the projects undertaken at the instigation of public hygienists. However, statisticians and hygienists involved with the public health movement did make use of the collections and in this way acted as critics of official French statistics.

Given that population statistics were an important aspect of all three collections, it is at first glance curious that prominent statistician-hygienists like L. F. Benoiston de Chateauneuf and L. R. Villermé, both good friends of the government, were not more actively involved in the collection and publication of French official statistics. A brief discussion of the three collections will readily explain why this was the case.

³³In 1816 Moreau de Jonnès was named a corresponding member of the Royal Academy of Sciences because of some interesting essays he had written on the geography, topography and natural history of Martinique. In the 1820's he achieved a certain notoriety in public health circles as a champion of the government's contagionist policy vis-à-vis yellow fever and was a member of the superior health council (for information on this see below, Chapter IV). This information on Moreau de Jonnès as a statistician in Pierre Larousse, Dictionnaire universel du XIX^e siècle (Paris, 1874), Vol. II, 556. In 1847 Moreau de Jonnès was named a membre libre of the Academy of Political and Moral Sciences.

The Annuaire of the Bureau of Longitude, begun in 1796, antedated the French public health movement. It was eighteenth century in outlook, not having benefited from the advances made in statistical analysis by the French in the early nineteenth century. For example, as Villermé later pointed out, the Annuaire presumed that the population was stationary, and used an outmoded mortality table, that of Duvillard, dating from the eighteenth century.³⁴

The Recherches statistiques de la ville de Paris antedated the statistical work of Villermé, who was at the time best known as a prison reformer, having been chosen in 1819 as a member of the Royal Society for the Improvement of Prisons, and having had his work on prison reform published in 1820.³⁵ When the collection was undertaken, one of the most prominent French statisticians, whose reputation was international, was J. B. Fourier. Another statistician, L. F. Benoiston de Chateauneuf, had also achieved prominence by this time as a result of his 1817 statistical work on Paris.³⁶ The collaboration of these

³⁴Duvillard was an eighteenth century statistician who set up a mortality table and mortality law still commonly used in France in the first half of the nineteenth century. His tables were often used as a means of comparison with the nineteenth century situation. See for example, Villermé, "Sur la durée moyenne des maladies aux différents âges," Annales, 2 (1829), 249-50.

³⁵Les prisons telles qu'elles sont et telles qu'elles devraient être.

³⁶Recherches sur toute consommation de la ville de Paris (2 vols., Paris, 1817).

two men is evidence that Prefect of the Seine Chabrol sought the best talent available in an attempt to produce a work of high quality. Fourier, appointed director of the Bureau of Statistics of the department of the Seine in 1815 by his personal friend Chabrol, oversaw the publication of the first four volumes of the Recherches statistiques, an article written by him appearing in each volume.³⁷ Benoiston de Chateauneuf also collaborated on the collection, although the extent of this collaboration cannot be determined at present.³⁸

By 1834 at the time of the inception of the Statistique générale de la France, Villermé's reputation as a public hygienist and statistician was secured. Also was that of Benoiston de Chateauneuf, whose statistical investigations after 1820 were along the same lines as those of Villermé. Benoiston had also done statistical

³⁷I. Grattan-Guinness, Joseph Fourier, 1768-1830 (Cambridge, Mass., 1972), 456-57, 486-93. Fourier was also permanent secretary of the Royal Academy of Sciences from 1822 to 1830. The articles by Fourier were "Notions générales sur la population," I (1821), lx-lxxviii; "Mémoire sur la population de la ville de Paris depuis la fin du XVII^e siècle," II (1823), xiii-xxviii; "Mémoire sur les résultats moyens déduits d'un grand nombre d'observations," III (1826), ix-xxxv; "Second mémoire sur les résultats moyens et les erreurs des mesures," IV (1829), ix-xlvi. As pointed out above, page 60, Villot, archivist and head of the statistical office at the prefecture of the Seine, was in charge of coordinating all the statistical material and organizing it into tables.

³⁸One table labelled as being compiled by Benoiston de Chateauneuf was the Table of Deaths Caused by Lung Disease, 1816-1819, which appeared in Volume I. Benoiston de Chateauneuf may have collaborated on other tables, but as most of them are not attributed to anybody, this is only speculation. It is probable that, as indicated, Villot did most of the compilation and tabulation.

research under the auspices of the Royal Academy of Sciences. Both were members of the Academy of Political and Moral Sciences. In addition, Villermé was an editor of the Annales d'hygiène publique et de médecine légale (1829--) and a member of the Paris health council (1832--). It was then possible, given their professional qualifications, that either of these men could have been chosen to direct the program of collecting and publishing French national statistics or at least to collaborate on certain aspects of the collection.

Instead Alexandre Moreau de Jonnès, statistician and economist, was chosen. Even though Villermé and Francis d'Ivernois did not consider Moreau de Jonnès to be a competent statistician, he had been working in the field since his entry into the national administration in 1817. By 1834, when he was appointed head of the statistics office at the Ministry of Commerce by Thiers, he had to his credit two books on statistics.³⁹ In any case the Statistique générale was not intended to concentrate on population statistics or health statistics, the areas in which Benoiston de Chateauneuf and Villermé had done most of their work. It was intended to be a general accounting of the nation's resources, a type of project being pursued in this era by many of the state and municipal governments in Europe. Furthermore, in 1834 Villermé, in collaboration with Benoiston de Chateauneuf, embarked on another government project, the investigation of the condition of French

³⁹Statistique de la Grande-Bretagne et de l'Irlande (2 vols., Paris, 1832); Statistique de l'Espagne (Paris, 1834).

textile workers, under the auspices of the Academy of Political and Moral Sciences.⁴⁰

Yet because public hygienists used statistical analysis as a tool to support their theories and to gauge public health progress, they made what use they could of the official statistical collections, in spite of the many shortcomings of these collections. They were therefore in a position, along with foreign hygienists and statisticians, to criticize the weaknesses of French official statistics. Functioning as critics, hygienists and statisticians pointed out the insufficiency of official French statistics and showed how, if properly compiled, such statistical collections might have been advantageous to the public health movement.

The Recherches statistiques de la ville de Paris was well received by hygienists and statisticians because of its professional nature and the scientific methodology employed in the gathering of data. Even though the discipline of statistics was in its infancy, the most scientific methods available at the time were used in the gathering and compiling of the material for the Recherches statistiques. Competent professionals were employed for the job. Villermé was favorably impressed with the collection, expressing his confidence in the work and attesting to the authenticity and exactitude of the

⁴⁰The result was the famous Tableau de l'état physique et moral des ouvriers employés dans les manufactures de coton, de laine, et de soie.

first two volumes.⁴¹ Both Villermé and Parent-Duchâtelet, the leading urban hygienist of the period, made extensive use of the collection in the preparation of some of their articles on public health. For example, it was in the Recherches statistiques that Villermé found the statistical information he used in his research on the relationship of affluence and misery to mortality rates.⁴²

Perhaps the main reason that the Recherches statistiques was well received was because it furnished complete population statistics, as opposed to the Annuaire and the Statistique générale, which did not. The Recherches statistiques supplied the age, sex, and civil state of the Parisian population. From this material it was possible to draw a population profile. In the mortality tables, not only the number of deceased, but also the age of the deceased was supplied. This meant that using the information in the Recherches statistiques statisticians and hygienists could compute average longevity rates as well as average probable life expectancies.

The Recherches statistiques did have its faults, however, which the hygienists were quick to point out. Villermé criticized some of the methodology, and Parent-Duchâtelet disputed some of the findings.⁴³

⁴¹"Rapport lu à l'Académie Royale de Médecine au nom de la commission de statistique," 216.

⁴²Ibid.; see above, page 44, note 10; "Mémoire sur la mortalité en France," passim; "De la mortalité dans les divers quartiers," 294-95.

⁴³Villermé, "Mémoire sur la distribution de la population française," Annales, 17 (1837), 266; Parent-Duchâtelet, "Les chantiers d'équarrissage de la ville de Paris," HP, II, 160-61.

But as Chabrol had made clear in his introduction to volume I, the goal of the administration in undertaking the Recherches statistiques was to acquire a general and sufficient knowledge of the elements of the population. The administration could not hope to obtain in the collection as rigorous a precision as would be required by scientific research.⁴⁴

Compared to the Annuaire and the Statistique générale the Recherches statistiques supplied more information of use to the public hygienists and statisticians interested in population statistics. The Recherches statistiques furnished a listing of the population by age, sex, and civil state, and in the mortality tables the age of the deceased was designated. On the other hand both the Annuaire and the Statistique générale were of limited value to hygienists and statisticians interested in population statistics, for they did not supply the age of the deceased and therefore their figures could not be used in estimating probable life expectancies and average longevity rates. Nor did the Statistique générale give a profile of the whole population by age. The Annuaire furnished the population figures according to age, but Villermé asserted that the information was not accurate, because it assumed that the population was stationary.⁴⁵

⁴⁴Chabrol, "Extrait d'un rapport fait à son excellence, le Ministre de l'Intérieur par M. le Comte de Chabrol, Conseiller d'Etat, Préfet du Département de la Seine, le 3 juillet 1818," Recherches statistiques, I (1821), LXXXIV.

⁴⁵"Mémoire sur la distribution de la population française, page 266.

Because of the inadequacies of the population statistics furnished by the Annuaire and the Statistique générale, both Villermé and Sir Francis d'Ivernois of Geneva maintained that French official statistics were some of the most backward in Europe. Not only did they not furnish adequate information on the population, but the methods used in gathering the information were unscientific. Using the example of Belgian official statistics, Villermé pointed out how backward and inadequate the French were by comparison.⁴⁶

F. Mélier of the Royal Academy of Medicine complained in a meeting of the Academy that the Statistique générale was both unprofessional and unscientific. Pointing out some serious omissions, he asked why the best people in the field of statistics as well as the Royal Academy of Medicine had not been consulted on so important an undertaking. Mélier contended that had the Royal Academy of Medicine or some professional statisticians been consulted, they could have enlightened the administration as to how to draw up statistical tables.⁴⁷

Had professional statisticians and the Royal Academy of Medicine been consulted, it is possible that the Statistique générale might have compared more favorably with the Recherches statistiques as well as with statistical collections undertaken elsewhere in Europe. While reasonably adequate population statistics existed for Europe, none were

⁴⁶Séances et trav. de l'Acad. des Sci. Mor. et Pol., séance du 11 janv. 1845, 7 (1845), 7-10.

⁴⁷"Quelques remarques sur les statistiques; propositions à ce sujet," Bull. de l'Acad. Roy. de Méd., 9 (1843/44), 700-705.

available for the nation as a whole. This gap could possibly have been filled had the methodology used in Paris been more closely followed. But practically speaking this was almost impossible, for in many areas of France no reliable birth and death records were available. In addition, the problems involved in taking a reasonably accurate census for the whole nation were many.

Villermé's solution for correcting the inferior status of French official statistics was legislative, and imitative of the British, as was later his solution to the child labor problem.⁴⁸ Villermé called for legislative intervention to bring about reform in the collecting and recording of statistical information. In both the United States and Great Britain laws had been passed to provide for the gathering and collecting of population statistics. Villermé was especially impressed with the 1837 Registration Act in Great Britain and urged the passage of a similar law in France. As far as accurate census taking was concerned, Villermé believed that were a law passed, prescribing the procedure by which the census was to be taken, as well as the exact day it was to be taken, then a certain standard of precision might be obtained.⁴⁹

In spite of the fact that French hygienists lacked a good set of official population statistics for the nation as a whole, this in

⁴⁸See below, page 99, for discussion of Villermé and the child labor law.

⁴⁹Séances et trav. de l'Acad. des Sci. Mor. et Pol., 7 (1845), 7-10, séance du 11 janv. 1845; Villermé, "Mémoire sur la distribution de la population française," 267-80.

no way prevented them from utilizing such figures as were available. These included statistical collections undertaken in some cities and departments, army recruitment figures, civil registers, and prison, hospital, and welfare records. This statistical information and the application of statistical analysis to these figures was of vital importance for the French public health movement. Such figures pointed out more accurately and clearly than words the various factors that seemed to influence mortality and morbidity. Without the clarity made possible by statistical comparisons, it is unlikely that the major public health problems of the day could have been as well delineated by the hygienists as they were. Statistical analysis as a tool was essential to the objectivity and scientific methodology that the most professional hygienists like Villermé and Parent-Duchâtelet strived for. The developments made by the French in the new discipline of statistics and the growth of a "statistics movement" in western Europe in the first half of the nineteenth century greatly contributed to the development and viability of the French public health movement.

Perhaps one of the public health questions most clearly pointed up by the presentation and comparison of statistics was that of the influence of industrialization upon the health of the working class. One important aspect of this question was the problem of child labor. Certainly the whole process of industrialization was one of the nineteenth century developments that most contributed to the emergence of a public

health movement in France. By use of statistical comparisons the public hygienists brought before the concerned public the deplorable state of the French working classes, and attempted to find the causes of this situation.

CHAPTER III

PUBLIC HEALTH AND INDUSTRIALIZATION

Between 1815 and 1848 in Paris and in some other areas of France, especially northern France, the process of industrialization began to occur, a modern factory system developing in some industries, primarily the textile industry. Yet throughout the period most French workers continued to be employed in the more traditional artisan-type industries, located in small workshops or in workers' cottages. Both handcraft and domestic industries as well as the new mechanized, factory-oriented industries presented problems for the public health.¹

Industrialization generated a new interest among public hygienists and social reformers in the health of the working classes.²

¹Areas that industrialized rapidly during the period, in addition to Paris, were Alsace, and the departments of the Nord, Loire, and Seine-Inférieure. The best work on industrialization in France is Arthur Dunham, The Industrial Revolution in France, 1815-1848 (N. Y., 1955). See also J. H. Clapham, The Economic Development of France and Germany, 1815-1914 (4th ed., Cambridge, Eng., 1968). The two best contemporary sources, which deal mainly with the textile industry, are L. R. Villermé, Tableau de l'état physique et moral des ouvriers employés dans les manufactures de coton, de laine, et de soie (2 vols., Paris, 1840), and Dr. Thouvenin, "De l'influence que l'industrie exerce sur la santé des populations dans les grands centres manufacturiers," Annales, 36 (1846), 16-46, 277-296, and 37 (1847), 83-111. For more information on the extent of industrialization and working class population, see Appendix 1.

²In this dissertation the terms working class and working classes refer to workers of several types: handcraft workers (artisans), those employed in the domestic (putting out) system, and factory workers, some of whom were industrial workers and some of whom were handcraft

Industrialization gave a new momentum to the public health movement, involving hygienists not only in questions of occupational or industrial hygiene, but also in that broad area of investigation, the so-called "condition of the working classes." While it was industrialization with its accompanying social and economic effects that attracted the attention of hygienists, hygienists were interested not only in the health of factory workers, but also in the health of those workers employed in the more traditional handcraft and domestic industries.

Industrialization seemed to pose a definite threat to the health of factory workers. Statistics gathered in manufacturing towns of England and France showed that mortality was much higher than in agricultural areas and that army rejections were greater among the working

workers. According to Jürgen Kuczynski, the French working class in the nineteenth century commonly included proletarians (factory, industrial workers), the laboring classes (a term usually used to denote pre-industrial workers) and the poor, who were often employed as day laborers.

The authors of working class inquiries used the terms ouvriers (Villermé and Blanqui), des classes laborieuses (Buret), des classes dangereuses (Frégier); Thouvenin referred to "la population dans les grands centres manufacturiers." Louis Chevalier has recently analyzed des classes laborieuses et dangereuses (Classes laborieuses et dangereuses à Paris pendant la première moitié du XIX^e siècle, Paris, 1958).

E. Hobsbawm defined the French working class in the same way as has Kuczynski. He explained (The Age of Revolution, 145 ff., and quoted from Kuczynski, 188) "The second result [of the 1830 revolution] was that, with the progress of capitalism, 'the people' and 'the laboring poor,' i.e., the men who built barricades--could be increasingly identified with the new industrial proletariat as 'the working class.'"

See Jürgen Kuczynski, The Rise of the Working Class (New York, 1967), 188-196. The whole work could be profitably read.

classes than among the comfortable classes.³ Hygienists and reformers alike sought to investigate the condition of the working class to determine just how industry affected the health of workers.

There were two principal ways in which industry could exert an influence upon workers' health: industrial and occupational processes along with working conditions in factories and workshops might compromise health; or, the general conditions in which the workers lived might directly or indirectly affect their health. Therefore, hygienists sought to examine the occupational hazards of various industries, the extent of the hazards, and what solutions should be taken to eliminate them. They also investigated the condition of the working classes to determine to what extent general living conditions might affect workers' health.

The role of hygienists with regard to industrialization, the condition of the working classes, and industrial (occupational) hygiene was not simply investigative and descriptive in nature. Hygienists advocated various social, economic, and legislative measures to improve the health of workers. While the activity of hygienists and reformers in investigating the condition of the working classes and the effects of industrial processes upon the health and safety of workers was noteworthy and undoubtedly led to an increased awareness of the health

³L. R. Villermé, "Sur la population de la Grande-Bretagne considérée principalement et comparativement dans les districts agricoles, dans les districts manufacturiers et dans les grandes villes," Annales, 12 (1834), 247-71; Villermé, Tableau, I, 280-317.

problems related to industry, unfortunately no effective legislation was passed by the national government to improve the health of the workers. In terms of effective reforms and measures taken, this aspect of the public health movement must be termed a practical failure. This failure can be explained primarily in terms of the political and economic beliefs of the majority of the French government at this time.

Industrial Hygiene: Adverse Effects of Industrial
Processes and Working Conditions on Health

In trying to determine the effects of industry on health, hygienists posed several questions: Were certain industrial processes injurious to health? Was there a relationship between occupations and mortality rates?⁴ Did industrialization present dangers to the community health in terms of pollution, noise, fire, etc.? Hygienists such as A. J. B. Parent-Duchâtelet, L. R. Villermé, and A. Chevallier considered these questions in an attempt to discover to what extent industry could be considered a cause of disease and mortality both of workers and others coming under its influence. The interest of hygienists in this area of public health is evidenced by the numerous articles dealing with aspects of industrial hygiene which appeared through the years in the Annales d'hygiène publique et de médecine légale. Furthermore, the Paris health council devoted much of its

⁴See above, chapter on statistics and public health, for discussion of this.

attention to industrial hygiene, the authorization of industrial establishments being one of its primary duties.⁵

Some dangerous and unhealthy industries which received much publicity by hygienists were the white lead industry, the explosives industry, and the phosphorus match industry. These industries were found to be injurious not only to the health of the workers involved, but also to the public health in general. Hygienists also considered the mechanization of industry as a health and safety hazard. While mechanization often eliminated dangerous and unhealthy processes, sometimes it created in turn the new safety hazard of industrial accidents.⁶

One industry which was universally recognized as dangerous and unhealthy and which received more treatment by hygienists than any other was the white lead industry. Other lead-related occupations, such as painting, were also dealt with, for the relationship between working with lead and the consequent development of lead poisoning and lead colic was well recognized. A. Chevallier and Jean D'Arcet, acting under the auspices of the Paris health council, conducted an extensive investigation into the health dangers associated with the white lead industry. L. Tanquerel des Planches, in a monumental work, examined

⁵See below, chapter on Paris health council for discussion of this duty.

⁶See, for example, Pigeotte, Lhoste, and Gréau, "Rapport fait au conseil de salubrité de Troyes, sur les accidens auxquels sont exposés les ouvriers employés dans les filatures de laine et de coton," Annales, 12 (1834), 5-30.

lead-related industries and the lead diseases that afflicted workers in these industries.⁷

As a result of their investigations, these hygienists found that generally no hygienic precautions were taken in factories and workshops where lead was worked; consequently, lead colic sooner or later afflicted almost all the workers. Chevallier noted that in factories where precautions were taken, it was often difficult to get the workers to cooperate. Many workers simply would not practice certain basic rules of personal hygiene, such as washing their hands before eating. Hygienists thought that the solution to the lead disease problem was mainly hygienic, recommending personal cleanliness to avoid ingestion of lead particles and adequate ventilation to avoid absorption of dust particles. Both factory owners and workers would have to take responsibility for effecting these solutions.⁸

⁷Maladies de plomb (2 vols., Paris, 1838). The work was abridged and translated into English by Samuel L. Dana, published as Lead Diseases in Lowell, Mass. in 1848.

⁸A. Chevallier, "Recherches sur les causes de la maladie dite colique de plomb, chez les ouvriers que préparent la céruse," Annales, 15 (1836), 5-67. See also by Chevallier, "Notes statistiques sur les ouvriers atteints de la colique de plomb traités dans les hôpitaux de Paris en 1840," Annales, 26 (1841), 451-53, in which Chevallier pointed out that the incidence of lead colic was on the increase. For an article on a lead-related industry, see Alphonse Dalmenesche, "Observations sur les causes de la colique de plomb chez les tisserands à la Jacquart; moyens d'y remédier," Annales, 27 (1842), 205-211. An interesting article giving a history of the white lead factory of Clichy, one of the factories in the Paris vicinity, is Bréchet, fils, "Mémoire sur les accidents résultant de la fabrication de la céruse." Annales, 12 (1834), 72-80. Bréchet's father owned the factory.

Another industry which hygienists found to be definitely unhealthy to the workers and dangerous to the public safety, due to the flammable nature of its product, was the chemical (phosphorus) match industry, whose development got underway in France after 1830, thanks to mechanization.⁹ The dipping of the matches in phosphorus revolutionized the industry, but also created health and safety hazards for the 4,000 workers employed in the industry in Paris. Théodore Roussel in his definitive work on the industry noted that workers were commonly afflicted with coughs and sore throats, and that sometimes they developed a very serious disease, maxillary necrosis (necrosis of the jawbone), caused by the phosphorus emanations.¹⁰

Furthermore, many accidents had been associated with the industry. Fires and explosions had occurred in the transport, sale, and use of the matches as well as within the factories themselves. Roussel stated that this was due to the fact that the industry had remained outside the regulations of the sanitary administration, never having been classified. Because of this, no directions had been given by the

⁹Whereas before 1830 the production of matches had been a slow process and had employed about 100 workers in Paris, by 1846 there were 4,000 workers in the industry in Paris, and one worker could produce 1,200,000-1,800,000 matches a day.

¹⁰Recherches sur les maladies des ouvriers employés à la fabrication des allumettes chimiques, sur les accidents qui résultent du transport et de l'usage de ces allumettes et sur les mesures hygiéniques et administratives nécessaires pour assainir cette industrie (Paris, 1846), 22-60.

authority as to the internal plan of the factories.¹¹ Industrial legislation had not kept pace with developments in old industries and the creation of new industries like the phosphorus match industry. Roussel noted that in spite of the 1810 law on dangerous trades (the basis of the thenpresent-day public health regulations concerning industry), many industries born and incorporated in France since 1810 had been able to develop and survive outside the existing regulations. In spite of more efficient and complete regulations after 1830, some industries still remained outside effective control.¹²

The solution to the health problems of the chemical match industry was two-fold: administrative measures to regulate the industry for the health and safety both of the workers and the public, and hygienic measures to be applied in factories by the owners and the workers. In all dangerous and unhealthy industries Roussel advocated uniform regulations to protect the health of industrial workers.¹³

¹¹The only administrative measure taken with regard to the regulation of the match industry was the passage of an 1838 ordinance which subjected the transport of chemical matches to the same regulations as explosives; however, the ordinance, like so many ordinances and laws, was poorly enforced, so the accidents continued. See Roussel, Recherches, 1-17.

¹²Roussel, Recherches, 66-69.

¹³Ibid., 72 ff. Explosives presented many of the same dangers as did the chemical match industry with regard to the public health and safety as well as that of workers; see, for example, J. P. Barruel and H. Gaultier de Claubry, "Rapport fait au conseil de salubrité sur la préparation des poudres fulminantes," Annales, 19 (1838), 241-72.

Other industries, especially those that produced chemical products, presented possible dangers and definite inconveniences to the public health, the main problem being that of inadequate means of disposing of industrial wastes and the resulting pollution of air and water. Solutions were hard to come by until new and better processes were invented, and often the best solution available at the time was to isolate such industries from populated areas, so that at least the pollution would not be a health hazard.¹⁴

Hygienists offered three principal solutions to the various problems posed to the public health by dangerous and unhealthy industries: (1) administrative measures--government intervention to regulate industry;¹⁵ (2) hygienic measures taken both by employers and employees;¹⁶ (3) the invention and application of new processes either by mechanization

¹⁴Damage to the environment was not an issue dealt with by the public hygienists of the nineteenth century. On dangers and inconveniences of chemical industries, see, for example, Braconnet and Simonin, "Note sur des émanations des fabriques de produits chimiques," Annales, 40 (1848), 128-36; A. J. B. Parent-Duchâtelet, "Des inconvénients que peuvent avoir, dans quelques circonstances, les huiles pyrogénées et le goudron provenant de la distillation de la houille," HP, II, 426-39.

¹⁵See, for example, Pigeotte, Ihoste, and Gréau, "accidens auxquels sont exposés les ouvriers," 26-30; Ed. Duchesne, Essai sur le colique de plomb (Paris, 1827, M. D. Thesis), 29-30; Roussel, Recherches, 70-76.

¹⁶Tanquerel des Planches, Lead Diseases, 330-363; A. Chevallier, "Recherches sur la colique de plomb," 26-55; Dalmenesche, "Observations sur la colique de plomb," 205-211; Brechot, "Fabrication de la céruse," 79-80; Alph. Guérard, "Note sur la ventilation des filatures," Annales, 30 (1843), 115-16.

of industry, new scientific discoveries, or otherwise.¹⁷ All three solutions were valid and to some extent tried during the period. Government intervention and regulation dated from the 1810 law, which according to hygienists, was more regularly enforced at the end of our period than before. In addition, royal and local police ordinances regulated some of the dangerous and unhealthy aspects of industry. Enforcement varied according to time and place, but at least in Paris, was not so good as it might have been.¹⁸

Preventive hygienic measures were also taken in some factories, many hygienists attesting to progress in this area. The fact remained, however, that in many cases, factories, but especially small workshops, were poorly ventilated and dirty, and the private hygiene of the workers left much to be desired.

¹⁷See, for example, Jean D'Arcet, H. Gaultier de Claubry, and A. J. B. Parent-Duchâtelet, "Mémoire sur un moyen mécanique nouvellement proposé pour respirer impunément les gaz délétères et pénétrer avec facilité dans les lieux qui en sont remplis," HP, I, 69-97.

¹⁸With regard to government regulation of industry Chevallier raised, but did not answer, a question of vital importance: If it were determined that a given profession was harmful to the public health, did the administration have the right to prohibit it in the interest of all? The broader question raised by Chevallier's question was how far did the role of the state as guardian of the public health extend? No one ever really answered Chevallier's question, but one can assume that given the liberal outlook of many of the public hygienists, when public health and the rights of factory owners came into conflict, the choice, a difficult one, would probably be decided in favor of free enterprise. See A. Chevallier, "Essai sur les maladies qui atteignent les ouvriers qui préparent le vert arsénical et les ouvriers en papiers peints qui emploient dans la préparation de ces papiers le vert schweinfurt; moyens de les prévenir," Annales, 38 (1847), 56-57, note 1.

The improvement of industrial processes did solve some of the problems associated with dangerous and unhealthy industries. Mechanization, for example, rendered less unhealthy some of the processes involved in the textile industry. But in turn, new discoveries and processes created new problems, such as those associated with machinery accidents and the disposal of chemical wastes.

Industrial hygiene was an important area of investigation for the public hygienists; yet those industries definitely recognized as unhealthy were comparatively few in number and employed only a very small proportion of all French workers. These unhealthy industries could not account for the bad health and high mortality prevalent among the majority of the French workers. In an attempt to find out the real causes of the bad health of the working class, public hygienists turned to an investigation of the "condition of the working classes."

Public Health and the Condition of the Working Classes

While hygienists did find a few important industries that presented definite occupational health hazards, the prevailing current of opinion among those most active in the public health movement was that it was not occupations per se that caused the bad health of workers, but their bad living conditions due to their poverty. There was in this period a steady debunking influence at work which lent strength to this point of view.

The traditional view of occupational diseases set forth in the early eighteenth century by Ramazzini and translated into French by Fourcroy in 1777, which held that most occupations were hazardous to the health of workers, was the subject of repeated attacks by French public hygienists in the first half of the nineteenth century.¹⁹ Leading public hygienists such as Parent-Duchâtelet, Benoiston de Chateaufort, and Chevallier set out to debunk many of the myths commonly expressed by hygienists and others about the dangers of various industries to the health of workers.²⁰ None of them denied that there were industrial processes injurious to health, but they maintained that in many cases processes which had for years been assumed dangerous and unhealthy had never been tested and proved; that in many cases, probably most cases, the bad health of workers was due to causes other than the processes involved in their particular occupations.²¹ Often the

¹⁹De Morbis Artificum Diatriba (Padua, 1713). According to Ramazzini and his followers most occupations were hazardous to the health of workers in one of three ways: (1) by dusts and vapors breathed in by workers, of mineral, vegetable, and animal origin; (2) humidity; (3) excess, or lack of, exercise.

²⁰Ph. Patissier, Traité des maladies des artisans et de celles qui résultent des diverses professions d'après Ramazzini (Paris, 1822). See A. L. Gosse, Propositions générales sur les maladies causées par l'exercice des professions (Paris, 1816), p. 9, in which he states that most authors who have published works on occupational diseases since Ramazzini have copied him. See also Parent-Duchâtelet, "Mémoire sur les débardeurs de la ville de Paris," HP, II, 614-21.

²¹For some of the important debunkers and their works, see Appendix 2.

situation was such that mechanization had simply cleaned up a dangerous process, or that new preventive hygienic measures had been applied, or new industrial processes invented. In any case the hygienists who wrote for the Annales and who were most active in the public health movement were generally of the opinion that in most cases, the real cause of workers' diseases was generally not found in their occupations.

The central idea of the debunkers was that for the most part the health of workers was not directly related to their occupations, but rather to the amount of affluence in which they lived as a result of their salaries. The debunkers suggested that first of all, causes other than occupation-related causes had to be examined, and secondly, that probably the highest correlation with the health of workers was that of salary. The implication was (but was not necessarily stated by all these writers) that while the reform of industrial processes and the application of hygienic measures were beneficial, that if the health of workers was to be improved, then it was in the final analysis, poverty and the resulting bad living conditions that had to be dealt with: those things that brought along with them the real causes of workers' diseases and bad health--bad and insufficient food, poor clothing, inadequate shelter, and fatigue.

This attitude led many of the hygienists who were interested in the influence of industries and industrialization on public health, namely the health of workers, to investigate the so-called "condition of the working classes" rather than to concentrate on industrial hygiene, which they viewed as a relatively less important public health problem.

While public hygienists like L. R. Villermé and F. E. Fodéré were interested in the condition of the working classes primarily as a public health question, other reformers and humanitarians were also interested in the working classes for social and economic as well as health reasons. France industrialized late in comparison with Great Britain, and by the time industrialization got under way in certain areas of France, around 1820-30, many people were already acquainted with some of the social consequences of industrialization. Especially in the 1830's there was much interest shown on the continent in what had taken place in England. Two Frenchmen, L. R. Villermé and Eugène Buret, investigated working class conditions in Great Britain in hopes of shedding some light on what was happening in France, as well as in hopes of being able to avoid some of the more disastrous consequences.

Just as one of the theoretical questions with regard to public health in general that was much in debate during the period was: Does civilization improve health?, so among certain hygienists and reformers the question at hand was: Is industrialization good or bad? Does the worker's health stand to improve from industrialization, or will it get worse as a result of industrialization?

Generally speaking, liberals tended to take the optimistic viewpoint that industrialization was beneficial, that in the long run it would serve to improve the standard of living and health of all, including the workers. They did not favor interfering with economic laws in any way that they judged might be harmful to business expansion and industrial growth. Government interference to help the employer was,

of course, acceptable. Some public hygienists attempted to take the liberal stance, but were usually forced to concede that some intervention was justified if the health of the worker was truly menaced.

Conservatives and socialists were generally critical of the growing industrial society, and of unregulated capitalism. For different reasons they both favored government intervention and regulation of industry to eliminate the worst aspects of the industrial system. Taking this viewpoint were, for example, the interventionists of the 1820's and 1830's, who took the pessimistic view of industrialization.

This gloomy side of industrialization²² was strikingly portrayed by such writers as F. E. Fodéré, Alban de Villeneuve-Bargemont, J. C. L. Simonde de Sismondi, Eugène Buret, Pierre Bigot de Morogues, and others.²³ They saw industrialization as bad and portrayed

²²For a historiographical treatment of this aspect of the industrial revolution--pessimistic vs. optimistic interpretations, see George Rudé, Debate on Europe, 1815-1850 (N. Y., 1972), 60-62, which deals with the standard of living controversy.

²³F. E. Fodéré, Essai historique et moral sur la pauvreté des nations, la population, la mendicité, les hôpitaux (Paris, 1825). Fodéré was a public hygienist, professor of legal medicine and epidemics at the Strasbourg faculty, and author of a four volume work on epidemics and public health, Leçons sur les épidémies et l'hygiène publique (1822-24). In a way Fodéré's book on the poverty of nations was intended as a rebuttal to Adam Smith's Wealth of Nations (see p. 23). See especially on the evils of unregulated capitalism and industry, 55-61, 243-289. For Fodéré industrialization and civilization brought poverty and created beggars. Mechanization was bad because machines took jobs away from workers. See 280-87. For Fodéré's opposition to laissez-faire, see 308. For his comments on workers being treated like machines and how this was a germ of social discord, see p. 323; Alban de Villeneuve-Bargemont, Economie politique

the factory worker as being worse off materially and spiritually than he had been before industrialization. They urged a return to home industry so that workers could remain close to the soil. They advocated government intervention to alleviate the terrible conditions in which industrial workers were living and working.

Alban de Villeneuve-Bargemont described the capitalist entrepreneurs as a new feudal class more vicious than the old, and spoke of the capitalist-industrial system as the exploitation of one group of people by another. F. E. Fodéré used similar terms, portraying capitalist entrepreneurs as a new aristocracy, more vicious than that of birth.²⁴

chrétienne (3 vols., Paris, 1834). Villeneuve-Bargemont was prefect of the Nord, 1828-30. His thesis was that the capitalization and industrialization of agriculture was the best way to achieve the well-being of the lower classes, I, (15). He pointed out that the manufacturing system only increased the wealth of the few at the expense of the many, I (15). As prefect of the Nord he found that in the manufacturing city of Lille, 1/6 of the population was living on public charity. This made him realize that the distress of the English worker was common to the French workers as well, I (17-18). He discussed the new feudalism that had arisen as a result of industrialization, I, 386-98; J. C. L. Simonde de Sismondi, Nouveaux principes d'économie politique, ou De la richesse dans ses rapports avec la population (2nd ed., 2 vols., Paris, 1827). The first edition was published in 1819. Eugène Buret, De la misère des classes laborieuses en Angleterre et en France (2 vols.; Paris, 1840). Pierre Bigot de Morogues, Recherches des causes de la richesse et de la misère des peuples civilisés (Paris, n.d.). See report on this work by Villermé, "Rapport verbal fait à l'Académie des Sciences Morales et Politiques de l'Institut de France," published in an undated pamphlet (available at the BN). The report was an extract from the Revue mensuelle d'économie politique, 2^e vol., 1834. Bigot's attitude was similar to that of Sismondi and the other interventionists.

²⁴Fodéré, Essai sur la pauvreté, 280; Villeneuve-Bargemont, Economie politique chrétienne, I, 386-98.

The father of economic interventionism was J. C. L. Simonde de Sismondi, whose influential book, Nouveaux principes d'économie politique, was first published in 1819. Essentially Sismondi's work was a cry of alarm against the economic laissez-faire philosophy.²⁵ Other writers who wrote of the dangers of unregulated capitalism and the havoc being wrought on the manufacturing classes, such as Buret, Villeneuve-Bargemont, Bigot de Morogues, and others were all influenced by Sismondi.²⁶

By the mid-1830's the pessimistic view of industrialization had been well publicized by interventionists such as Sismondi, as well as by socialists and social reformers. In response to this viewpoint a major inquiry was undertaken by the Academy of Political and Moral Sciences to see exactly what the condition of the working classes was.²⁷ Villermé's famous Tableau de l'état physique et moral des ouvriers was done at the request of the Academy in 1835 and 1836 and

²⁵See G. Sotiroff, "Préface à la Troisième Edition," Nouveaux principes d'économie politique (Geneva, 1951), I, 67.

²⁶Daniel Villey, La vie, l'oeuvre et la doctrine de Charles-Brook Dupont-White (économiste et publiciste français, 1807-1878) (Ph. D. Thesis, Caen, 1936), I, 127, 252; see also Villermé, "Rapport verbal," on Bigot de Morogues's book.

²⁷The Academy of Political and Moral Sciences was part of the Institute, founded in 1795. This particular section was suppressed under Napoleon in 1803 and re-established under the sponsorship of Guizot in 1832. According to Hilde Rigaudias-Weiss it became a conservative institution which defended the state against the attempts of the workers to vindicate the economic and social position in which they found themselves. See Les enquêtes ouvrières en France entre 1830 et 1848 (Paris, 1936), 25-26.

published in two volumes in 1840.²⁸

Other inquiries dealt with the same question. Buret's De la misère des classes laborieuses was undertaken in response to a contest sponsored by the Academy of Political and Moral Sciences and was published in 1840. H. Frégier, an employee at the Prefecture of the Seine, undertook an examination of the condition of the working and dangerous classes in Paris, his work, published in 1840, receiving favorable recognition from the Academy of Political and Moral Sciences.²⁹ In 1840 and 1841 the working class newspaper l'Atelier published various inquiries into the condition of the working classes.³⁰ In 1846 an independent inquiry on working class conditions by Dr. Thouvenin of Lille was published as a lengthy three part article in the Annales d'hygiène publique

²⁸For a review of the work, see U. Trélat, "Bibliographie," Annales, 24 (1840), 454-78. Parts of the report were first published as articles in the Annales in 1839 and in the Mém. de l'Acad. des Sci. Mor. et Pol. in 1839. See Annales, 21 (1839), 339-420; 22 (1839), 98-109, and Mém. de l'Acad. des Sci. Mor. et Pol., II (1839), 329-594.

²⁹H. A. Frégier, Des classes dangereuses de la population dans les grandes villes et des moyens de les rendre meilleures (2 vols., Paris, 1840). See Mém. de l'Acad. des Sci. Mor. et Pol., II (1839), 125-152 in which a report on the work is given by M. Dunoyer.

³⁰See, for example, one of these inquiries, "Réforme industrielle. Enquête. De la condition misérable des hommes, femmes, et enfans dans les manufactures; des causes de cette misère et des moyens d'y remédier," l'Atelier, Janv. 1841, 35-37. See also, for the inquiry of Atelier, Hilde Rigaudias-Weiss, Les enquêtes ouvrières, 158-59. See Armand Cuvillier, Un Journal d'ouvriers: l'Atelier (1840-50) (Paris, 1914), 131-32. Other working class newspapers conducted inquiries also: l'Artisan in 1830 and Le Populaire in 1841. See Robert Goetz-Girey, Croissance et progrès à l'origine des sociétés industrielles (Paris, 1966), 278.

et de médecine légale.³¹ Finally in 1848 the Academy of Political and Moral Sciences sponsored another inquiry into working class conditions.³² In terms of health questions the Tableau of Villermé stands as the most important.

Villermé and the Tableau

Even before Villermé undertook his investigation of the condition of the textile workers in France in the name of the Academy of Political and Moral Sciences, he had been interested in trying to determine the influence of industrialization on the health and longevity of workers. An article on the influence of industrialization on the population of Great Britain had appeared in the Annales in 1834.³³ Upon

³¹Dr. Thouvenin, "De l'influence que l'industrie exerce sur la santé des population dans les grands centres manufacturiers."

³²Adolphe-Jérôme Blanqui, "Rapport sur la situation des classes ouvrières en 1848," Séances et trav. de l'Acad. des Sci. Mor. et Pol., 13 (1848), 317-36; the full work is Des classes ouvrières en France pendant l'année 1848 (Paris, 1849). Secondary sources on the work of Fodéré, Sismondi, Villeneuve-Bargemont and Morogues as well as on the various inquiries into the condition of the working classes include: Hilde Rigaudias-Weiss, Les enquêtes ouvrières; Maurice Deslandres et Alfred Michelin, Il y a cent ans: Etat physique et moral des ouvriers au temps du libéralisme--Témoignage de Villermé (Paris, n.d.); Louis Chevalier, Classes laborieuses et classes dangereuses à Paris pendant la première moitié du XIX^e siècle, especially pages 149-62; Robert Goetz-Girey, Croissance et progrès, especially pages 243-309.

³³"Sur la population de la Grande-Bretagne," Annales, 12 (1834), 217-71. The more advanced state of British industrialization motivated Villermé, Buret, and Engels to study the problems associated with industrialization in Great Britain.

an examination of Great Britain's population statistics, Villermé found mortality rates to be much higher in manufacturing than in agricultural areas. For example, while the average length of life for the whole country was 33 years, in Lancaster, the most highly industrialized county, it was only 25; yet in the agricultural county of York it was 40.³⁴ Villermé found that the least chance of life was in manufacturing districts and large cities, and the greatest chance in less populated areas and agricultural areas.³⁵

Villermé did not, however, blame industrialization for the high death rates. Rather he postulated that the probable cause of the excessive mortality in the manufacturing districts was the low salaries of the workers. He attributed this situation to competition, which required that the British undersell their competitors in order to retain their markets.³⁶

That same year (1834) Villermé, in collaboration with another hygienist and statistician, L. F. Benoiston de Chateauneuf, began his study on the working conditions in the French cotton, wool, and silk industries. Motivated by the pessimistic view presented by Fodéré, Bigot de Morogues, Villeneuve-Bargement and other conservative and socialist writers, Villermé and the Academy of Political and Moral Sciences may also have been influenced by a similar work, although more

³⁴Ibid., 242.

³⁵Ibid., 243.

³⁶Ibid., 251, 270.

limited in scope, done by Dr. James Phillips Kay-Shuttleworth on the condition of the textile workers in Manchester.³⁷

While the Tableau was not primarily a public health treatise, Villermé did devote considerable attention to the health problems associated with industrialization. He sought to determine whether industrialization was beneficial or detrimental to the health of French textile workers by examining working class conditions and searching for the causes of the various health problems that afflicted workers.

³⁷Rigaudias-Weiss, Les enquêtes ouvrières, IX; Goetz-Girey, Croissance et progrès, 277; The Moral and Physical Condition of the Working Classes Employed in the Cotton Manufacture in Manchester (Manchester, 1832). Rigaudias-Weiss mentions Kay-Shuttleworth's work as being similar to that of Villermé (30) but does not suggest any influence. We do know that Villermé was au courant of all the inquiries done in England on the condition of the working classes, and frequently made reference not only to these studies, but to the statistical publications of the British government as well. There was considerable cross-fertilization of ideas among the English and French hygienists with inquiries and important articles done in Britain often being printed in the Annales for example. Chadwick used Villermé and Parent-Duchâtelet as major sources, quoting from them frequently. For the influence of the French hygienists on Chadwick and his familiarity with French hygienic works, see Chadwick, Report on the Sanitary Condition of the Laboring Population of Great Britain, and Flinn "Introduction" to the Chadwick report, p. 52. Chadwick called Parent-Duchâtelet "the most industrious and able of modern investigators into questions of public health" (149). Chadwick was familiar with and used information from the major hygienic works of both Parent and Villermé. Other French hygienists whose work Chadwick was familiar with and who were mentioned in the report were d'Arceet and Patissier. Chadwick was also familiar with the work of the Paris health council (319, 397) and the Royal Acad. of Med. He was familiar with the statistical work of Quetelet, Mallet, d'Espine, and Ivernois.

Even though Villermé had found that the manufacturing classes of Great Britain had a much higher mortality rate than the rural population, a situation which suggested that something about industrialization was positively detrimental to health, in the Tableau he contended that, except for certain groups of workers, like the common weavers, industrialization was bringing about an improvement in the standard of living of workers. For this reason Villermé believed that in the long-run industrialization was beneficial to the health of workers, for better health was concomitant with a higher standard of living.³⁸

Villermé did not attempt to cover up the fact that many textile workers were existing in unhealthy, unsanitary conditions. In fact, his description of workers' quarters in Lille, Rouen, and Lyon are noteworthy for their portrayal of horrible living conditions. Describing the living conditions of the cotton workers in Lille, one of the most industrial cities in France, Villermé noted that the Lille workers were probably the worst off of all the French workers, with high incidences of scrofula and tuberculosis prevalent among them. The Rouen cotton workers were only slightly better off.³⁹

In Amiens, a center of the wool industry and a city with a working class population of 40,000, Villermé had earlier conducted a study

³⁸This contradiction is noticeable in the works themselves, but is also pointed out in Deslandres and Michelin, Il y a cent ans, 155. See discussion of question of optimism and pessimism vis-à-vis industrialization in Goetz-Girey, Croissance et progrès, 8-40.

³⁹Tableau, I, 75-103, 135-160.

of fitness for military service in the working class and the comfortable class (aisée). He found that in the quarters primarily inhabited by the working class proportionally fewer men were fit for military service than in the other quarters, the main exemptions being for lack of suitable height, deformities, and weak constitutions. A further examination based upon occupations that put one in the comfortable or poor classes showed that generally those who belonged to the comfortable class were much more likely to be fit for military service than those belonging to the poor class. For every 100 men fit for military service from the comfortable class there were 93 who were unfit; but among the poor class for every 100 who were fit there were 243 who were not fit.

Villermé concluded that men were larger, stronger, more robust, and better built in the comfortable classes than in the poor classes, a conclusion which upheld his earlier hypothesis on the relationship of affluence, good health and low mortality rates and poverty, bad health, and high mortality rates.⁴⁰

Of all the workers that Villermé investigated it was the handloom cotton weavers (tisserands à bras) who were the worst off. Villermé vividly portrayed their bad health and bad working conditions, concluding that the main causes of their unfortunate situation were their bad working conditions, their long working hours, and their inadequate food intake.⁴¹

⁴⁰Ibid., II, 280-317. Figures are from p. 33.

⁴¹Ibid., I, 445; II, 238-41. It should be remembered that the handloom weavers had not yet experienced industrialization, even though they often worked in large factories, these factories were not yet mechanized.

Villermé noted that many common workers in the cotton industry neglected personal hygiene, not taking much interest in personal cleanliness. But he explained that the poorest workers had neither the taste for cleanliness, nor the time it required, nor the means by which to keep themselves clean.⁴² In Ste. Marie-aux-Mines Villermé saw many workers, primarily weavers, who were weak and in bad health. He commented that there needed to be no fear of their doing anything radical, for they had too little energy.⁴³

Yet in spite of the bad conditions in which many textile workers were living and working, and in spite of their bad health, in many instances Villermé saw signs of improved conditions, and examples of how industrialization of the textile industry seemed to be more beneficial than detrimental to health.

Even the condition of the Lyon silk workers, who were about as bad off as the Lille cotton workers, had improved. Villermé described the miserable conditions in which the silk workers lived and worked, their poor health, and their filthiness. Nevertheless, he attacked writers like Villeneuve-Bargemont, who had portrayed one group of workers, the silk weavers (Villermé estimated 35,000 silk weavers in the Lyon area) as universally bad off. He pointed out that even though their living conditions were still bad, that in the last 12 years their physical, moral, and intellectual position had improved progressively,

⁴²Ibid., I, 30-31.

⁴³Ibid., I, 70-72.

and that in 1836 they compared favorably with workers in other large manufacturing areas. He found the silk weavers to be noticeably better off than the cotton weavers in Lille and in the Haut-Rhin.⁴⁴

Villermé believed the mechanization of industry to be beneficial to health, for it had eliminated many dangerous processes and made work easier. If machines deprived workers of their jobs, this was but a temporary situation, occurring only when the machines were first adopted.⁴⁵ In addition, Villermé contended that the poor classes had a better standard of living than ever before. Citing remarks by Vauban, Moheau, and Arthur Young from the seventeenth and eighteenth centuries to show the level of poverty at that time, he concluded that noticeable ameliorations had occurred since the Revolution. Even though many of the poor were convinced they were worse off than ever before, in reality, according to Villermé, they were better off.⁴⁶ Villermé noted that there had been improvements in the clothing, dwellings, and food of the working and poor classes. Only the common weavers did not seem to have benefited from this improvement.⁴⁷

According to Villermé, the supposed poverty and worsening conditions of the working class, expounded upon by the Christian conservatives and socialists, was more apparent than real. Villermé explained

⁴⁴Ibid., I, 341-400.

⁴⁵Ibid., II, 295-299.

⁴⁶Ibid., II, 1-5.

⁴⁷Ibid., II, 6-7, 25.

it as a sort of revolution of rising expectations--what used to be considered luxury had become necessity; he asserted that as the conditions of the workers had improved, so also had their tastes changed and their wants and needs increased, so that it seemed perhaps to the casual observer that there had been no real improvement. Yet Villermé conceded that some workers had not shared in this general improvement, notably the common handloom weavers whose situation had either worsened, or at least not improved.⁴⁸

If, as Villermé asserted, industrialization was actually favorable to the material conditions of workers and ultimately beneficial to health, what then were the real causes of the bad health of many of the French workers? Was it their bad working conditions, or their bad living conditions?

Villermé found that conditions in large factories were generally better than those in small shops or in the dwellings of the working class. Many processes suspected of being unhealthy, upon close examination were found not to be so. Many of the supposedly healthy situations in workshops did not exist. The real causes of the bad health of workers were too much work, too long working hours, lack of adequate sleep, lack of personal hygiene, insufficient and bad food, bad habits like drunkenness and debauchery, and salaries too low to satisfy basic needs. The real cause of the bad health of workers was the poverty and the resulting bad living conditions--not industrialization or factory

⁴⁸Ibid., II, 342-51.

conditions primarily.⁴⁹ This was not to say that there were not some dangerous and unhealthy industrial processes, for Villermé admitted that there were, but that for the majority of workers this was not the essential cause of bad health.⁵⁰

Villermé concluded by saying that in the final analysis it was usually not the work involved in various professions that was harmful to health, but the profound misery of the poorest workers. Citing statistics from Mulhouse, Villermé showed that mortality rates were closely related to occupation, based on the amount of ease guaranteed by the occupation. Workers who were paid high wages were healthier and had a lower mortality rate than workers who were paid low wages. The high mortality rates of poor workers were especially noticeable with regard to infant mortality. For example, in Mulhouse, while half of the children born to manufacturers, bankers, and factory owners reached the age of 29, half of the children of common weavers and spinners died before the age of 2.⁵¹

Occupations acted on the health and mortality of workers in an indirect rather than a direct manner. What influenced the health of workers was their food, clothing, dwellings, fatigue, the length of their workday, customs, etc. In most jobs, if the pay were higher, Villermé maintained, if the working hours were shorter, and if the

⁴⁹Ibid., II, 203-09.

⁵⁰Ibid., II, 209-22.

⁵¹Ibid., II, 247-57.

workers were not exposed to the deleterious influence of dust inhalation, professions would in general have little influence on health.⁵²

According to Villermé, the solutions to the health problems of workers were better salaries, better factory conditions, and shorter working hours. Villermé was especially concerned about the long working hours in most factories. The ordinary working day for cotton and wool workers was 15-15-1/2 hours, which, considering breaks, came to 13 hours of effective work. Children often worked the same long hours as adults; it was child labor and the evils associated with it, especially with regard to the health of children and future soldiers, that became Villermé's cause célèbre. With regard to the long working hours of children Villermé said it was not work, but torture. He noted that such conditions ruined children's health.⁵³

Villermé thought that the most effective means of improving the situation would be a national law to regulate child labor. As the main advantage of such a law would be the better health of children, a child labor law would also be a public health law.⁵⁴ Villermé recognized certain inconveniences of such a law, but maintained that in preserving the health of working class children, the benefits would outweigh the inconveniences. He noted that such laws had already been passed in Great Britain, Austria, and Prussia, and that many French manufacturers

⁵²Ibid., II, 257-61.

⁵³Ibid., II, 83-91.

⁵⁴Ibid., II, 91-107.

wanted such a law.⁵⁵ Villermé's liberalism did not allow him, however, to advocate a general law to limit the working hours of adults, for this would be an infringement on the economic freedom of industrialists and a violation of the liberal theme of "free contract."⁵⁶

Villermé also blamed the workers themselves for their miserable condition, suggesting that at least part of their poverty was attributable to drunkenness and debauchery. He proposed good conduct as a further means of achieving a higher standard of living. Furthermore he stated that the workers should be informed that their condition was better than ever before, in spite of the fact that many people denied this.⁵⁷

In addition to advocating the passage of a humanitarian law, and encouraging the efforts of the workers themselves, Villermé called on entrepreneurs to treat their workers as people and not as machines. He hoped that some sense of community and personalization could be restored in the relations between master and worker. Villermé asserted that the aid of the industrial chiefs was a necessity if the moral and physical conditions of the workers was to be improved.⁵⁸

In the final analysis Villermé's optimism with regard to the benefits of industrialization to the health of the workers was guarded.

⁵⁵Ibid., II, 355-67.

⁵⁶Ibid., II, 108.

⁵⁷Ibid., II, 342-48.

⁵⁸Ibid., II, 368-73. For further work by Villermé on the dangers to the health of working children, see "Rapport touchant l'Enquête faite en Angleterre, sur le travail et la condition des enfants et adolescents employés dans les mines," Séances et trav. de l'Acad. des Sci. Mor. et Pol., 3 (1843), 45-58.

While on the one hand industrialization had raised the standard of living of many textile workers and mechanization had rendered many processes less onerous and unhealthy, on the other hand industrialization and mechanization had had the social effect of depersonalizing industry, of destroying the sense of community that had existed between masters and workers. For Villermé, this was an unfortunate development, for this impersonalization and the fact that workers were treated like an extension of machines rather than people, meant that workers were deprived of good examples and of the moral direction that they used to receive.⁵⁹

In addition, industrialization brought new problems for workers, such as industrial crises and the dissolution of family life. Villermé concluded that of all the workers he investigated the best off were workers who were engaged in both industry and agriculture, who still participated in the putting-out system, and who had not yet converted to the factory system, for they were not so much at the mercy of industrial crises, and still had a family life.⁶⁰ Thus Villermé in a way preferred the old system, as did men like Villeneuve-Bargemont and Sismondi, whom he had set out to disprove.

Finally, Villermé considered the question of whether the improvement of the condition of the working class would continue as industrialization became more widespread. He could not answer affirmatively, considering how harmful industrial centers seemed to be to workers and

⁵⁹Tableau, II, 313-320.

⁶⁰Ibid., I, 443-46.

the fact that it was becoming increasingly difficult for workers to have the social mobility to become masters because of the large outlay of capital required to set up a factory. Industry was also systematically destroying those workers who were at the time the best off--the domestic workers. Villermé concluded that industrialization had so far been beneficial and progressive, but he was unwilling to state that it would continue to be so in the future.⁶¹

The Inquiries of Dr. Thouvenin, Frégier, Buret, "l'Atelier,"
and Blanqui

From the point of view of public health considerations the inquiry that ranks along with that of Villermé in importance is that of Dr. Thouvenin, published in three parts in the Annales in 1846. Thouvenin, who was a doctor in Lille, one of the most industrial cities of France, and a factory inspector for the enforcement of the 1841 child labor law, entitled his work, De l'influence que l'industrie exerce sur la santé des populations dans les grands centres manufacturiers.⁶²

In the first part of his inquiry, after having discussed some of the major industries and the influences exerted by these industries on health, Thouvenin concluded by saying that since he had found little directly dangerous to the health of workers stemming from their

⁶¹Ibid., II, 354.

⁶²Annales, 36 (1846), 16-46; 277-96; 37 (1847), 83-111.

industrial professions, and given that the physical waning of the working class was a statistically established fact, what then were the real causes of the degradation of the working class? It was to the answer to this important question that he turned in parts 2 and 3 of the inquiry.⁶³

Thouvenin's answer was reminiscent of that of Villermé. He stated first of all that country workers had better living conditions than city workers, and hence better health. It was not the work in the factories that directly harmed the worker, but rather it was the living conditions, the food, the clothing, the fatigue, the morals that were the direct causes of the physical wasting away of the working class.⁶⁴ Contrary to what Villermé had maintained with regard to the general improvement in the physical conditions of the working classes since the Revolution, Thouvenin asserted that in the case of the Lille workers, whom he called the most degraded in France (Villermé agreed), that there had been no appreciable improvement in their condition in the last 10 or 20 years.⁶⁵

In part 3 Thouvenin continued his investigation into the causes of the bad health of workers, setting out to examine faults and vices which contributed even more than industrialization to the deterioration of the health of the working class. Thouvenin concluded that

⁶³"l'influence de l'industrie," 16-46.

⁶⁴Ibid., 277.

⁶⁵Ibid., 277-96.

industry did not directly exert a bad influence on the health of the workers; the main cause of their bad health came from their dirty, unsanitary dwellings, from diseases inherited from their parents, from working too long hours, from insufficient and poor quality food, and from bad morals and drunkenness, the scourge of the working class.⁶⁶

To improve the lot of the working class, which could not extricate itself from its bad situation because of misery, ignorance, and vice, Thouvenin called for an industrial paternalism on the part of the factory owners, claiming that the factory owners must take their share of the responsibility, for some of them considered workers not like people, but machines.⁶⁷

Frégier's work was not strictly speaking a working class inquiry at all.⁶⁸ It was rather an attempt to analyze the poor and dangerous classes of the city of Paris, dangerous not only from a criminal and insurrectionary aspect, but also from the point of view of disease. With regard to the public health the main problem created by the poor, dangerous classes was that the filthy dwellings in which they lived were foyers of infection. Ever since the 1832 cholera epidemic the popular viewpoint of hygienists had been that unclean conditions spread disease. In a sense, though, Frégier's work did constitute an inquiry into the poorest element of the Parisian working classes,

⁶⁶Ibid., 110-111.

⁶⁷Ibid., 91-92.

⁶⁸Des classes dangereuses de la population dans les grandes villes.

which was not generally synonymous with the industrial classes, who were better off materially.

Frégier, who was head of an office at the Paris Prefecture of Police, prepared the work in response to a contest sponsored by the Academy of Political and Moral Sciences.⁶⁹ The fact that such a contest was opened by the Academy of Political and Moral Sciences offers further proof of their interest in finding out exactly what the conditions of the French working class were.

Frégier concluded that to ameliorate the condition of the dangerous classes the government must intervene to regulate child labor and to do something about the unhealthy dwellings in which the dangerous classes lived.⁷⁰ Given such conclusions it is not surprising that the Academy had certain reservations about crowning Frégier's work. Dunoyer in his report to the Academy criticized some ideas in Frégier's work as inexact and too potentially dangerous for the Academy to sanction. For example, in comparing the difference in pay between workers and capitalists, Frégier had implied that the great difference in remuneration was unjust. Furthermore he had advocated workers' coalitions and unions as a means of the workers' improving their salaries. Because of these radical ideas the section of the Academy which examined the

⁶⁹Ibid., I, V. "Research according to positive observations what are the elements of which is composed, in Paris or in any other large city, that part of the population which forms a dangerous class because of its vices, its ignorance and its misery; indicate the means that the administration, rich and affluent men, intellectual and hard-working workers might use to improve this dangerous and depraved class."

⁷⁰Ibid., II, 23-25, 125-51.

work hesitated to award the prize to Frégier. Rather they decided simply to give him a compensation prize of 2000 fr. and to ask him to modify certain passages which they found unacceptable.⁷¹

Another contest sponsored by the Academy of Political and Moral Sciences resulted in a major inquiry into the condition of the working classes in England and France by Eugène Buret.⁷² Buret, a disciple of Sismondi, saw the source of the misery of the working class in the organization of work and a sort of industrial feudalism.⁷³ He blamed the prevalent misery among the working classes on the unregulated capitalist and industrial system. Buret, who was critical of the capitalist system as it was developing, especially in England, did not favor abolishing capitalism, but regulating it by state intervention.⁷⁴

⁷¹Mem. de l'Acad. des Sci. Mor. et Pol., II (1839), 125-152.

⁷²See Séances et trav. de l'Acad. des Sci. Mor. et Pol. Comptes-rendus publiés dans le Moniteur universel par. Ch. Vergé et Loiseau, 1840-41, 1-7; see Villermé's oral report on Buret's work, p. 289 ff.; see report by Adolphe Blanqui, ibid., 299-303. The money for the prize given to the winner of the contest came from M. le Baron Félix de Beaujour, who set up a prize of 5,000 fr. to be given every five years for the best essay on questions whose solution would indicate the means of preventing or of aiding misery in various countries, but especially in France. In 1837 the Academy proposed the following topic: "Determine what misery consists of and by what signs it manifests itself in various countries. Research the causes that produce it." Five essays were submitted, but none was judged worthy of the prize. The contest was reopened in 1840, and at that time 22 essays were submitted. Villermé was reporter of the committee to decide on the prizes. Three essays were judged worthy of the prize, but the one by Buret received 2,500 fr. as the best essay on misery. The rest of the money was split between the authors of the second and third best essays.

⁷³Rigaudias-Weiss, Les enquêtes ouvrières, X.

⁷⁴Ibid., 31, 241.

Buret was not so optimistic as Villermé about the general improvement in the condition of the working class. While believing in the progress of civilization generally, he suggested that the urban laboring classes had not shared in the progress. The physical effects of misery on the working classes could be statistically proved by recruitment figures, which showed the degree to which misery had caused a deterioration in the health of the working classes.⁷⁵

Buret, while not expressly concerned with the health of workers, treated their poor health as an aspect of their misery, which had social and economic causes in the capitalistic and industrial system.⁷⁶ Like Sismondi and some of the other conservatives and socialists, Buret showed keen insight into problems of displacement and lack of hierarchy in the new industrial structure. He maintained that the industrial order was not only a source of working class misery, but also that it destroyed the bonds which had existed between worker and master. Buret advocated the abandonment of a policy of laissez-faire and the intervention of the government into the industrial establishment. He hoped that such intervention might restore a feeling of community at all levels of society--the formation of a social hierarchy which would offer every member a sense of order and security.⁷⁷

⁷⁵Buret, De la misère, I, 357-59.

⁷⁶See, for example, his treatment of health and sanitary matters in ibid., I, 340-65.

⁷⁷Buret, De la misère, II, 30-34, 92 ff., 340.

Two other working class inquiries of note appeared: the inquiries of the artisan-run newspaper Atelier, which appeared in 1840 and 1841, at the same time that the works of Villermé, Frégier, and Buret were being published, and the inquiry of Adolphe Blanqui, done in 1848 at the request of the Academy of Political and Moral Sciences.

The inquiry of Atelier consisted of short reports published in the issues of the newspaper. They dealt with specific working class professions, workers' budgets and salaries, the length of the working day, the administration of factories and workshops, and the inconveniences to health associated with various occupations. The main points made in the articles were that industrialization was the cause of the misery of the working class, that child labor was leading to the wasting away of the working class as a whole, and that the physical degradation of the working class, as illustrated by army recruitment figures, was a menacing symptom of national decadence. The solution was effective legislation to regulate industry and capitalism and improve the lot of the workers. Only government intervention and effective regulation could curb the worst abuses of the developing industrial system.⁷⁸

Adolphe Blanqui's inquiry of 1841 under the auspices of the Academy of Political and Moral Sciences was, like that of Villermé, done in response to accusations of socialists and other reformers that

⁷⁸L'Atelier, 1840, 1841, passim; Armand Cuvillier, Un Journal d'ouvriers, 131-32. For an example of one of these inquiries, see "Enquête, De la condition misérable des hommes, femmes et enfans dans les manufactures; des causes de cette misère et des moyens d'y remédier," 35-37.

the misery of the working class was getting worse and was due to the industrial system. The aim of Blanqui in travelling throughout France and reporting on the working class was to give a true picture of the condition of the working classes in order to rectify the supposedly false ideas which were in great vogue.

Blanqui found, as had Villermé and Buret, that working class conditions varied greatly from place to place; that in Lille and Rouen there was incredible misery and that the state of health of the workers there was awful. Generally the workers of the industrial cities of the north, where the factory system was more widespread, were worse off than workers in the south, where in many cases the domestic system was still the main form of production.

Blanqui concluded his investigation by explaining that the improvement of some elements of the working class existed coterminously with the increasing misery of other elements owing to several things:

- (1) the influence of population agglomeration; (2) unemployment;
- (3) variation in salaries; and (4) abusive employment of children.⁷⁹

The question of the condition of the working classes was a public health question because at stake was the health of an important segment of French society. If the causes of this poor health were generally agreed by hygienists and reformers to be social and economic

⁷⁹Blanqui, "Rapport sur la situation des classes ouvrières en 1848," Séances et trav. de l'Acad. des Sci. Mor. et Pol., 13 (1848), 317-336. The complete work published in 1849 was entitled Des classes ouvrières en France pendant l'année 1848.

in nature, as pointed out in the various inquiries discussed above, what then were the solutions to the health problems related to industrialization?

The solutions of Villermé, Thouvenin, Buret, Frégier, and l'Atelier were three-fold. Of primary importance was some sort of government intervention to regulate capitalism and industry in order to end such abuses as child labor and to bring about reform by legislation to improve the lot of the worker. Villermé, Thouvenin, Buret, Frégier, and l'Atelier all favored some government intervention, although the amount of intervention they favored varied significantly, with Villermé and Thouvenin recommending intervention only in specific areas such as child labor, and Buret, Frégier, and l'Atelier recommending more extensive intervention and regulation. Blanqui's inquiry did not offer solutions, being primarily an analysis and critique.

Other solutions were offered as well by Villermé, Thouvenin, and Buret. They called on enlightened factory owners to take it upon themselves to improve the condition of the workers, and cited the Société Industrielle de Mulhouse as an example of such action. Thirdly, especially according to Villermé, the worker also had some responsibility in improving his own living conditions and health by temperance, clean living, hard work, and planning for the future.

If, as Thouvenin and Villermé asserted (and the others agreed), poverty was at the root of the bad state of the working class generally and their bad health specifically, how was this poverty either to be diminished or eliminated? The general answer was social and economic

reform, accompanied by enlightened self-interest on the part of the factory owners. But how far was state intervention to go? Not very far, according to Villermé, who thought that ultimately industrialization would serve to improve the lot of the worker, and that if industrialization seemed harmful, it was only a temporary thing. For Villermé, the worst abuses such as child labor, should, however, be regulated. Buret advocated general state intervention to regulate industry and restore a sense of community, which had been destroyed with the abolition of the guilds and corporations and not replaced by anything but unregulated capitalism.

Was there in fact any state intervention to regulate the industrial system as a result of the recommendations of these inquiries and others? The answer must be a guarded yes. The inquiries, especially that of Villermé, gave rise to the passage by the chambers of the 1841 child labor law, the only piece of major social legislation passed between 1815 and 1848. But as the law was unenforceable, it was therefore ineffective.

Other than the child labor law, there was no other major factory legislation passed in France before 1848. If so many people were aware of the bad conditions of the working class, and if inquiries were done regularly at the instigation of the Academy of Political and Moral Sciences, why was the government so unresponsive to suggestions of social and economic reform? The answer is that first of all the government of Louis Philippe was generally inflexible and unresponsive to

requests for reform of any type, not just social and economic reform.⁸⁰ And secondly, French liberalism, Orleanism, was a more intransigent creed than its counterpart, British liberalism. While the British liberals, as well as conservatives, showed themselves capable of major political reform and factory legislation and reform in the period under discussion, the French government remained immovable.

Considering the prevailing opinion of the French liberals in the pre-1848 period, it is indeed surprising that even an ineffective child labor law was passed.⁸¹ In the same way that many English feared tampering with the constitution in order to pass the Catholic Emancipation Act and the Reform Bill of 1832, so many French legislators and members of the Academy of Political and Moral Sciences saw the passage of any factory legislation as an ominous portent, a dangerous precedent for the future. Therefore, given the nature of Orleanism, it is to the credit of Villermé, the Industrial Society of Mulhouse, and other doctors and reformers that a breakthrough was made, a precedent set, by the passage of the 1841 law.

⁸⁰See on this point, Jean Lhomme, La grande bourgeoisie au pouvoir (1830-1880) (Paris, 1960), 85.

⁸¹See for example an interesting discussion on the child labor law and government intervention that took place in the Academy of Political and Moral Sciences. See "Discussion entre MM. Blanqui, Passy, Dunoyer, de Beaumont, Franck et Mignet sur ce qu'il faut entendre par l'organisation du Travail et sur les effets de la loi qui règle le travail des enfants dans les manufactures," Seances et trav. de l'Acad. des Sci. Mor. et Pol., 8 (1845), 189-202.

Conclusion

In conclusion the public hygienists of nineteenth century France found when they examined the influences of both industrialization and industrial processes on the health of workers that generally speaking these influences were indirect. While some industries were definitely unhealthy, and while industrialization seemed to exert an unfavorable influence on health and mortality, the root of the problem seemed to be the bad economic situation of workers. The problem of the workers was in most cases that they were not paid enough to have a standard of living adequate for the preservation and maintenance of health. In addition they often had to work such long hours that they did not get sufficient rest. This was especially true in the case of children. If then these were the problems, how could they be dealt with?--by some type of economic and social reform to ensure better wages and more humane working conditions. But the hygienists failed to achieve any real results in the area of legislation. As we have seen, even the child labor law, the only major piece of social legislation passed during the period, was ineffective, for it was unenforceable.

The practical failure of this aspect of the public health movement was due to the prevailing opinions of the legislators concerning the role of the government in regulating the economy, society, and the public health. The prevailing belief of legislators was that of classical liberalism. Could the idea of laissez-faire be reconciled with the intervention which was required to solve the problems of industrialization? Apparently not. In Great Britain a compromise was effected,

and from the 1830's on, British liberals began to acknowledge the necessity of intervention, at least where questions of health were concerned. French liberalism did not go through this transition before 1848.

Thus while the publication and work of the public hygienists did increase awareness of public health problems associated with industrialization and industrial processes, the only practical achievement that the hygienists could point to in terms of national legislation was the child labor law. Yet given the nature of French liberalism, the passage of the law itself was an accomplishment. There were, of course, local ordinances and regulations passed in places like Paris. With regard to industrialization, as with the other aspects of public health dealt with by the hygienists, ultimately, for the most part it was a local affair. The involvement of the national government remained, with few exceptions, limited throughout the period to certain traditional, well-defined areas.

CHAPTER IV

PUBLIC HEALTH AND THE NATIONAL GOVERNMENT

From 1815 to 1848 the French national government took a definite interest in public health in a few carefully defined areas: the propagation of vaccination throughout the kingdom; contagious diseases likely to be imported into France; prison reform; and the public health problem of child labor. During the period national public health laws were passed and some national public health institutions were set up, the most renowned of which was the Royal Academy of Medicine, established by royal ordinance in 1820.

The purpose of this chapter is to discuss the interest and involvement of the national government in public health matters during the period under discussion and to determine how successful the national laws, policies, and institutions related to the public health were.

The Sanitary Policy of the National Government

One traditional area of public health concern was that of contagious (communicable) and epidemic diseases. For centuries various measures had been taken by governments against diseases like plague and leprosy. The last great plague epidemic to hit Europe was the Marseilles epidemic of 1720, and in order to combat it a sanitary institution, the Marseilles Intendancy of Health, was revived. The traditional means of combatting epidemic and contagious diseases had been used: quarantines, lazarettos, cordons sanitaires, and sequestration.

Since the eighteenth century a sanitary system had been in effect in the Mediterranean ports of Toulon and Marseilles primarily to protect France from the importation of plague. By means of legislation the Restoration government sought to make the sanitary apparatus in use in the Mediterranean ports a nationwide program, directed not only against plague, but also against yellow fever and Asiatic cholera, both of which threatened Europe in the first half of the nineteenth century.

It was the yellow fever epidemics in Spain in 1819 (Cadiz) and 1821 (Barcelona) that gave rise to the national sanitary legislation of 1822 and the sanitary apparatus set up to enforce that legislation.¹ Commissions sent by the French government to Cadiz in 1819 and Barcelona in 1821 returned contagionist reports, and in 1820 the Commission centrale sanitaire was set up to prepare a body of sanitary laws for the nation.² Measures were put into effect as early as 1821 against

¹As both Sussman and Ackerknecht have given the details of the Restoration sanitary policy and the anticontagionist-contagionist controversy over yellow fever, the story will be presented in its broadest outlines here. See George David Sussman, From Yellow Fever to Cholera: A Study of French Government Policy, Medical Professionalism, and Popular Movements in the Epidemic Crises of the Restoration and July Monarchy (Yale dissertation unpublished, 1971), 1-213; Erwin Ackerknecht, "Anticontagionism between 1821 and 1867," BHM, 22 (1948), 570-74.

²Members of the commission sent to Cadiz were Pariset and Mazet, both M. D.'s; to Barcelona were sent by the Minister of the Interior Pariset, Mazet, Bailly, Francois, and Rochoux; the Minister of War sent Audouard. This material in Ackerknecht, 571-72, and Sussman, 17, 131-33. For members of the central sanitary commission, see Appendix 3.

the importation of yellow fever from Spain, a cordon sanitaire being established along the Spanish border. However, the actual sanitary law was not passed until March 3, 1822, the draft of the law having been under discussion in the chambers since the autumn of 1821.³

According to the 1822 law relative to the sanitary police, the national government would impose sanitary measures and set up sanitary establishments to prevent the importation of certain epidemic and communicable diseases such as plague, cholera, and yellow fever. The law provided for a national sanitary apparatus to enforce appropriate measures such as quarantine, disinfection of goods, and cordons sanitaires, to be implemented by existing institutions--health intendancies, health commissions, and the prefects and mayors. The breaking of the law carried a maximum penalty of death.⁴

Further ordinances elaborated on the sanitary laws and set up the sanitary apparatus and the sanitary police. On September 3, 1822, an ordinance created under the authority of the Ministry of the Interior (the office de facto in charge of public health under the

³See Le Moniteur universel, 30 sept. 1821, 1373-74--royal ordinance giving preventive measures against the importation of yellow fever from Spain, and 25 déc. 1821, 1729-30, Ch. Dép. séance du 24 déc. On p. 1730 is a complete draft of the law.

⁴For the complete text of the law, see L. J. M. Robert, Guide sanitaire des gouvernemens européens (2 vols., Paris, 1826), II, 845-885; for royal ordinance of Mar. 20, 1822, further elaborating on the law. See also Recueil des textes officiels concernant la protection de la santé publique 1790-1935 (9 vols., Paris, 1957), I, 243-48 for laws and ordinances of March and August 1822 relative to the sanitary police. See also, Moniteur, 11 août, 1822, 1189-91.

Restoration, a Conseil supérieur de santé, which was to be in charge of watching over the public health of the nation as well as enforcing the 1822 law.⁵

Ever since the establishment of the cordon sanitaire across the Pyrenees and the passage of the 1822 law, there has been much debate as to the real reasons for the policy. Liberals at the time and many doctors claimed that the sanitary policy of the national government was simply a pretext for political activity: that the real plague was Spanish liberalism, not yellow fever, and that the purpose of the program was to prepare for the intervention of 1823. Both L. F. Hoffmann and George Sussman have considered this problem, Hoffmann presenting evidence to support the point of view that the sanitary policy was a pretext for political activity, and Sussman maintaining that the two events did exist coincidentally, but that the Restoration government pursued a sanitary policy independent of political and military considerations.⁶

⁵On the development of the Conseil supérieur de santé, see Sussman, 7, 23, 35-36, 214-15; Moniteur, 3 sept. 1822, 1289 and 1294. For members of the superior health council, see Appendix 3. The Conseil supérieur de santé will henceforth be referred to as the superior health council.

⁶Léon-François Hoffmann, La peste à Barcelone (Princeton, N. J., 1964), 1-48. Hoffmann's argument is compelling; he concludes on p. 48 by stating that had the yellow fever hit Barcelona 10 years earlier or 10 years later it might have remained an isolated incident, but that in 1821, because of the political situation, both international and internal, it became a major event. Sussman's documentation is convincing; he tries to show that the French government had a national health policy independent of political considerations. See especially p. 12 for Sussman's thesis. Ackerknecht in "Anticontagionism, 1821-1867" does not discuss political implications of this nature.

The medical basis of the Restoration sanitary policy was the then relatively unpopular doctrine of "contagionism," a doctrine which had the support of only a minority of French doctors in the first half of the nineteenth century. The contagionist point of view had been the prevalent one in western Europe since the sixteenth century, and the sanitary institutions and administrations of the countries of western Europe had been founded upon the principle of contagion.

Contagionists believed that diseases were immediately transmissible from one person to another by means of contact and by an organism referred to as the contagium animatum, or sometimes as an animalcule. Defenses of quarantine and isolation had been used against contagious diseases such as leprosy and plague to prevent the transmission of the supposedly contagious elements from one person to another. These typical defenses were used, for example, in the Marseilles epidemic of 1720. But by the early nineteenth century, contagion had become an outmoded explanation for the causation of many diseases. A few French hygienists like Etienne Pariset, Alexandre Moreau de Jonnès, and L. J. M. Robert still adhered to contagionist theories, but it was considered by most doctors and hygienists to be an old-fashioned belief.⁷

⁷For general comment on contagionism and anticontagionism see Ackerknecht, "Anticontagionism"; George Rosen, A History of Public Health (N. Y., 1958), 182-191, 277-293; C. E. A. Winslow, Man and Epidemics (Princeton, N. J., 1952), 7-17; Etienne Pariset, the permanent secretary of the Royal Academy of Medicine and member of the Paris health council, remained one of the most dedicated to the theory of contagion throughout the period. A member of the government commissions sent to Spain in 1819 and 1821 to decide on the contagion or non-contagion of yellow fever, he and the other members returned the

The new and enlightened interpretation was anticontagionist in outlook. The anticontagionists opted for the miasmatic or infectionist theory of the disease (the ^{Filth} ~~Filth~~ theory of disease), believing that disease was spread by means of chemical miasms which emanated from unclean conditions like rotting organic matter and stagnant water. Air was considered to be the medium by which disease was spread, according

contagionist report which gave rise to the sanitary legislation of 1822. Then in 1829 Pariset was a member of a government commission sent to Egypt to study the plague, which was held by many, including Pariset, to be contagious. See Pariset, Observations sur la fièvre jaune faites à Cadix en 1819 (Paris, 1820), and "Mémoire sur les causes de la peste"; for material on Pariset, see George Sussman, "Etienne Pariset: A Medical Career in Government Under the Restoration," Journal of the History of Medicine and Allied Sciences, XXVI, No. 1 (1971), 52-74; see also Fr. Dubois, "Eloge de E. Pariset," lu dans la séance publique annuelle du 14 déc. 1847, Mémoires de l'Académie Royale de Médecine, 13 (1847), XLII-LXX, which also includes a list of all the published works of Pariset. A. Moreau de Jonnés, a government spokesman for contagion, in addition to being the head of the statistical section in the Ministry of Commerce in the 1830's and in charge of the publication of the Statistique générale de la France, also sat on the Conseil supérieur de santé created in 1822 to enforce the sanitary law of that year (Pariset was also a member); Moreau de Jonnés was a thoroughgoing contagionist; see, for example, Alex. Moreau de Jonnés, Rapport au Conseil supérieur de santé sur le choléra-morbus pestilentiel (Paris, 1831); for material on the central sanitary commission and the superior health council, see p. 157 of Moreau de Jonnés' work: on this see also, Sussman, From Yellow Fever to Cholera, 35-36; for a listing of the members of the Conseil supérieur de santé in any given year, consult the appropriate volume of the Almanach Royal. For another contagionist view, see also L. J. M. Robert, Guide sanitaire des gouvernemens européens (2 vols., Paris, 1826). Especially see the illustrations at the end of the work, which show how the doctors dressed during the 1720 plague epidemic. Robert was a doctor at the lazaret of Marseilles and a member of the Bouches-du-Rhône health council. See also in Robert's work, II, 845-885, for a complete copy of the sanitary law of 1822.

to the anticontagionists, rather than personal contact. Anticontagionists believed most, but not all diseases to be infectious, that is contracted by means of being in a particular locality where the air was vitiated by deleterious miasms. Anticontagionists did not reject the whole concept of contagion; they usually admitted the contagiousness of certain diseases like smallpox and syphilis. They maintained, however, that many diseases which had long been thought to be contagious were not, but were in fact infectious.

Many of the nineteenth century French public hygienists were anticontagionists, and during the period they successfully "proved" that cholera, yellow fever and plague were not immediately contagious.⁸

⁸In 1828 the Royal Academy of Medicine, influenced by the careful research of Nicolas Chervin, returned an anticontagionist verdict with regard to yellow fever. Government commissions sent to Poland and Russia to study cholera before the 1832 epidemic in Paris, sent in anticontagionist reports. The commission set up in Paris to report on the cholera likewise did not find it to be contagious. The Prus report of the Royal Academy of Medicine of 1846 with regard to the plague was also anticontagionist. See Ackerknecht, "Anticontagionsim." For a discussion of the controversy over yellow fever, see the works of Chervin, who during the 1820's combatted the contagionist theories of Pariset and the various government commissions, Examen des principes de l'administration en matière sanitaire (Paris, 1827), Examen critique des prétendues preuves de contagion de la fièvre jaune observée en Espagne (Paris, 1828); Pétition adressée à la Chambre des Députés relative à la question de la contagion et aux mesures sanitaires (Paris, 1833); for the report of the Royal Academy of Medicine, see Rapport lu à l'Académie Royale de Médecine, dans les séances des 15 mai et 19 juin 1827, au nom de la commission chargée d'examiner les documents de M. Chervin concernant la fièvre jaune (Paris, 1828); for biographical material on Chervin and a complete list of his publications, see Fr. Dubois, "Notice historique sur M. Chervin," Mémoires de l'Académie Royale de Médecine, 12 (1846), XXXVII-LIX; for the anticontagionist point of view taken by the Paris cholera commission, see Report on the Cholera in Paris (N. Y., 1849); for the Prus commission on the

They questioned the contagiousness of other diseases as well. As they could not pinpoint the actual causes of the various diseases which they believed to be non-contagious, they advanced varying hypotheses as to what the causes might be. Answers to these questions would provide a basis for the application of public health measures, and an alternative to the sanitary apparatus set up by the government and supported by the contagionists, which many of them felt to be outdated, ineffectual, and reactionary.⁹

Two main theories of disease causation gained popularity during the period. The first was the filth or miasmatic theory of disease, discussed above. The second was the social theory of disease. One group of public hygienists, while not actually rejecting the filth theory, maintained that while filth and varying climatic causes might be contributing factors to disease, the primary cause of disease was poverty and the overcrowded bad living conditions that resulted from it. Poverty, they asserted, was often the reason for filth and bad air. Those who adhered to what has been called the social or sociological theory of epidemiology felt that the cause of most diseases

noncontagion of plague adopted by the Royal Academy of Medicine in 1846, see Prus, rapporteur, "Rapport de la peste et des quarantaines," Bull. de l'Acad. Roy. de Méd., 11 (mai-sept. 1846), 545-934.

⁹See Ackerknecht, "Anticontagionism," 567, in which he associates anticontagionism with liberalism and contagionism with reaction and government bureaucracy. Contagionism was the conservative, government point of view, while anticontagionism was the point of view held by liberals and radicals. Ackerknecht (p. 589) associates the ascendancy of anticontagionism in the early nineteenth century with the rise of liberalism, and the decline of anticontagionism in the 1860's with the age of reaction.

could be attributed to social ills, and that the primary social ill was poverty which was at the root of many other problems.¹⁰

Varying solutions were offered to the problems of epidemic and communicable diseases. The contagionists felt that the solution was to be found in an effective sanitary administration and adequate sanitary measures. They sought to attack the problem at its roots by preventing the importation of diseases into France. For diseases existing inside France, quarantine, isolation, and disinfection of the effects of the diseased person were considered the best measures.

The anticontagionists who ascribed to the filth or miasmatic theory of disease causation thought the best solution was to be found in sanitary reform and in cleaning up the cities, so as to prevent a situation in which deleterious miasms could breed. Those who stressed dealing with the problem of disease in this manner became known as sanitarians, and were responsible for what has been called "the great sanitary awakening," which was characteristic of the first half of the nineteenth century in England, France, the German states, and the United

¹⁰The most famous of the French public hygienists to hold this point of view was Villermé. The social theory of epidemiology was characteristic of the period and prevailed outside of France as well. English sanitary reformers such as Kay and Chadwick generally ascribed to this point of view, as did Rudolf Virchow in Germany. See Villermé's attitude expressed, for example, in Report on the Cholera in Paris, see below, p. 127. See Kay-Shuttleworth, The Moral and Physical Conditions of the Working Classes; see Chadwick, ed. M. W. Flinn, Report on the Sanitary Condition of the Labouring Population. Chadwick was very familiar with the work of Villermé, footnoting him and quoting from him on numerous occasions. On Virchow, see Ackerknecht, Rudolf Virchow: Doctor, Statesman, Anthropologist. See Ackerknecht, "Hygiene in France," 141.

States. Adequate sewage disposal, good garbage collection, clean streets, good water supply--these were the public health reforms that the sanitarians believed had priority over all others.

Those who stressed the social causes of disease, the main one being poverty, did not object to sanitary reforms. They favored them. But they said that sanitary reforms did not attack the root of the problem, which was poverty. Poverty caused filth; poverty brought about malnutrition; poverty created unhealthy living conditions; hence, these theorists advocated general social and economic reform to eliminate, or at least to lessen poverty. They believed that affluence was the antidote to disease, and would be concomitant with the sanitary reforms that others advocated. As civilization progressed, affluence, they maintained, would become more widespread.

The anticontagionists opposed the sanitary policy adopted by the national government in 1822 from its inception. The anticontagionist attack on the sanitary legislation was spearheaded by Nicolas Chervin, a doctor and scientist, who devoted his life to the study of yellow fever and the proof of its non-contagion. Chervin's efforts and the prevailing opinion among the medical profession led, in 1828, to the adoption by the Royal Academy of Medicine of a report which opted for the noncontagion of yellow fever. As a result of this report, the government began to disband its sanitary apparatus, the chambers refusing to vote money for its continuation.¹¹

¹¹See above note 9. For example, the 1822 expenditures for the sanitary establishments were 869,476 fr.; by 1830, only 135,844 fr. were

With the majority of the medical profession opposed to the national sanitary policy, and with the prestigious Royal Academy of Medicine having undertaken an anticontagionist stance, a major blow had been dealt the national sanitary policy by 1828. The government continued its sanitary policy throughout the period, with further modifications being made in the 1830's and 1840's in response to the prevailing anticontagionist opinion of the medical profession with regard first to cholera in the 1830's, and then to plague in the 1840's. The superior health council, having lost its primary raison d'être, continued to function on a low-key level, being called on from time to time to give its opinion on questions involving the national health.

The sanitary apparatus was revived in 1831 in an attempt to prevent the importation of cholera, with the chambers voting money to support the measures.¹² In spite of the fact that the various French commissions sent to Eastern Europe and England to study the cholera had recommended hygienic measures on the basis of anticontagionist reports, the superior health council, always strongly contagionist, recommended the resurrection of the Restoration sanitary apparatus.¹³

spent; by 1831, the expenditure was further reduced to 96,755 fr. See Documents statistiques sur la France publiés par le Ministre de Commerce (Paris, 1835-52; 13 vols.), I, 1835, 148-49.

¹²Recueil des textes officiels, II, 30-36, for ordinances regulating the importation of goods, quarantine, and formation of sanitary intendancies and commissions to combat the importation of cholera.

¹³Sussman, Yellow Fever to Cholera, 214-20. For the opinion of the superior health council, see Moreau de Jonnés, Rapport au conseil supérieur de santé sur le choléra-morbus pestilentiel;

These measures failed in France, as they had failed elsewhere in Europe, and within two weeks after the invasion of the disease the sanitary measures were done away with. At this point the national government left it up to the municipal authorities to deal with cholera in their own areas, the role of the national government being limited to the provision of some financial support.¹⁴

As early as August of 1831 the city of Paris had taken steps to prepare for a possible cholera invasion. The municipal government adopted the program recommended by the Paris health council, which was based on the filth (infection) theory of disease, and therefore staunchly anticontagionist. The program of the health council consisted of a major clean-up campaign to prevent the invasion of the disease, and of a plan for the setting up of first-aid stations throughout the city in the event that the cholera did invade, so that the sick could be treated promptly and transported to a hospital.¹⁵ The actual implementation of the health council's program and the setting up by the prefect of police of a Central Health Commission and of sanitary

members of the Russian commission were Gerardin, Gaymend, and Cloquet. The Polish commission consisted of Dalma, Sandras, Boudard, Dubled, Alibert, Ch. Londe. F. Foy went to Warsaw and R. N. J. Scoutetten to Berlin. Francois Magendie went to Sunderland, England in 1832, and presented his report to the Royal Academy of Medicine. For the information see Ackerknecht, "Anticontagionism," 576-77.

¹⁴Recueil des textes officiels, II, 41.

¹⁵R. G. . . . 1830-34, 75-80. The health council commission which prepared the report consisted of Desgenettes, Larrey, Pariset, Esquirol, Barruel, Beutin-Beauregard, and J. Juge.

commissions in each quarter, has been discussed in detail by Sussman.¹⁶ Suffice it to say that the methods used in Paris to deal with cholera constituted a radical departure from the national government's sanitary policy. With the medical profession staunchly anticontagionist on cholera and yellow fever, there was only plague left to contend with.

When the commission on cholera met after the epidemic was over (1834) to try to reach some conclusions about the Paris epidemic, its conclusions were mixed: on the one hand it did not find cholera to have been contagious (communicable); on the other hand it found that not only could unsanitary conditions be associated with cholera (although not in all cases), but also social conditions, namely overcrowding and poverty. Even more than the filth theory of disease was the social theory of the causation of disease upheld in the report done by the cholera commission.¹⁷

¹⁶Sussman, Yellow Fever to Cholera, 225-328. See France, Archives de la Préfecture de Police, Paris, D^b460, D^a122 (hereafter referred to as APP) for material on sanitary commissions and on cholera in Paris in general; these sanitary commissions set up their own journal in Dec. 1831, Journal des commissions sanitaires établies dans le département de la Seine. According to the conditions of subscription, there were to be 48 issues; the last issue in the BN is No. 42 dated 1833. The journal contained police ordinances, circulars, commission reports, treatments, mortality statistics on cholera, advice and popular instructions; lists of books on cholera, cholera news at home and abroad, lists of donors and the amount donated. For example, it is noted in No. 39, p. 454 that J. Fenimore Cooper donated 500 fr. for cholera orphans.

¹⁷See Report on the Cholera. See Sussman, Yellow Fever to Cholera, 329-50. Two of the three doctors on the commission were Villemé and Parent-Duchâtelet. Other members of the commission were Benoiston de Chateauneuf, reporter, Dr. Petit, Chevallier, Pontonnier, Trébuchet, Villot, Devaux, and Millot.

Thus by the mid 1830's the general consensus of opinion in France among the medical profession and public hygienists was that both yellow fever and cholera were not communicable. Modifications in the sanitary legislation of the national government reflected to some extent the decrease in popularity of the contagionist position, although the superior health council continued to be staunchly contagionist until the mid-1840's.

Even though the 1828 decision of the Chambers not to allocate money for further expansion of the sanitary administration had dealt a severe blow to the administration's sanitary program, the sanitary policy adopted in 1822 continued to be in operation throughout the period. Modifications were made, however. In 1835 the government exempted from quarantine any boat with a patente nette¹⁸ and admitted all cotton from America without opening it, without debarkation at the lazaretto, and without purification. In 1839 the government did away with the regime of patente suspecte, and reduced the quarantine imposed on patente brute¹⁹ to no longer than 5-15 days in the Ocean and Channel ports and 10-20 days in the Mediterranean ports.²⁰

¹⁸Patente nette was the classification given to a ship coming from a safe area, an area where there were no known contagious diseases reigning.

¹⁹Patente suspecte was the classification given to a ship coming from an area known to be the foyer of an epidemic disease, but where no epidemic was in existence at the time. Patente brute applied to ships coming from an area where an epidemic was raging.

²⁰Chervin and Londe, "De la contagion de la fièvre jaune et de l'urgence d'abolir les quarantaines établies contre cette maladie," Bull. de l'Acad. Roy. de Méd., 7 (1841-42), 1141-1157. Moniteur, 15 nov., 1839, 2017. Ordinance reforming and modifying the laws of 3 March 1822 and 7 August 1822.

The coup de grâce in the yellow fever controversy came in 1845 when the superior health council, under the presidency of the Minister of Commerce, came out for the non-contagion of yellow fever. The Minister asked for the abolition of quarantine vis-à-vis yellow fever and his request was unanimously adopted by the superior health council.²¹

By the 1840's the sanitary policy of the national government existed primarily to prevent the importation of plague into France, the superior health council, as well as an important segment of the Academy of Medicine still being contagionist with regard to the disease. Doctors like Aubert-Roche, Clot-Bey, and Bulard had been investigating plague since the mid-1830's in an attempt to determine the nature of the disease. The venerable Pariset himself had gone to Egypt in 1829 to investigate the plague.²² In the 1840's, when England and Austria abolished their quarantines with regard to contagious diseases, a further incentive, that of economic competition, added fuel to the anticontagionists' fire.²³

In 1846 a commission of the Royal Academy of Medicine, with René Prus as reporter, sought to decide for once and for all on the contagion of plague and on the benefits and disadvantages of the French sanitary

²¹Fr. Dubois d'Amiens, "Notice historique sur M. Chervin," Mém. de l'Acad. Roy. de Méd., 12 (1845), LVII.

²²Bull. de l'Acad. Roy. de Méd., 11 (1846), 547; Pariset, "Mémoires sur les causes de la peste et sur les moyens de la détruire," Annales, 6 (1831), 243-312.

²³Bull. et l'Acad. Roy. de Méd., 9 (1843-44), 201-02.

sanitary system. The conclusions of the Prus commission report as adopted by the Royal Academy of Medicine were anticontagionist and infectionist. Preventive measures recommended by the commission included hygienic measures, but also a different type of sanitary legislation. The report recommended that French sanitary doctors be stationed in the ports of suspected countries to give a precise statement of the prevailing public health situation in those countries. Quarantines were not completely abolished, but would only apply to ships coming from those areas where plague reigned epidemically.

The basis of the reform of the French sanitary system as recommended by the Prus report was the stationing of French sanitary doctors in oriental ports.²⁴ In 1847 by an ordinance of April 18, the program of sanitary doctors to be sent to the Orient was set up. The Royal Academy of Medicine was put in charge of preparing instructions for the sanitary doctors.²⁵

By the end of the period under discussion the sanitary policy of the national government, instituted by national legislation in 1822, had undergone important modifications, primarily because of the

²⁴For the Prus commission report, see Bull. de l'Acad. Roy. de Méd., 11 (1846), 545-934, "Rapport de la peste et des quarantaines." Members of the commission were Adelon, Bégin, Dubois (D'Amiens), Dupuy, Ferrus, Londe, Méliér, Pariset (who was not in agreement with the conclusions), Poiseuille, Prus, and Royer-Collard.

²⁵Moniteur, 21 avril 1847, 863; "Rapport. Projet d'instruction à l'usage des médecins sanitaires du Levant," Bull. de l'Acad. Roy. de Méd., 12 (1847-48), 233-48. See also letter from Prus, who was sent as a sanitary doctor to Alexandria, to Méliér, Bull. de l'Acad. Roy. de Méd., 13 (1847-48), 985-91, in which he praised the recently adopted system, but also urged further reforms of the sanitary administration.

anticontagionist sentiment of the majority of the French medical profession. By 1845, as has been noted, even the staunchly contagionist superior health council, admitted the non-contagion of yellow fever.

The reform of the French sanitary system in 1847 switched the responsibility of protecting France from the importation of epidemic diseases from sanitary officers in the French ports to sanitary doctors sent out by the French government to oriental ports to state the prevailing public health situation there and make recommendations as to the classification of ships coming to France. The 1847 reform did not abolish quarantines completely, but was a sort of compromise, whereby the length of quarantine was shortened, and started from the time the ship left the oriental port, instead of from the time it arrived in the French port.

As Ackerknecht has suggested, the whole question of anticontagionism and the French sanitary policy was to some extent tied up with economic considerations, trade competition, and liberalism. Public health considerations were not the only aspect of the anticontagionist controversy in France in the first half of the nineteenth century. One of the compelling arguments used by the anticontagionists in the Royal Academy of Medicine as to why France should abolish or at least reform her sanitary system, was that it gave other countries which did not have such a rigid quarantine policy an unfair advantage in trading, and therefore was an encumbrance to the French economy.

After 1828 the superior health council was never a very active public health institution, being in fact practically divorced from the

whole public health movement. Nevertheless it continued to operate throughout the period of the July Monarchy, being called on from time to time to give its opinion on various public health matters. Its importance as an advisory body in public health matters was really eclipsed, however, by the Royal Academy of Medicine, and by the Paris health council. The institution finally met its end in 1848. By a decree of August 10, 1848, the Conseil supérieur de santé was replaced with the Comité consultatif d'hygiène publique, established under the authority of the Minister of Agriculture and Commerce, to whom the responsibility of public health at the national level had evolved after 1830. Its duties, however, remained essentially the same as those of the old superior health council.²⁶

Prison Reform

In France the concern of humanitarians for the lot of prisoners and prison reform dated from the Enlightenment and Revolutionary periods. Carrying on in the reform tradition, Napoleon as consul decreed the establishment of maisons centrales de détention for those prisoners condemned to more than one year of imprisonment. Ensuing political and military events interrupted the Napoleonic program, but with the Restoration the national government resumed the program.²⁷ Prison

²⁶Recueil des textes officiels, II, 230.

²⁷See Esquirol, reporter, "De la mortalité et de la folie dans le régime pénitentiaire spécialement dans les pénitenciers d'Auburn, Philadelphie, Genève et Lausanne," Bull. de l'Acad. Roy. de Méd., 3 (1838-39), 372-88, in which a brief history of prison reform is given.

reform, especially with regard to material and sanitary improvements, became one of the main public health concerns of the Restoration government, along with its sanitary policy.

The main focus of the Restoration government was on the maisons centrales de détention, where by 1819 new construction had been undertaken, vast buildings had been converted into prisons at great expense, and the physical conditions of the prisoners had been greatly improved.²⁸ But as the Minister of the Interior Decazes pointed out to the king in his report on the prisons, up to 1819 the improvements had been partial and isolated, and had not been extended to all the prisons of the kingdom.

The administration felt that it would be very advantageous to have a uniform system which could be applied throughout the whole kingdom. By 1819 the king had designated 500,000 fr. to begin the work of the improvement of the sanitary conditions and the repair of prisons. In order to implement these improvements he also decided to call on some of the enlightened men of the kingdom to form a society for the improvement of prisons.²⁹

In 1919 the Royal Society for the Improvement of Prisons (Société Royale pour l'Amélioration des Prisons) was formed on the

²⁸Ibid.; "Rapport au Roi," Moniteur, le 10 avril, 1819, 423-24.

²⁹Ibid.

initiative of the king and the Minister of the Interior Decazes.³⁰ In addition, a General Council of Prisons (Conseil général des prisons) was formed under the Minister of the Interior consisting of 24 members chosen by the Minister from among the Royal Society for the Improvement of Prisons. The General Council of Prisons was charged with prison inspection as well as the presentation to the Minister of the Interior of views on the health conditions and sanitary state of the prisons. The council was to prepare an annual report on the state of the prisons.³¹

Furthermore the ordinance created departmental prison commissions named by the Minister of the Interior; Parisian prisons received their own special administration with the prefect of police being put in charge of all related to the administration and economic regime of prisons. The prefect was assisted by a special administrative council

³⁰The statutes of the Royal Society for the Improvement of Prisons gave as its purpose that of bringing about improvements in the prison regime. Membership was open to anyone presented by four members and donating at least 100 fr. yearly. Two general assemblies a year on the 15th of January and the 15th of July would be held, at which the General Council of Prisons would present a review of its work. A list of the 282 founding members of the Royal Society for the Improvement of Prisons showed only seven doctors, two of whom, Villermé and Pariset, were intimately connected with the public health movement. The others with their description were: Bourdois, dr.-méd.; Dubois, dr.-chirurgien; Gall, dr.-méd.; Guerbois, dr.-chirurgien-en-chef de l'hôpital Cochin; and Husson, dr.-méd. de l'Hôtel-Dieu et du Collège Louis le Grand. In the Moniteur, le 14 juin, 1819, 784. Appendix 4.

³¹Moniteur, le 10 avril, 1819, 423-24. "Rapport au Roi"; see Appendix 11 for members of the General Council of Prisons.

of 12 members chosen from among the members of the General Council of Prisons.³²

In the ten years of its existence³³ the Royal Society for the Improvement of Prisons oversaw important reforms in the physical plant and sanitary state of French prisons, especially the maisons centrales (other prisons did not fare quite so well). Sanitary improvements included better ventilation, more room for prisoners, and better and more plentiful food. There were other improvements as well, such as better surveillance of prisoners and improved organization of work in the prisons. In some places the physical conditions improved so much that the prisoners actually had better living conditions than some poor workers.³⁴

The 1829 report of the Royal Society summarized all the work done on the prisons during the Restoration. The prisons of 68 departmental seats had been restored, enlarged, or reconstructed, and

³²Ibid.; see Appendix 4 for members of the Special Council of Administration for the Prisons of Paris. The king chose the members from a list made up by the Minister of the Interior.

³³The Royal Society for the Improvement of Prisons was dissolved in 1829.

³⁴"Rapport fait par M. Bérenger (de la Drôme) sur le projet de loi sur le régime des prisons," Moniteur, le 1^{er} mai, 1847, 1006-1016; Moniteur, le 28 janv. 1826, 109; Moniteur, le 29 juin, 1826, Société royale pour l'amélioration des prisons de France (Assemblée générale). Séance du mardi 24 janv. 1826"; Moniteur, le 10 sept. 1826, 1238; Villermé, "Mémoire sur la mortalité dans les prisons," Annales, 1 (1829), 1-100; see especially pp. 40-41. Villermé pointed out, for example, that in 1812, 1813, and 1814 the mortality rate in one prison in Rouen had been 1:4; by 1826 it had been lowered to 1:46.

maisons d'arrêt, de justice et de correction were under construction in nine chefs-lieux. One hundred ninety-eight arrondissement prisons had been repaired or reconstructed, but prisons in 59 arrondissements were still in need of improvement. The complete restoration of the prisons of Paris under the direction of the prefects at a cost of 17,193,244 fr. was pointed out. Since 1815, 10,487,479 fr. had been spent in building maisons centrales; some were still in the process of being finished in 1829. This figure added to the amount spent on the Parisian prisons came to a total of 27,680,723 fr. that had been spent for restoration and construction of prisons since the Restoration. Additional sums had been spent to improve the internal regime of prisons, especially with regard to sanitary improvements, of which the provision of fourneaux d'appel, to improve ventilation, were an example.³⁵ In 1830, at the end of the Restoration, the Minister of Interior de Peyronnet reported that since 1815, 32 million had been spent on the restoration of prisons.³⁶

After 1830 the interest of the government, public hygienists, and prison reformers shifted from physical and sanitary improvements to criminal reform, or reform in the treatment of prisoners. All the hygienic and sanitary improvements had, of course, done nothing to

³⁵Moniteur, le 20 janv. 1829, 78-80; for details on the improvement and restoration of Parisian prisons, see Moniteur, le 3 août, 1829, 1372-74. This restoration involved reconstruction, sanitary improvements, and the division of some prisons into cells.

³⁶"Rapport au Roi," Moniteur, le 8 juin, 1830, 621.

lower the rate of recidivism. Little attention had been given during the Restoration to actual criminal reform, or the rehabilitation of prisoners and the avoidance of recidivism. The Americans with their penitentiary systems and the Swiss with their modified version of the American systems aroused much interest in French circles.

Once the interest had shifted from hygienic and sanitary improvements to criminal reform it would seem at first glance that public hygienists would no longer be involved, that health questions were no longer at stake. But that was not the case. Public hygienists still considered prisons and prison reform a public health question, concentrating on an examination of the effects of the various prison systems on the physical and mental health of the prisoners.³⁷

Two main systems of prison reform were considered as a solution to the problems of recidivism and as a means of rehabilitation: the cellular system, according to which prisoners slept in cells, but worked in common, and whose aim was to prevent communication between prisoners; and the system of solitary confinement day and night without work. In both cases the rule of silence was to be observed.

³⁷"De la mortalité et de la folie dans le régime pénitentiaire." See also Béranger, "Des moyens propres à généraliser en France le système pénitentiaire," lu à l'Académie des Sciences Morales et Politiques, le 9, le 16, et le 23 juillet, 1836, in Mem. de l'Acad. des Sci. Mor. et Pol., I (1837), 539-601; see Benoiston de Chateauneuf, "Mémoire sur le système pénitentiaire," Séances et trav. de l'Acad. des Sci. Mor. et Pol., 4 (1843), 195-220; Ch. Lucas, "Exposé des différents essais d'emprisonnement cellulaire et de leurs résultats en Europe et aux Etats-Unis," Séances et trav. de l'Acad. des Sci. Mor. et Pol., 5 (1844), 75-111.

Hygienists and reformers debated as to the effects of these systems on the physical and moral health of prisoners. In spite of the Royal Academy of Medicine's report favoring solitary confinement (1839), the French government opted for the more modified Auburn system of work in common, cellular confinement at night and observation of the rule of silence.³⁸ Many complaints followed from doctors and others saying that the system adopted was dangerous to health. One M. Joret, a doctor at the maison centrale de force et de correction at Vannes, claimed that the system could make prisoners insane.³⁹

From 1840 to 1847 a comprehensive prison reform law was under discussion in the chambers and in the royal courts. The law provided for abolition of the bagnes (galleys), the provision of cellular imprisonment throughout France (but not solitary confinement), and the

³⁸Moniteur, le 10 janv. 1839, 49; the report was published as "De la mortalité et de la folie dans le régime pénitentiaire," Bull. de l'Acad. Roy. de Méd., 3 (1838-39), 372-88. Commission members were Esquirol, reporter, Marc, Villermé, and Pariset.

³⁹Joret, "De la folie dans le régime pénitentiaire depuis l'exécution de l'ordonnance ministérielle du 10 mai 1839 qui prescrit le silence absolu de jour et de nuit," Mém. de l'Acad. Roy. de Méd., 14 (1849), 319-407. This had been the accusation of Drs. Coindet and Gosse in Geneva and Lausanne in the early 1830's. These doctors had sounded the alarm against solitary confinement, claiming that it compromised both the physical and mental health of the prisoners. A modified system had been adopted in both Geneva and Lausanne. Moreau-Christophe, inspector-general of French prisons, took the opposite point of view and wrote a report defending the system of solitary confinement. It was a report on Moreau-Christophe's report that was done by the commission of the Royal Academy of Medicine in 1839. See the report, note 10.

establishment of penal uniformity throughout the nation.⁴⁰ The expressed goal of the administration was the complete centralization of prisons, with all expenses henceforth to be paid by the state.⁴¹ The law had still not passed both chambers when the 1848 Revolution occurred.

Propagation of Vaccination

In addition to the prevention of the importation of communicable and epidemic diseases and the reform of prisons, another area in which the national government took an active interest in public health was the propagation of vaccination. Smallpox was the one dread disease for which a preventive was readily available in the nineteenth century. The national government took various measures to spread vaccination throughout the kingdom.

In 1798 Edward Jenner made his discovery of vaccination public and by 1800 vaccination was introduced into France by an English doctor, William Woodville.⁴² A society was formed that year under the leadership of La Rochefoucauld-Liancourt to dispense vaccine throughout

⁴⁰On support of the cellular system, see A. de Tocqueville, "Observations sur le mémoire de M. Ch. Lucas relatif au régime pénitentiaire," Séances et trav. de l'Acad. des Sci. Mor. et Pol., 5 (1844), 112-160.

⁴¹Moniteur, le 10 mai 1840, supplément, 1001-1004; Moniteur, le 30 janv. 1847, 173-75.

⁴²William Woodville was an English doctor whose treatise on vaccine was published in French in 1800. Bousquet, who referred to him as Woodwile, credited him with introducing vaccination into France.

the country.⁴³ This Comité central de vaccine continued to operate until 1823, when its duties were taken over by the permanent vaccine commission of the newly created Royal Academy of Medicine.⁴⁴ In 1824 Dr. J. B. Bousquet, who became the leading authority on vaccination in France in the period under discussion, was chosen by the vaccine commission to be the Academy's director of vaccination; in 1848 Bousquet reported that for 24 years he had vaccinated regularly twice a week in the name of the Academy.⁴⁵

The vaccine commission of the Royal Academy of Medicine made an annual report to the Minister of Commerce on the propagation of the vaccine in France, as well as on any research developments.⁴⁶ Their annual reports of distribution of vaccine were compiled from statistics sent in from the departments on the number of vaccinations, the number of smallpox cases and the number of deaths from smallpox. For example, in 1836 the commission reported that with all departments

⁴³Bousquet, "Eloge d'Edouard Jenner," Bull. de l'Acad. Roy. de Méd., 13 (1847), XXXVII-XXXVIII. Members of the Comité central de vaccine were Pinel, Thourét, Leroux, Parfait, Mongenot, Guilletin, Doussin-Dubreuil, Marin, and Sulmade.

⁴⁴Bousquet, Nouveau traité de la vaccine et des éruptions varioleuses (Paris, 1848), XI. Members of the vaccine commission of the Royal Academy of Medicine in 1836 were Girard, Cornac, Jadelot, Danyou, Sulmade, and Eméry, reporter. See Bull. de l'Acad. Roy. de Méd., I (1836), 808-822.

⁴⁵Bousquet, Nouveau traité, XI-XII. The Academy offered free vaccinations.

⁴⁶After 1830 the Minister of Commerce was in charge of public health at the national level, whereas during the Restoration period it had been the Minister of the Interior.

reporting for the year 1835, there had been 518,734 vaccinations in France as compared with 745,445 births. Out of 13,726 smallpox cases which were reported, 1,486 people had been left infirm or disfigured, and there had been 1,823 deaths. Statistics for 1840 showed 836,789 births and 525,509 vaccinations for all France; there were 14,470 cases of smallpox reported with 1,668 deaths. There were 25 recurrences, 2,214 revaccinations, of which 1,704 were not successful.⁴⁷

The national government encouraged vaccination in several ways. First of all, vaccinations were easily available throughout the country and free to those who could not afford to pay. Money for vaccinations came from the general council of the departments, which in 1840, for example, voted 179,293 fr. for vaccinations, or an average of 34 c. for each child vaccinated.⁴⁸ Secondly, yearly awards were given as an encouragement by the Royal Academy of Medicine to those who had vaccinated the largest number of people, or who had made significant

⁴⁷Bull. et l'Acad. Roy. de Méd., 1 (1836), 808-822; 7 (1841-42), 705. For reports on earlier years, see Villermé's compilation of tables for 18 years preceding 1829 in "Tableau relatif aux vaccinations pratiquées en France, et aux petites véroles," Annales, 1 (1829), 400-404. The proportion of vaccinations to births varied widely from one department to another. In the Meurthe, for example, which had an active departmental vaccine committee, in 1818 for 13,007 births there were 10,307 vaccinations. See Serrières, Notice historique sur les progrès de la vaccine dans le département de la Meurthe (Nancy, 1829), reviewed in Annales, 2 (1829), 497-98. The vaccine commission pointed out that the number of vaccinations could not be exactly known, as many doctors did not send in figures and in some departments mothers and others who were not doctors vaccinated a certain number of children. See Bull. de l'Acad. Roy. de Méd., 7 (1841-42), 700.

⁴⁸Bull. de l'Acad. Roy. de Méd., 7 (1841-42), 705.

contributions in the field of research.⁴⁹ Thirdly, attempts were made by the government to educate the populace so as to rid them of "old wives' tales" concerning vaccination and convince them of its efficacy. An example of this was C. C. H. Marc's manual La Vaccine soumise aux simples lumières de la raison, the second edition of which was published in 1836 at the instigation of the Royal Academy of Medicine on the suggestion of the Minister of Commerce.⁵⁰

In spite of notable successes in some departments the propagation of vaccination in this period was not so widespread as the hygienists and the government desired. Opposition to vaccination was strong, especially before about 1830. In their 1818 report the Paris health council noted strong resistance to vaccination and postulated that if the proportion of deaths in Paris that year (682) held for the rest of the nation, then as many as 29,000 could have died. The health council accused the clergy of disseminating propaganda against vaccination.⁵¹

⁴⁹See, for example, for 1839, Bull. de l'Acad. Roy. de Méd., 6 (1840-41), 1023-1029. Before the founding of the Royal Academy of Medicine, the Central Vaccine Committee gave medals to outstanding vaccinators; see, for example, le Constitutionnel, 27 fev. 1816, 3, in which M. Colombot, a doctor at Chaumont, and author of a treatise on prisons, received from the Minister of the Interior a silver medal for his success as a vaccinator. In 1832 of the vaccinators who received prizes because of the number of vaccinations performed, or research, three shared the first prize of 1,500 fr.; four got gold medals, and 100 got silver medals. See Mém. de l'Acad. Roy. de Méd., 4 (1835), 49-50.

⁵⁰See below, pp. 343-45 for discussion of this manual.

⁵¹Molén, R. G. . . . 1818, 129-30. For the 18 years preceding 1829 Villermé noted one vaccination for every two births, but said, as many vaccinations were not reported, there were probably more than the statistics showed. See "Vaccinations pratiquées," 402-03.

In 1819 the Paris health council noted that opposition to vaccination was so prevalent that year that the Vaccine Committee did not even give prizes to those who had performed the most vaccinations.⁵²

In their 1823 report the health council attributed the slow acceptance of vaccination and the high incidence of smallpox deaths to prejudice, parental indifference, and the negligence of local authorities.⁵³

Smallpox epidemics continued to occur in France in spite of government attempts to make vaccination widely available to the public. An epidemic in Paris in 1825 took the lives of 2,193 people.⁵⁴ In 1828 a smallpox epidemic ravaged Marseilles, motivating the Minister of the Interior Martignac to ask the Royal Academy of Medicine to publish instructions for the distribution of vaccine and to explain how smallpox might be distinguished from other diseases.⁵⁵ Again in 1842 the city of Paris was hit by a smallpox epidemic which attacked mainly

⁵²Moléon, R. G. . . . 1819, 145-46.

⁵³Moléon, R. G. . . . 1823, 281. For example, in the annual report to the Minister of Commerce for 1830, the Royal Academy of Medicine complained of the negligence of some departments in the distribution of vaccine. Only a few departments gave a lot of attention to the propagation of vaccination: la Meurthe, le Jura, le Bas-Rhin, et la Côte d'Or, where the Royal Academy of Medicine said the number of vaccinations almost equalled the number of births.

⁵⁴Chabrol, Recherches statistiques, IV (1829); Moléon, R. G. . . . 1825, 335-36.

⁵⁵Bousquet, Nouveau traité, XII-XIII; Bull. de l'Acad. Roy. de Méd., 3 (1838-39), 13.

construction workers, and which was attributed to the great number of immigrants.⁵⁶

The Paris epidemic of 1825 and the Marseilles epidemic of 1828 made some people begin to doubt the preventive nature of vaccine, because in both epidemics there were cases of people who had been vaccinated still contracting the disease.⁵⁷ Up to this time two propositions generally accepted about vaccine were its inalterability and the fact that it protected against smallpox forever. By the 1830's there was a growing debate over whether these propositions held true. Some wondered whether perhaps vaccination was only temporary, and whether revaccination at stated intervals was necessary for continued prevention.⁵⁸

In 1836 a new strain of vaccine was discovered when cowpox was reported in Passy, Amiens, and Rambouillet. As a result of this, the debate on vaccine was enlarged to include a controversy over the comparative effectiveness of the new and old strains of vaccine. The Royal Academy of Medicine, which had consistently held the traditional

⁵⁶R. G. . . . 1842, 186.

⁵⁷Moléon, R. G. . . . 1825, 335-36.

⁵⁸One smallpox authority, Dr. Fiard, had been in communication since 1831 with the Academy of Medicine on this point. See Fiard, Nécessité de la revaccination (Paris, 1838), 2. See also Charles Roesch, "Histoire d'une épidémie de variole: revaccination pratiquée à la suite: nature de la varioloïde: valeur de la revaccination," Annales, 18 (1837), 73-164, in which he says that vaccinated people were contracting smallpox and therefore he recommended revaccination every 10-12 years. He noted that those who had been revaccinated within 7-10 years rarely got the disease.

outlook vis-à-vis the efficacy of vaccination, witnessed several major discussions on the nature of vaccine and the desirability of revaccination.⁵⁹

Surprisingly, it was not the Royal Academy of Medicine that undertook the solution to the questions being debated on the nature of vaccine and the advantages and disadvantages of revaccination, but the Royal Academy of Sciences.⁶⁰ In 1838 a contest was opened for the best essay on vaccine dealing with its preventive qualities, how long it protected, and the question of revaccination. The prize of 10,000 fr. was to be awarded in 1842.⁶¹ By 1842 the Academy had received 35 essays from all over Europe. Three essays were chosen to receive the prizes. Dr. Bousquet, the vaccinator of the Royal Academy of Medicine, and perhaps the leading authority on vaccine in France, received 5,000 fr.; Drs. Fiard and Steinbrenner received 2,500 fr. each.⁶²

The conclusions reached by the commission of the Royal Academy of Sciences and based on the essays received were presented on 10 March

⁵⁹Bull. de l'Acad. Roy. de Méd., 1 (1836-37), 809-818; 3 (1838-39), 6-19, 45-60; 5 (1840), 36-63; 6 (1840-41), 671-82; 7 (1841-42), 699-706; 9 (1843-44), 20-32, 90-109.

⁶⁰The Royal Academy of Sciences was one of the four academies of the Institute which was reorganized by royal ordinance of 21 March 1816. See Mémoires de l'Académie Royale des Sciences de l'Institut de France, 1 (1816), V-X. (Hereafter referred to as Mém. de l'Acad. des Sci.)

⁶¹Comtes-rendus de l'Académie Royale des Sciences, 7 (1838), 358. (Hereafter referred to as Ctes.-rendus de l'Acad. des Sci.)

⁶²Bousquet, Nouveau traité, XIV-XV; "De la vaccine, de sa vertu préservative et de la nécessité des revaccinations," in "Variétés," Annales, 33 (1845), 436 and 34 (1845), 222.

1845. The commission concluded that vaccine was not 100 percent effective; that after 10-12 years sometimes it lost its preventive qualities, and that therefore revaccination was necessary in some cases; and that the old vaccine had as good a preventive value as the new.⁶³

The propagation of vaccination and the resultant decrease in the number of smallpox victims was one of the most important aspects of any public health program, because here was one area in which effective prevention was possible. Great strides were made during these years in the propagation of vaccination, yet for several reasons smallpox epidemics continued to occur and prevention of the disease was not so effective as it might have been. Two explanations account for the less than complete success of the vaccine program. The first was that opposition to vaccination on the popular level remained substantial throughout much of the period. This meant that even though vaccinations were available, a substantial number of people did not benefit from them. The second explanation is that there was no law passed making vaccination obligatory during the period under discussion. Even though such a law would have been very unpopular among a significant minority, it would, if enforced, have assured even more widespread use of vaccination as a preventive measure.

⁶³For the report see "Rapport fait à l'Académie royale des Sciences sur le prix de vaccine," reproduced in its entirety in Annales, 33 (1845), 437-58. Members of the commission were Magendie, Breschet, Duméril, Roux, and Serres, reporter.

The Royal Academy of Medicine: the National Advisory
Board on Matters of Public Health

The Restoration government also had to its credit the founding of a national institution to deal with the public health. The Royal Academy of Medicine, instituted by royal ordinance in 1820, continued the traditions of the old Royal Society of Medicine and functioned as a medical advisory board to the government on matters of public health.⁶⁴

In the royal ordinance establishing the Royal Academy of Medicine, it was stated that the Academy was especially created to answer government requests on all related to the public health.⁶⁵ Named by the king as one of the titular members to the medicine section was that good friend of the government, Dr. Pariset, at that time a doctor at Bicêtre, a large Parisian hospital. Other leading hygienists appointed by the king as titular members included J. N. Hallé, professor of hygiene at the Paris Faculty, and one of the most prominent of the early hygienists, and F. E. Fodéré, professor at the medical faculty at Strasbourg and

⁶⁴The Royal Society of Medicine was founded in 1776 and met its demise during the Revolution. See above, Chapter I.

⁶⁵"Cette Académie sera spécialement instituée pour répondre aux demandes du Gouvernement sur tout ce qui intéresse la santé publique, et principalement sur les épidémies, les maladies particulières à certains pays, les epizooties, les différens cas de médecine légale, la propagation de la vaccine, l'examen des remèdes nouveaux, et des remèdes secrets, tant internes qu'externes, les eaux naturelles, ou factices . . . ," etc. Mem. de l'Acad. Roy. de Méd., I (1828), 2.

author of several important hygienic works.⁶⁶

By royal ordinance of 1822 Pariset was named permanent secretary of the Royal Academy of Medicine; named permanent honorary president was the king's first doctor, Baron Portal.⁶⁷ The first public meeting of the Academy was not held until May 6, 1824. Pariset in his inaugural address set forth the public health goals of the Academy and spoke eloquently about the importance of public health for the welfare of the society.⁶⁸

Expounding on the public health goals of the Academy, Pariset emphasized that public health should be one of its main areas of interest. Speaking of the ties between medicine and political economy, Pariset expressed the prevalent opinion that public health was the result of a more perfect civilization, that sick people made bad laws and vice versa. After enumerating some of the areas in which hygienists would concentrate their efforts, such as improvements in hospitals and prisons, public baths, provision of pure water, etc., Pariset concluded by saying:

this small number of examples gives us enough of a glimpse of what a limitless field we would have to survey if we followed step by step all the details of civil, military,

⁶⁶Mém. de l'Acad. Roy. de Méd., I (1828), 7-10. Fodéré was the author of Essai historique et moral sur la pauvreté des nations (Paris, 1825), and Leçons sur les épidémies et l'hygiène publique (4 vols., Paris, 1822-24).

⁶⁷Mém. de l'Acad. Roy. de Méd., I (1828), 16-17, 29. On the death of Pariset in 1847, Fr. Dubois d'Amiens replaced him as permanent secretary. See Fr. Dubois, "Eloge de Pariset," Mém. de l'Acad. Roy. de Méd., 13 (1847), XLII-LXX.

⁶⁸Mém. de l'Acad. Roy. de Méd., I (1828), 57-106.

and naval hygiene, details of which not a single one, however, ought to be neglected by us, because there is not a single one of them whose perfection is not necessary for the perfection of everything.⁶⁹

Originally there were three different sections of the Academy: medicine, surgery, and pharmacy; the medicine section was the largest with 30 honorary members and 45 titular members. However, in 1829 the Academy was re-organized so that all members met in one body; it was then subdivided into eleven classes or sections dealing with various aspects of medicine. Section No. 8, devoted to public health, legal medicine, and medical police, had six titular members and four adjunct members. Only one section had more members, medical pathology, with 13.⁷⁰

The Academy was also divided up into commissions, both permanent and temporary, which handled communications with the government as well as essays submitted by scholars for consideration. The four permanent commissions were the epidemic commission, the mineral water

⁶⁹"Ce petit nombre d'exemples fait assez entrevoir quel champ sans limite nous aurions à parcourir si nous suivions, pas à pas, tous les détails de l'hygiène civile, militaire, navale; détails doit pas un seul cependant ne doit être négligé par nous, parce qu'il n'en est pas un seul dont la perfection ne soit nécessaire à la perfection de tout," pp. 94-95.

⁷⁰Mém. de l'Acad. Roy. de Méd., 2 (1833), 61-65. The 1829 re-organization also abolished honorary membership, reduced the regular membership, and limited membership to doctors, surgeons, pharmacists, and veterinarians. See Mém. de l'Acad. Roy. de Méd., 2 (1833), 70. In 1845 the members of Section No. 8 were Adelon, Chevallier, Eméry, Forestier, Gérardin, Kéraudren, Labarraque, Lecanu, Londe, Nacquart, Renauldin, Royer-Collard, and Villermé. See Mém. de l'Acad. Roy. de Méd., 11 (1845). For members of the Royal Academy of Medicine, see Appendix 15.

commission, the secret remedy commission, and the vaccine commission. Temporary commissions were set up to deal with questions submitted by the government or essays submitted by scholars for consideration when the question at hand did not fall within the categories of the permanent commissions. The permanent commissions, each composed of six or nine members, were to prepare general yearly reports on their particular areas to be sent to the government.⁷¹

The Academy, limited to an advisory capacity, had no legislative or administrative functions.⁷² The government submitted questions to it which a commission of the Academy, permanent or temporary, would then study and make a report on to the whole Academy. The report was then discussed and voted on, as presented, or as amended by the whole Academy. The final opinion adopted by the majority became the Academy's position on a given issue.

The government was responsive to the opinion of the Academy and usually tailored its actions in public health matters accordingly.

⁷¹Mem. de l'Acad. Roy. de Méd., 2 (1833), 67-68; 3 (1833), 380; 4 (1835), 30. Villermé was a member of the permanent epidemic commission.

⁷²Mem. de l'Acad. Roy. de Méd., 3 (1833), 393. Not all members were satisfied with the role of the Academy as simply an advisory body. P. A. Piorry, for example, a hygienist and member of the epidemic commission, urged the Academy to act as a pressure group and to lobby for legislation to protect the public health as well as to indicate to the authority just what public health measures ought to be taken. See Mem. de l'Acad. Roy. de Méd., 6 (1837), 16. Piorry said with regard to the Academy, "c'est à elle de provoquer la législation et de demander des mesures protectrices. . . . Ce n'est pas aux médecins à faire des lois de salubrité; mais c'est à eux qu'il appartient d'en démontrer l'utilité et de les solliciter."

Perhaps the first example of the prestige and importance of the Academy and the responsiveness of the government to it was the case of Nicolas Chervin's attack on the national sanitary legislation.⁷³ The opinion of the Academy in 1828 had the effect of reducing the sanitary policy of the Restoration government to almost nothing.

Both the superior health council attached to the Minister of the Interior⁷⁴ and the Royal Academy of Medicine were set up by the Restoration government to advise the government in matters of public health.⁷⁵ When the superior health council was set up in 1822, the Royal Academy of Medicine was still in its formative stages not having yet even had its first public meeting. It was still likely then that the superior health council could have evolved to a rather more important position than it did. But the Royal Academy of Medicine totally eclipsed the superior health council in importance by 1828 and went on to become not only the principal advisory body to the French national government in matters of public health, but the most prestigious medical assembly in the world.⁷⁶ At the conclusion of the report of the plague commission, given in 1846, René Prus, the reporter,

⁷³See above, pp. 124-25 for a discussion of this.

⁷⁴After 1830, attached to the Minister of Commerce.

⁷⁵The superior health council had also the more specific duty of enforcing the 1822 sanitary legislation.

⁷⁶Ackerknecht states, "For decades, the Paris Academy of Medicine [Royal Academy of Medicine] was undoubtedly the leading medical assembly internationally, and its transactions were studied with the greatest interest everywhere." In Paris Hospital, 116-117.

stated the importance of the Royal Academy of Medicine to the French government. Speaking of the significance of the report on the plague, on which hinged the remaining French sanitary legislation and which had been requested by the government, Prus said, "You will see, gentlemen, that the government is right in seeing you as the most competent body with regard to the great questions of public health."⁷⁷

National Health Legislation, 1815-1848

In addition to the 1822 sanitary law, two other major national laws related to public health were passed during the period under discussion. One, the law regulating dangerous trades (dangerous being those that threatened health and safety), dated from 1810, but was re-issued by Louis XVIII in 1815, and continued to be enforced, more or less, throughout the period.⁷⁸ This law required industries to receive prefectural authorization before legal establishment, and in the case of those industries classified first class, or dangerous, the approval of the Conseil de'Etat was required for authorization.

Yet to what extent this law was a public health law is a matter of some debate. While it was purported to reconcile the interests of industry, property, and public health, in practice it often seemed

⁷⁷Bull. de l'Acad. Roy. de Méd., 11 (1846), 870. "Vous montrerez, messieurs, que c'est avec raison que le gouvernement vous regarde comme le corps le plus compétent dans les grandes questions d'hygiène publique."

⁷⁸For a more detailed discussion on this law, see chapters on industrialization, and the Paris health council.

more intended simply to reconcile the interests of industry and property. For example, in Paris, where authorization was granted by the prefect of police on the recommendation of the health council, if the health council did not recommend authorization, the prefect of police could override the decision of the health council. Likewise if authorization was refused by the prefect of police, his decision could be overridden by the national government. Even though public hygienists considered this law an important piece of public health legislation, it would seem that the rights of individual property holders versus the rights of enterprising industrialists and craftsmen were really what the law was about.

Nevertheless one must not underestimate the interest of the national government in matters of public health. The fact that there was such a law which recognized the importance of public health and which regulated industry with regard to health concerns, at least in theory, shows that the government was aware of the health problems created by industrialization and saw the need to impose certain restrictions on new industry for this reason.⁷⁹ Even though the advantages to the public health are debatable, at the time it was a progressive idea to require, in the case of Paris and other cities, that new industries with a first class rating be established away

⁷⁹Industries already in existence in 1810 were not covered by the law. The law was not retroactive, a fact which contributed to its ineffectiveness as a health law. In Trébuchet, ed., Bulletin administratif et judiciaire de la préfecture de police et de la ville de Paris, 1 (jan. 1835), 33.

from inhabited areas. The result was that much new industry was set up in the suburbs of Paris rather than in the city center. At the time this seemed to be a good solution to some of the health problems such as air and water pollution created by industries of the first class in the center of Paris.

In addition to the 1815 law on dangerous trades and the sanitary law of 1822, there was a third national law passed during the period dealing with an aspect of public health: the child labor law passed by the chambers in 1841 to regulate the ages and working hours of children. This law is of some importance for general social history as well as for the history of public health, for it ranks as the only major piece of social legislation passed during the Restoration and the July Monarchy.

The various English inquiries into the state of the working class in England, as well as those done in France by Buret and Villermé, had pointed up the public health problems associated with industrialization.⁸⁰ It was agreed by many, especially Villermé, the champion of the child labor law, that one of the main evils was that of child labor, which weakened the health of the child and meant that the chances were good that the child would not grow up to be a useful citizen/soldier. The motivating factors behind the child labor law were partly humanitarian, partly nationalistic.

⁸⁰ See above, Chapter III.

Alsatian industrialists, represented by the Société Industrielle de Mulhouse, also favored a law limiting working hours for children, and in petitions sent to the chambers asked that such a law be passed.⁸¹ During 1840 and 1841 the child labor law was under discussion in the Chamber of Peers and the Chamber of Deputies.⁸² Charles Dupin, an advocate of such legislation, pointed out that limiting the working hours of children in Great Britain had not harmed British industry. Advocates of the law claimed that justice and humanity required such a law; skeptics pointed out that government intervention to regulate industrial matters would set a dangerous precedent, and that furthermore the government would not only be interfering in industry, but in private domiciles as well, where the authority of the father in running his family would be challenged. Some deputies voiced the opinion that as England, Prussia and Austria already had such laws, France should keep up with the times. Interventionists warned that unregulated industrialization could destroy the social fabric of the country.

The law finally passed by a large majority in both chambers in 1841.⁸³ In its final form it had one major weakness: it did not

⁸¹Moniteur, 1e 12 janv. 1840, 64, Ch. Peers, séance du 11 janv.; 1e 23 fev., 1840, Ch. Peers, séance du 22 fev., 351.

⁸²See Moniteur, janv.-mars 1840; Dec. 1840, janv.-mars 1841.

⁸³Moniteur, 24 fev. 1841, séance du 23 fev., 456. In the Chamber of Peers out of 106 voting, 104 were in favor of the law and 2 opposed; 12 mars, 1841, séance du 11 mars, Ch. Dep, 626; out of 235 voting, 218 were in favor of the law and 17 against.

provide for salaried inspectors to enforce the law.⁸⁴ Another problem with the law was that it only applied to factories employing more than 20 people or those with steam engines. As the major portion of French industry was still of the handcraft type carried out in small workshops, this meant that the bulk of industry was exempt from the law.⁸⁵ In a speech in the Chamber of Peers in 1847, when the law was again considered, Charles Dupin pointed out these weaknesses. That same year an amended law providing for salaried inspectors and extending the law to all factories and workshops employing either ten people or five children was presented by a commission of the Peers.⁸⁶ The amended draft law was not adopted by both chambers before 1848, however, and thus the only major piece of social legislation passed from 1815 to 1848 remained unenforceable and inapplicable to much of French industry.

Conclusion

In the area of public health, as in many other areas, the Restoration regime showed much initiative.⁸⁷ Sussman, for example, has

⁸⁴For final law see le Moniteur, le 24 mars 1841, 721. Loi relative au travail des enfants employés dans les manufactures, usines ou ateliers.

⁸⁵On the extent of industrialization in France, see Appendix 1.

⁸⁶Moniteur, le 2 juillet 1847, pp. 1839-1847. Ch. Peers, addition à la séance de mardi 29 juin.

⁸⁷Bertier de Sauvigny, The Bourbon Restoration; B. de Sauvigny presents a convincing apology for the Restoration government, pointing out initiative and success in several important areas.

emphasized the significance of the 1822 sanitary legislation and the administration set up to enforce that legislation, and has presented convincing evidence to prove that the policy was undertaken not for political reasons, but for public health reasons.

The interest of the Restoration government in public health was also demonstrated by its prison reform program, aimed at improving the material and sanitary state of French prisons, as well as by the founding of the Royal Academy of Medicine in 1820, whose goals were directly related to public health.

In both the areas of prison reform and sanitary reform the Restoration government aimed at centralization of health policies in the hands of the national government. For example, one of the reasons for the national legislation of 1822 was to make uniform various local sanitary institutions and practices which had been functioning in some French ports for a couple of years. There was apparently no attempt to centralize the health council program, and perhaps it was because the health councils functioned fairly independently as municipal and departmental institutions that the Restoration government actually discouraged the proliferation of the health councils.⁸⁸

Yet by the end of the Restoration period the attempts at uniformity and centralization of health policies had to some extent failed. The Royal Society for the Improvement of Prisons, having ostensibly

⁸⁸The only source for this is Sussman, Yellow Fever to Cholera, 224.

accomplished its goal, at least in the maisons centrales, the showpieces of the regime, ceased to meet in 1829. The Paris health council noted that once again its duties included the inspection of prisons.⁸⁹ The Royal Academy of Medicine, set up under government auspices with Baron Portal and Etienne Pariset at the helm, very quickly asserted its independence from the government in health matters, coming out in 1828 for the non-contagion of yellow fever. The government, responsive to the opinion of the Royal Academy of Medicine, abandoned any further extension of its sanitary policy, the chambers refusing to vote any more money for this purpose. While the laws remained in effect, the national government after 1828 ceased to pursue the policy vigorously, its contagionist basis coming increasingly into doubt.

The government of Louis Philippe created no new national institutions to deal with the public health. The superior health council, set up in 1822, continued to function in an advisory capacity at a low-key level. The Royal Academy of Medicine, as the principal advisory body to the national government in questions of public health, continued to meet and its prestige and authority increased. The Royal Society for the Improvement of Prisons which had not survived the Restoration was not revived. Yet in its own way the national government continued to favor public health reform, but instead of seeing public health as a function of the national government, it relegated public health more and more to the departmental and municipal level.

⁸⁹R. G. . . . 1830-34, 74.

Part of the explanation why the July Monarchy was less actively concerned with creating uniform, centralized public health programs in certain areas as the Restoration government had done might be that the public health problems were different, and that the political assumptions about the role of government with regard to an area like public health were also different. The third possibility is that local institutions were believed to be more effective. This was the case in the 1832 cholera epidemic.

In theory at least, while the paternalism of Louis XVIII had been compatible with public health measures, Orleanism, the French brand of liberalism was not. Liberals demanded the abolition of the French sanitary policy for economic reasons, and even doctors, who based their opposition mainly on anticontagionism, concurred in such arguments. While the Restoration government had viewed contagious epidemic diseases as one of the most important areas for national government involvement, after 1830 the public health problem of epidemics was equalled by two important problems with public health consequences: industrialization and urbanization. Given their political philosophy, it was easier for the Restoration government to pass legislation to deal with epidemics and to set up advisory boards in public health matters than for the Orleanist regime to deal effectively on the national level with the public health problems associated with industrialization and urbanization.

Except for the 1841 child labor law, which was unenforceable and therefore ineffective, the national government of Louis Philippe

was little involved with the public health. The prevailing attitude was that intervention in industrial affairs, or in any sort of business affairs, even for the benefit of public health, was dangerous business, to be avoided whenever possible.

After 1830 the policy of the national government evolved to one of support for local health institutions, e.g., the health councils and vaccine commissions, and keeping the national government out of the health business. This was not done just for theoretical reasons, but probably for practical reasons as well. It was generally conceded that it was better to let the city of Paris handle its own public health problems, such as those resulting from overcrowded, unsanitary conditions, as well as those associated with industrialization. Urban public health problems were best handled by those on the scene.

The most striking and well known example of this shift from the national to the local level was the cholera epidemic of 1832. At first the national government was inclined to take responsibility to protect the nation, and the old sanitary institutions were revived. When this policy failed, cholera invading the country in spite of all traditional precautions, the sanitary apparatus was disbanded and in Paris, the local authorities, the two prefects and the Paris health council, took over the handling of the epidemic.⁹⁰

The usefulness of the municipal and departmental health councils, the principal local health institutions, was recognized

⁹⁰Sussman, Yellow Fever to Cholera, 220.

by the national government's spokesman for public health, the Minister of Commerce. In the mid-1830's T. Duchâtel, Minister of Commerce, envisaged a nationwide program of health councils and asked the Royal Academy of Medicine to study the feasibility of the proliferation of health councils at the departmental and arrondissement level. In a circular of 19 May 1835 sent out to the prefects Duchâtel spoke of the services that could be rendered by a health council in the main cities of each department. He noted that he would be very pleased if the general departmental councils would vote money for the establishment of health councils in each arrondissement. He also encouraged the prefects to purchase a copy of Moléon's reports of the Paris health council, volume I, which provided good evidence as to the benefits to be derived from having a health council.⁹¹

The report on the proliferation of departmental health councils prepared by the Royal Academy of Medicine was done in response to a request of Duchâtel. In their report the members discussed the origins of the health council, the duties of health councils, the scope of public health, and reports done by the health councils. They concluded their report by setting up a proposed organization of departmental health councils to be established throughout the country. They recommended that they might not be organized everywhere exactly the same as the Paris council, because different situations might call for

⁹¹France, Archives Nationales F⁸ 171 (hereafter referred to as A. N.), Circulaire No. 12. Ministère du Commerce. Bureau sanitaire. Salubrité. Paris le 19 mai 1835.

different solutions. The role of the Royal Academy of Medicine in the proposed organization was to be that annually they would make a general annual report on all the annual reports issued by the various health councils--a sort of state of the health councils report.⁹²

The proposed plan of setting up departmental health councils throughout the nation never materialized.⁹³ Some health councils were set up on local initiative, and this was encouraged by the government, but no nationwide program ever went into effect at the instigation of the national government until after the 1848 revolution. In 1843 Duchâtel's successor at the Ministry of Commerce, Cunin-Gridaine, in a circular to the prefects, called their attention to the publication of further reports of the Paris health council, and announced that he was sending a copy to each prefect. Many departments still did not have health councils, for Cunin-Gridaine told the prefects to give the volume to the health council, if one existed, and if not to put the book in the library in their prefectural offices.⁹⁴

Another circular to the prefects from the Minister of Commerce on the general topic of health was also issued in October of 1843.

⁹²Marc, reporter, "Rapport d'une commission de l'Académie royale de médecine, à M. le Ministre du Commerce et des Travaux Publics sur l'établissement de conseils de salubrité départementaux," *Annales*, 18 (1837), 5-36. Other members of the commission were Orfila, Pariset, Villermé, Adelon, Villeneuve, and Dupuy.

⁹³See note 95.

⁹⁴France, A. N. F⁸ 171. Circulaire du Ministère de l'Agriculture et du Commerce le 26 oct. 1843 à M. le Préfet au sujet de l'envoi du 2^{ème} volume des actes de ce conseil. Ministère de l'Agriculture et du Commerce. Direction du commerce intérieur, des manufactures et des établissements sabutaures, Bureau sanitaires.

In this circular, the advantages to be obtained from a health council were reiterated. Cunin-Gridaine, speaking generally of the duties of the health council, stressed that they dealt with problems arising from the development of industry and the march of civilization. He commented on the usefulness of the reports of the Paris health council as a guide and a model, but said that, as health problems varied from place to place, it would be beneficial for each department to have its own health council. He noted that Duchâtel, his predecessor, had advocated the proliferation of health councils at the departmental level, but said unfortunately as of 1843 only a few departments had their own health councils. Cunin-Gridaine pointed out that in addition to the usual advisory and inspective duties of a health council, in departments where there was no vaccine commission, the health councils could also take charge of this aspect of public health.

In an attempt to get an exact idea of the number of health councils in existence, the Minister asked the prefects to supply him with information as to whether their departments had one or several health councils, if so, when they were formed, and if they prepared annual reports. If they did have reports, he asked for a copy for himself, one for the Royal Academy of Medicine, and one for the Paris health council.⁹⁵

⁹⁵France, A. N. F⁸ 171. Ministère de l'Agriculture et du Commerce. Bureau sanitaire. A M. le Préfet de _____ au sujet de salubrité. Oct. 1843.

Thus even though the Minister of Commerce, who was in charge of public health at the national level under the July Monarchy, was favorably disposed toward the health councils and encouraged their proliferation, the national government did not during the July Monarchy actually implement the creation of new health councils; nor was there any attempt at uniformity or coordination, such as had been envisaged by the draft of organization done by the Royal Academy of Medicine.

In the years from 1815 to 1848 the French national government, especially the Restoration government, took an active interest in the public health of the nation. Several health policies were implemented, several institutions were set up to deal with the public health, and some national legislation was passed in an attempt to protect the health either of the whole nation or a segment of the nation.

It is not surprising that the French national government was not more actively involved in public health in terms of national legislation and national institutions. Public health before that time and since that time has almost everywhere been a local affair. What is noteworthy is the extent to which the government did take an interest in public health and the extent to which it supported and lent encouragement to municipal and departmental public health institutions.

CHAPTER V

THE PARISIAN PUBLIC HEALTH ADMINISTRATION: THE PREFECTURE OF POLICE AND THE PARIS HEALTH COUNCIL

Nineteenth century French public health was essentially urban health, for even though France was primarily an agricultural country, it was in the cities and towns where the health problems were most noticeable and where lack of public health measures brought about the most disastrous consequences, namely higher mortality rates than those in the countryside.¹ Hygienists and social reformers noted that the population growth of towns and cities which usually accompanied industrialization had created a situation in which the mortality rates in the nineteenth century had actually increased, in spite of the fact that they had declined for the country as a whole, and more specifically among the rural population.

Therefore, it was in the big cities, primarily Paris, and in the industrial cities, such as Lyon, Mulhouse, Lille, and Rouen, that public health reform seemed most urgent. Public hygienists recognized that public health was essentially an urban problem: J. B. Monfalcon

¹France, even as late as 1848, was by no means urbanized. In 1845 only 24.4 percent of the population of France lived in cities and communes of over 2,000 population, and in 1836 only 3.6 percent of the population lived in cities of over 100,000 population. This information in Adna Ferrin Weber, The Growth of Cities in the Nineteenth Century (Ithaca, N. Y., 1963 reprint; originally published 1899), 68.

and A. P. I. de Polinière, hygienists from Lyon, maintained that without sanitary regulations and sanitary administration cities would be virtually uninhabitable.² J. N. Hallé pointed out that public health existed primarily for city-dwellers, as for them it was indispensable.³ A member of the Academy of Political and Moral Sciences, M. Lélut, stated that it was justified that more attention had been given to public health in the cities than in the countryside, because it was more of a necessity in the cities.⁴ Parent-Duchâtelet, the most prominent urban hygienist of the period, asserted that an adequate sewerage system was a virtual necessity for life in big cities.⁵

Not only was French public health mainly an urban phenomenon; it was even more precisely a Parisian phenomenon. The importance of Paris as the center of the French public health movement is readily explainable, for Paris was the administrative, educational, and medical center of France. In Paris were located the center of the national government, the professional schools and societies, the learned academies, the publishing houses, and the libraries, as well as the most

²Traité de la salubrité, 34-40.

³"Hygiène," 529, 550.

⁴"De la santé du peuple," Mém. de l'Acad. des Sci. Mor. et Pol., VII (1850), 959-60.

⁵"Essai sur les cloaques ou égouts de la ville de Paris," 157, 161.

pre-eminent medical faculty in the nation.⁶ Paris also had the administrative machinery to deal with public health problems: the prefecture of police and the Paris health council.

In public health matters Paris set the example for the rest of the nation. Solutions to public health problems were typically first tried in Paris, then imitated in the rest of the nation, if indeed they were tried at all. Some of the public health problems faced by the city of Paris in the period under discussion were related to collection and disposal of wastes and garbage, provision of adequate water supply and bathing facilities, salubrity of private dwellings and public establishments, provision of pure food and drink, and prostitution.

The Parisian public health administration and the health problems confronting the city will be dealt with in three chapters, the first treating the administration which was in existence to deal with the public health, the second treating the collection and disposal of wastes, and the third dealing with other health problems grouped together under the title of "Improving the Quality of Life." The conclusion to the two chapters on health problems follows the second of these chapters.

⁶By the time the period under discussion began, the Paris medical faculty had eclipsed the other two, Montpellier and Strasbourg, in importance. See Ackerknecht, Paris Hospital, passim, but especially, xi-xiv.

Introduction

Even though there were several national institutions set up to deal with various aspects of public health, the most important being the Royal Academy of Medicine, the administration of public health was essentially a municipal and departmental affair. There were some aspects of public health which attracted the attention of the chambers, the ministers, and the kings, such as epidemics and child labor, but most public health problems were dealt with at the local level.⁷

In Paris the prefect of police was in charge of public health, while in the provinces these duties were assumed by departmental prefects and mayors. In turn the prefect of police in Paris and the prefects and mayors in the provinces were dependent upon municipal and departmental councils for money with which to implement public health measures.

Characteristic of the period was the creation of advisory bodies, called Conseils de salubrité, or health councils, at both the municipal and departmental levels to assist the prefects and mayors

⁷Chambre des Députés, séance du 24 déc., 1821, Le Moniteur universel (25 déc., 1821), 1729-30; see the royal ordinance giving preventive measures against the importation of yellow fever from Spain, Moniteur (30 sept. 1821), 1373-74; see also Moniteur (11 août, 1822), 1189-91; on the child labor law see the discussion in the Chamber of Peers, Moniteur, jan., fév., mars, 1840; for the Chamber of Deputies, see mars, avril, déc., 1840; for the final discussion in the Peers, see janv., fév., 1841; for the final discussion in the Deputies, see mars, 1841; for the child labor law, see Moniteur (24 mars, 1841), 721.

in the regulation of the public health.⁸ The mother council was the Paris health council, created in 1802 by the prefect of police of Paris, Dubois. By the 1830's the idea had spread to other parts of France and many of the major departments and some cities had their own advisory councils: Lyon (1822); Marseilles-Bouches-du-Rhône (1825); Lille-Nord (1828); and Bordeaux and Rouen (1831), just to mention a few.⁹

The purpose of this chapter is to discuss the Parisian public health administration, which consisted of the prefecture of police, the institution in charge of the public health for the city, and the Paris health council, the advisory body and prototype of the other French health councils, and the one institution devoted solely to the preservation of the public health in Paris.¹⁰

⁸Conseil de salubrité may also be translated as board of health.

⁹J. B. Monfalcon and A. P. I. de Polinière, Traité de la salubrité, 27; Ackerknecht, "Hygiene in France," 124, 126, 128, 131.

¹⁰From 1802 to 1848 the members of the Paris health council prepared yearly anywhere from 150 to 500 reports dealing with various aspects of public health in the city of Paris and the department of the Seine. Annually they prepared a report summarizing their work for the year and analyzing what they felt to be the most important things they had dealt with. Fortunately these annual reports were all printed and published at varying intervals and as such provide a complete record of the activities of the Paris health council, as well as a good picture of the state of the public health in Paris in the first half of the nineteenth century. The individual reports, in manuscript form, are unfortunately not available. Their existence is mentioned in François and Prunet, Le Conseil d'hygiène publique, p. 9, but they are not now to be located at the Archives of the Prefecture of Police. In any case, the annual reports are detailed enough so as to be fully adequate for the purpose of this chapter. Other health councils also published annual reports, such as the health councils of the departments of Nord (Lille) and Bouches-du-Rhône (Marseilles).

The Prefecture of Police and the Administration of
the Public Health

Paris and the Department of the Seine¹¹ were governed by two magistrates, each appointed by the Minister of the Interior: the prefect of the Seine, and the prefect of police.¹² While the prefect of the Seine was in charge of large public works, such as water supply, construction of sewers, and building of roads, that were intimately related to the public health, it was the prefect of police who was specifically empowered to administer the public health for the city of Paris. In addition to administrative duties related to the public health, the prefect of police was also responsible for the political police, public safety, and the preservation of law and order.

Public health was one of the major duties of the prefect of police, but depending on the situation prevailing at any given time, not always the most important. For example, Henri Gisquet, prefect of police from 1831 to 1836, was primarily occupied with the political police, the putting down of strikes, and the consolidation of the new

¹¹Also included in the jurisdiction were the communes of St.-Cloud, Sèvres, and Meudon in the Department of Seine-et-Oise.

¹²The government of Paris and the Department of the Seine differed from that of the rest of the departments and cities of France. At the head of each department was a prefect, appointed by the Minister of the Interior, whose duties included the preservation of the public health. The departments were divided into arrondissements governed by a sub-prefect, who also had public health responsibilities. Each commune (town or city) had a mayor, elected by the municipal council, but responsible to the prefect. The mayors also were supposed to provide for the public health in their towns or cities.

regime, while Gabriel Delessert, prefect of police from 1836 to 1848, devoted more time to the administrative police, an important aspect of which was public health.¹³

Specific public health duties of the prefect of police included: the control and surveillance of prostitution for sanitary reasons), the inspection of markets and abattoirs, street cleaning, sewer cleaning, public lighting, surveillance and authorization of industrial establishments, supervision of animal diseases, destruction of stray dogs, salubrity of public places, and control of charlatans. After the passage of the child labor law in 1841 the prefect of police was put in charge of measures relative to the execution of this law.¹⁴

Technical personnel attached to the prefecture of police in public health-related areas included inspectors of markets and abattoirs, nine wine tasters, eleven architects concerned with public works (la petite voirie), two engineers attached to the division in control

¹³Jean Tulard, La préfecture de police sous la monarchie de juillet (Paris, 1964), 111. For a list of the prefects of police from 1815-1848 see Appendix 6. See Gisquet, Mémoires d'un préfet de police écrits par lui-même (4 vols., Paris, 1840); in the Archives of the Prefecture of Police there are reconstituted dossiers of Anglès, Delaveau, Debelleye, Vivien, Gisquet, and Delessert; they contain little new information, consisting primarily of newspaper clippings and copies of printed articles, excerpts from biographical dictionaries, etc.; they contain no original manuscript material. There is also a dossier for Delessert in the National Archives, F1B15812, but it contains no information on him as prefect of police.

¹⁴Vivien, Etudes administratives. Le préfet de police (Paris, 1841), 34-40. For the organization of the office of the prefect of police, see Appendix 7.

of dangerous establishments, twelve doctors who examined prostitutes at the Dispensary, two inspectors who exercised surveillance over maisons de santé and wetnurses, and the prison personnel.¹⁵

This personnel was only one part of the personnel employed by the prefecture of police. According to Jean Tulard, during the July Monarchy the Paris prefecture of police had an administration which equalled certain ministries in importance. There were 200 employees at the prefecture of police and about 5,000 people attached in various ways to the service.¹⁶

The money for running the prefecture of police came from the Paris municipal council, which allocated out of the budget of the City of Paris the amount required to run the police service. Because of this, the municipal council exercised considerable control over the actions and programs of the prefecture of police. Thus any time an increase in funds was sought to institute or expand a public health program, the approval of the municipal council was necessary. The reason many of the programs suggested by the health council, the prefect's advisory board, were not put into effect, was because the municipal council would not allocate the necessary funds.

The budgets of the prefecture of police during the Restoration and July Monarchy ranged from 5,197,831 fr. in 1819 to 7,111,777 fr.

¹⁵Tulard, La préfecture de police, 64.

¹⁶Ibid., 39.

in 1828, to 7,240,191 fr. in 1836 to 10,720,072 fr. in 1847.¹⁷ Out of this came the prefect of police's salary, fixed at 30,000 fr. a year in 1818, the salaries of the division heads at 9,000-10,000 fr. a year, the salaries of the heads of bureaus at 4,500 fr. and the salaries of the assistant heads at 3,000 fr. In addition there were the salaries of the rest of the personnel at the prefecture of police as well as money paid to the 5,000 people in some way attached to the prefecture.¹⁸

In 1847, out of a total budget of 10,720,072 fr., approximately 3,240,610 was spent for public health-related expenses. This sum included both salaries and materials. Out of this the largest expenditure was for lighting--1,622,220 fr., and the next largest for street and sewer cleaning--1,086,750 fr.¹⁹

The prefect of police had the power to administer the public health for the city of Paris. He could issue ordinances regulating the public health, could enforce the ordinances by police force, and

¹⁷Ibid., 39, 68-69. See also APP, D^a79, Ville de Paris, Budget des Dépenses de la Préfecture de police pour l'exercice 1847. Annexe au Budget de la Ville de Paris pour ledit Exercice.

¹⁸APP, D^a69. Personnel. Budget de 1831; Budget de la Préfecture de Police 1832.

¹⁹APP, D^a79, Ville de Paris, Compte, du 17 mai 1848, des Dépenses de la Préfecture de police pour l'exercice 1847, suivi du compte des recettes dont le recouvrement est opéré ou suivi par ladite Préfecture. For a comparison of the budgets of the prefecture of police for 1831 and 1847 and money spent on various aspects of public health administration, see Appendix 8.

could arrest and bring before a tribunal violators of the ordinances. The reports of the health council, however, attest to much negligence on the part of the prefects of police with regard to enforcement of ordinances.²⁰

The advisory body to the prefect of police in matters of public health was the health council, which considered public health problems handed over by the prefect of police, made reports, and investigated requests for industrial authorizations. As an advisory board the health council had no real power, but its influence on the policies of the prefect of police was considerable.²¹

The Founding of the Paris Health Council, Its Membership and Subsequent Organizational Changes

The prefect of police (and his forerunners, the lieutenants of police, as they were called under the Ancien Régime) had been in the habit of consulting various learned men in order to get opinions and advice on a particular point of public health. Depending on the question at hand, a doctor, a veterinarian, a chemist, or a pharmacist might be consulted. From time to time when the opinion of more than

²⁰Rapports généraux du Conseil de salubrité de la ville de Paris, 1802-1848, passim. See also Tulard, La préfecture de police, 77, and Annales d'hygiène publique et de médecine légale, 1829-1848, passim.

²¹After 1832 there were 12 titular members and they each received a token salary of 1,200 fr. a year.

one specialist was needed, a temporary commission was set up. In 1802, one of the chemist-pharmacists who had been consulted often, Ch.-Louis Cadet de Gassicourt, proposed that Prefect of Police Dubois create a permanent health council to deal with questions of public health. On July 6, 1802, the Paris health council, consisting of four members, was set up.

At the time of its foundation the Paris health council had only limited duties; they were to examine supposedly falsified drinks, and to investigate and report on epizootics, and unhealthy factories and workshops. Shortly thereafter, the prefect of police increased the duties of the health council to include visiting the prisons and reporting on their sanitary state and handling the secours publics, the main aspect of which was at the time providing first aid to the drowned and asphyxiated.

In 1807 the Paris health council received its definitive organization by which its duties were increased and precisely enumerated, and by which the number of members was increased from four to seven. In addition to its former duties the health council was now to report on epidemics, markets, rivers, cemeteries, slaughterhouses, yards and houses for cutting up horses, dumps, dissection rooms, and public baths; the council was to keep medical statistics and mortality tables, do research on bringing about the sanitary reform of public places, perfecting unhealthy industrial processes, and on the elimination of quackery; the members were also charged with determining the best methods of heating and lighting and doing research on secret remedies.

Because of the enlarged duties of the health council, the prefect of police decided to name two doctors to the council.²²

At the time of its definitive organization, the health council had the following distinguished members: Ch.-Louis Cadet de Gassicourt, a chemist and pharmacist; Nicholas Deyeux, who had the chair of chemistry at the Faculty of Paris; Guillaume Dupuytren, second surgeon at the Hôtel-Dieu; Jean-Baptiste Huzard, a veterinarian, and inspector-general of the Veterinary School of France; Antoine-Auguste Parmentier, a pharmacist and chemist famous for his research on the potato;²³ and Michel Auguste Thouret, former director of the Paris Ecole de Santé, and author of many works on hygiene.²⁴

By 1828 the number of members on the health council had increased to 22. Some of the better known members who joined between 1807 and 1828 were Etienne Pariset, a doctor and writer, who was later to become permanent secretary of the Royal Academy of Medicine (1808);²⁵

²²V. de Moléon, R. G. . . . 1828, 41-42.

²³Parmentier introduced the potato to France. His essay Examen chimique de la pomme de terre (Paris, 1773) won the prize offered by the Academy of Besançon for the best essay on the most appropriate vegetable to replace bread. See La grande encyclopédie (31 vols., Paris, 1886-1902), t. 25, 1187. On Cadet de Gassicourt, see Alex Berman, "The Cadet Circle."

²⁴Moléon, R. G., xv-xxvi.

²⁵Date of joining the health council.

Jean d'Arcet, a chemist, who was well known for his research and publications on the improvement of industrial processes, especially ventilation (1815); C. C. H. Marc, a doctor of legal medicine who was the personal physician of the duc d'Orléans, later Louis Philippe (1815); Pierre Girard, chief engineer of Ponts et Chaussées, in charge of waters and sewers of Paris (1819); Joseph Pelletier, pharmacist and chemist, winner of the Academy of Science's prize of 10,000 fr. in 1827 for work in chemistry (1821); A. J. B. Parent-Duchâtelet, professor at the Faculty of Medicine in Paris, relatively unknown when he entered the health council, but who became in the late 1820's and 1830's one of the most important public hygienists as a result of his monumental works on prostitution and the sewers of Paris (1825);²⁶ Antoine-Germain Labarraque, a chemist and pharmacist who had studied under Chaptal and Vauquelin, and who was credited with the discovery of the disinfectant nature of chloride of lime (1828); finally, from 1831 to 1835 L. R. Villermé, perhaps the leading hygienist of the period, was a member of the Paris health council.²⁷ From its inception in 1802 throughout the whole period under discussion the men who sat on the

²⁶Parent was a member until his death in 1836. At the time of his death he was vice-president of the health council.

²⁷Moleon, R. G., xv-xl. For complete list of members see François and Prunet, Le conseil d'hygiène publique, 4-80 for years 1815-1848. Villermé resigned from the health council in 1836 probably because of additional duties with the Academy of Political and Moral Sciences. See above, Chapter III. For record of Villermé's resignation, see France, Archives Nationales, F⁸172, Letter from prefect of police to Minister of Commerce, 2 April, 1836, in which the resignation of Villermé and his replacement are given.

Paris health council were an illustrious group, well known in their particular specialties.

In 1807 when the definitive organization was decided upon, it was agreed that the health council would meet at least twice a month in the room of the Archives of the Prefecture of Police to discuss matters referred to it by the prefect of police relating to the public health, and to give advice to manufacturers and others who requested it. Permanent records would be kept of all the decrees of the prefect of police, as well as extracts of the reports done by the health council.

In 1807 the duties of the health council were much more circumscribed than they were later to become. Two of the duties specifically cited in the prefect's decree were biannual visitations to the first aid boxes for the drowned stationed along the Seine, and quarterly visits to the prisons. It was also decreed that each December the council would present to the prefect a review of the year's work, giving positive improvements made as well as suggestions for things that needed to be done in the future. Membership on the health council was the responsibility of the prefect of police; each time there was a vacancy the prefect of police would choose the new member from among three candidates nominated by the health council.²⁸

²⁸Moléon, R. G., 1-4.

After 1807 there were organizational changes in the health council as well as some modifications and extensions of the duties of the council. In 1828 the organization of the health council was changed by a decree of the prefect of police.

The number of titular members was increased to twelve and six adjunct members were added, as well as an undetermined number of honorary members. From 1832 on, the nominations made by the prefect of police for health council members were submitted to the Minister of Commerce for approval. Also in 1832 three men were made honorary members because of their titles: the Dean of the Faculty of Medicine at Paris, and the professors of public hygiene and legal medicine at the Paris faculty.

In 1838 new honorary members were added for their technical or administrative competence. These included the chief engineer of mines of the Department of the Seine (Tréméry), the chief engineer in charge of paving in Paris (Partiot), the chief engineer in charge of the Paris water supply (Emméry), the architect-commissioner of small public works (la petite voirie) (Rohault de Fleury), the head of the second division (Rieublanco) and the chief of the sanitary bureau (Trébuchet) at the prefecture of police, the engineer in charge of bridges and streets of the Department of the Seine (Jollois). Then in 1844 one of the members of the Army Health Council (Baron Larrey) was added to the Paris health council.

Health council members were appointed for life and received 1200 fr. a year for their services (after 1832--until that time they

received 900 fr.), the money coming out of the budget of the prefecture of police. While a health council member could be dismissed by the prefect of police with the approval of the Minister of Commerce, there was no instance of this during the period under discussion.²⁹

The most important extension in the duties of the Paris health council came as a result of the imperial decree of 1810 on dangerous and unhealthy industries. The basis of this decree was a report on industries done by the health council in 1809. According to the report and the ensuing decree, industries were to be classified in three areas depending on how dangerous, unhealthy, or obnoxious they were. Industries in the first class were those which were unhealthy or dangerous and had to be located away from populated areas; those in the second class were those which might have certain obnoxious qualities, but which were not recognized as dangerous or unhealthy and which might be tolerated in the city; in the third class were put those industries which could safely be set up in populated areas without any inconvenience to the inhabitants of the area.

According to the imperial decree of 1810 and the royal ordinance of 1815 on the same subject, all people desiring to set up an industry or workshop would have to seek authorization. If the

²⁹François et Prunet, Le conseil d'hygiène publique, 4-8. France, A. N., F⁸171, Note pour M. le Ministre 185__. This note contains all the decrees regulating the organization of the Paris health council. François and Prunet, p. 8, say that the salary of titular members was 1200 fr. dating from 1803. The note in the A. N. gives 1832. For the new members added in 1838, see François and Prunet, 60.

industry was in the first class the approval of the Conseil d'Etat was necessary. For second and third class industries only the approval of the prefect of police was required for authorization. Before the prefect granted this authorization the health council would inspect, classify, and make a report on the industry, recommending whether authorization should be given or not, and in many cases requiring that certain conditions be imposed on the industry before final authorization would be given.

After 1810 the inspection of industrial establishments seeking authorization became one of the main tasks of the Paris health council, and in most years anywhere from 2/3 to 3/4 of the reports of the health council dealt with inspections of industries seeking authorization, and complaints against established industries. This was particularly true after 1830 when the rate of industrialization in Paris accelerated greatly.³⁰

³⁰Moléon, R. G. . . . 1809, 39; 1810, 40; for the 1810 decree on dangerous trades, see Recueil des textes officiels concernant la protection de la santé publique, 1790 à 1935 (9 vols., Paris, 1957), I, 165-67; for the royal ordinance of 1815 reinforcing the Napoleonic decree, see ibid., I, 209, or Le Moniteur universel (16 fev., 1815), 187-88; see also Adolphe Trébuchet, Code administratif de établissements dangereux, insalubres, ou incommodes, suivi de la collection des lois, ordonnances et instructions concernant ces établissements annotées, et suivies de la nomenclature générale des établissements classés depuis le décret du 15 oct. 1810, jusqu'à ce jour (Paris, 1832). Trébuchet's book is the definitive work on this subject. See the article about it by Girard, "Rapport sur un ouvrage intitulé: Code administratif des établissements dangereux, insalubres et incommodes, par M. Adolphe Trébuchet," Annales, 10 (1833), 197-201.

From 1819 to 1827 the Paris health council ceased to inspect the prisons, one of their earliest duties. During these years the inspection and regulation of the prisons was taken over by the Royal Society for the Improvement of Prisons set up by royal ordinance in 1819, and more specifically by the General Council of Prisons under the Minister of the Interior, which was composed of a select group of 24 members from the Royal Society for the Improvement of Prisons. A few members from the General Council of Prisons were chosen by the king to be specifically in charge of Parisian prisons.³¹ It was noted in the health council reports for 1827 that once again the duties with regard to prison inspection had been resumed, and the health council was again visiting the prisons.³²

Other modifications in the duties of the health council involved charlatanism and public baths. After the founding of the Royal Academy of Medicine in 1820, the Paris health council ceased to have

³¹Moléon, R. G., 154; for the royal ordinance creating the Royal Society for the Improvement of the Prisons and the General Council of Prisons, see Moniteur (10 avril, 1819), 423. In the same issue, p. 424, is given a list of the members of the Royal Society for the Improvement of Prisons who would form the General Council of Prisons as well as those members chosen by the King to form the special council for the administration of the prisons of Paris. The only doctor and well-known hygienist on the General Council of Prisons was Etienne Pariset. The others were leading members of the nobility, including nine peers of France. A few of the well known members were the Duke de la Rochefoucauld, the Duke de Broglie, Baron Benjamin Delessert, Count Daru, and Guizot. The statutes of the Royal Society for the Improvement of Prisons are in Moniteur (14 juin, 1819), 784; the founders and members of the Royal Society for the Improvement of Prisons are in Moniteur (15 juin, 1819), 788-89. Out of 282 members seven were doctors. Two well-known hygienists were listed, Pariset and Villermé. See above, pages 133-34 and Appendix 11.

as one of its major duties research on the elimination of quackery, as this was one of the duties of the new Royal Academy of Medicine.³³ As of 1827 the health council was no longer visiting the public baths; as this task was apparently not specifically assigned to another organization it is likely that the prefect of police just never got around to asking the health council to visit and inspect the baths. By 1843 the health council was again visiting the bathing establishments of Paris. They may have been doing so before this year, but the 1843 report is the first positive indication that these duties had been resumed.³⁴

The Influence of the Paris Health Council

The duties of the health council were investigative and advisory in nature, the health council having no legal or coercive power of its own. Its function was to investigate various public health problems and requests for industrial authorizations, make reports on them, and then submit these reports to the prefect of police along with recommendations as to how the problems might be remedied. In the case of industrial authorizations the health council suggested

³³R. G. . . . 1827, 38; Mém. de l'Acad. Roy. de Méd., I (1828), 2. This fact was not noted in the health council reports until 1827, however.

³⁴R. G. . . . 1827, 35; "Rapport général des travaux du Conseil de salubrité de la ville de Paris pour l'année 1828," Annales, 2 (1829), 342; Rapports généraux des travaux du Conseil de salubrité pendant les années 1840-1845 inclusivement (Paris, 1847), 203-04.

conditions that ought to be imposed on the industrial establishment before an authorization could be granted. It was then up to the prefect of police to take the recommended action, issue an ordinance regulating a certain aspect of public health, or authorize an industry. It must also be remembered that the prefect of police was not compelled to consult the health council if he chose not to do so. This fact explains why certain public health decisions were made in Paris without the health council's even being consulted.

If the health council had no power, it did nevertheless exert a considerable amount of influence. Its influence was felt in three main ways: (1) upon its recommendation police ordinances regulating the public health were issued; (2) upon its recommendation certain public health measures and programs were put into practice; (3) upon its recommendation industries were authorized or were not granted authorization, and certain conditions were imposed upon these industries.

The legal regulation of the public health in Paris was done by police ordinances, issued by the prefect of police and having the force of law, in that if one broke them, that person could be arrested and brought before a tribunal. If found guilty a person was then subject to a fine or imprisonment.³⁵ Many of the new police ordinances issued by the prefects of police in the period under discussion were

³⁵Vivien, Etudes administratives. Le préfet de police, 13.

issued at the recommendation of the health council. For example, between 1829 and 1839 some of the police ordinances issued regulating the public health dealt with colored candies, use of copper utensils, falsification of salt, first aid to the drowned and asphyxiated, deposits of mud and garbage in the rural communes, the cleaning of wells, the falsification and sale of explosives, the classification of new industries, anatomy amphitheatres, and butchershops.³⁶

From 1840 to 1845 further ordinances were issued at the instigation of the health council, dealing with such aspects of public health as abattoirs, toxic coloring in food, vicious animals (carriers of rabies), animals with contagious diseases, the transport of unhealthy materials, the manufacture and transport of chemical (phosphorus) matches (a new and hazardous industry which had to be regulated).³⁷ If some of the practical results of the health council's work are measured in terms of police ordinances that were issued as

³⁶A. Trébuchet, "Rapports généraux des travaux du Conseil de Salubrité, depuis 1829 jusqu'en 1839," Annales, 25 (1841), 98-99. An example would be the ordinance of July 1832 concerning the use of copper utensils. As a result of research done with copper and lead it was found that these were sometimes hazardous to health, so this ordinance regulated the use of copper and lead and provided for periodic visits to those public establishments that used them to be sure they were in good condition. See "Ordonnance de police concernant la salubrité," Annales, 16 (1836), 463-66.

³⁷A. T. [A. Trébuchet], "Rapports généraux des travaux du Conseil de Salubrité depuis 1840 jusqu'à 1845 inclusivement," Annales, 38 (1847), 149. See for example, "Ordonnance concernant les liqueurs, sucreries, dragées et pastillages coloriés," Annales, 29 (1843), 359-60, in which the use of mineral substances for the purpose of coloring edibles was forbidden, and annual visits to candy makers were provided for in order to enforce the law.

a result of its recommendations, then it was most successful. For example, under the prefecture of police of Gabriel Delessert (1836-48), over 200 police ordinances were issued, many of which dealt with aspects of public health (it must be remembered, however, that many ordinances were reissued every few years).³⁸

While the influence of the health council was important as far as getting police ordinances regulating the public health passed, when it came to enforcement of these ordinances, the health council was powerless; and unless the ordinances were enforced, they were virtually meaningless as far as the practical application of public health measures went. From all accounts, many of the ordinances were not enforced on a regular basis.³⁹ We know from the health council reports that this lack of law enforcement was one of its major frustrations.

There are several reasons why the police ordinances regulating public health were not enforced on a regular basis. Throughout most

³⁸APP, Dossier Delessert. Many of the ordinances were reissues of ordinances first issued by Count Dubois (1800-1810), the first prefect of police. See Jean Tulard, La préfecture de police, 77. Many of the ordinances dated back even further, as Dubois himself had reissued many of the ordinances of the Ancien Régime's Lts. of Police; see John Phillip Stead, The Police of Paris, 77.

³⁹See Tulard, La préfecture de police, 77. The health council reports furnish numerous examples of the lack of law enforcement. See for example, Moléon, R. G. . . . 1816, 86; 1818, 1321; 1820, 172. For an example from a later date, see R. G. . . . 1846, 36.

of the period the Paris police was more engaged in rooting out subversives than in enforcing public health measures.⁴⁰ And when political subversion seemed under control there were always strikes, working class troubles, and crime to deal with. Except for the emergency of the cholera epidemic in 1832, there were, generally, in the 20's and early 30's, more immediately important goals (as far as the Parisian administration was concerned) for the Paris police to pursue than the enforcement of police ordinances related to the public health.

Under the police prefecture of Gabriel Delessert (1836-48) the administrative police, that aspect of the police involved with the public health, received a greater extension than it had under his predecessors. Delessert reissued many ordinances that had been ignored and forgotten, and made some attempts at enforcement of those ordinances. Nevertheless, the enforcement was still not so rigorous as the health council would have liked. Jean Tulard explains the lack of regular enforcement of police ordinances during the July Monarchy as a reaction to the strict regulation of Parisian life under Napoleon and the first prefect of police Dubois. Tulard says that the administrators during the July Monarchy were convinced liberals

⁴⁰See the inventory of the Bulletins of Paris, addressed daily from the prefect of police to the Minister of Interior for the years 1830-48 in Tulard, La préfecture de police, 118 ff. These bulletins generally do not deal with public health, but rather with political activity and economic troubles. See also Tulard, 77-111. See Vivien, Etudes administratives, 14-39; Stead, The Police of Paris, 90-109.

who were trying to break away from an earlier tradition of interventionism which they had inherited.⁴¹

The influence of the health council was also felt in certain public health measures and programs that were initiated upon its recommendation. The first good example of the influence of the health council on a major public health measure was the 1810 imperial decree on dangerous industries. The basis of this decree was a report done in 1809 by the health council and adopted practically in toto.⁴²

Another example of the influence of the health council involved the cleaning of sewers. By the mid-1820's many of the sewers of Paris were in desperate need of a good cleaning; upon investigation the health council reported that it had been so long since some of them had been cleaned that they had actually been lost. When the administration decided to clean out one of the major right bank sewers, the Amelot, in 1826, the prefect of police named a commission which included members of the health council to decide on the hygienic precautions that should be taken, as traditionally one of the worst problems associated with the cleaning of sewers was the asphyxiation of workers. The recommendations of the health council which provided for adequate ventilation and disinfection with chloride of lime were

⁴¹Tulard, La préfecture de police, 77-78, 97-111. See also, of course, the health council reports, passim, as all these generalizations are supported therein.

⁴²See below, pp. 193-5, for discussion of the law. See Moléon, R. G. . . . 1809, 39; 1810, 40.

adopted, and the cleaning of the Amelot sewer, which took five months, was a success. The health of the sewer workers was not altered.⁴³

Further evidence of the health council's influence is offered by its handling of the problems associated with the équarrissage (the cutting up and flaying of horses) industry, the subject of many reports. The success of the municipal abattoirs which had been built under Napoleon⁴⁴ had led the city administrators to wonder if a central slaughterhouse for équarrissage would not be a good idea. Not only could all the small industries that used the debris be brought together, but at least a major portion of the city dump at Montfaucon could be suppressed, a plan which had been under discussion since before the Revolution.

The health council was asked to consider the advantages of a central slaughterhouse and to make hygienic recommendations for its construction. The health council favored the idea of a central slaughteryard, but opposed the plan of the administration to build a sort of grandiose monumental slaughterhouse, which, according to the health council was a waste of money and absolutely unnecessary because

⁴³Moléon, R. G. . . . 1826, 365-71; see also the report itself, Parent-Duchâtelet, rapporteur de la commission, "Rapport sur le curage des égouts Amelot, de la Roquette, St.-Martin et autres, ou exposé des moyens qui ont été mis en usage pour exécuter cette grande opération, sans compromettre la salubrité publique et la santé des ouvriers qui y ont été employés," HP, I, 308-437.

⁴⁴The health council had not been consulted on their construction. See Moléon, R. G. . . . 1819, 143. See Appendix 9 for description of abattoirs.

of the improvements that had taken place in the industry by the time the administration announced its plan in the 1830's. By that time the industrial processes of the équarrissage industry had improved to such an extent, due to the application of steam power and the use of disinfectants, that the industry was no longer offensive as it once had been. The health council suggested that the city purchase a tract of land, where individual proprietors could then set themselves up.

By 1839 the administration had become convinced of the soundness of the health council's recommendations, and decided to establish a slaughteryard in Aubervilliers, outside of Paris. All precautions and hygienic measures indicated by the health council such as adequate water supply and drainage, as well as the application of modern healthful processes involving the use of steam power and disinfectants were put into effect.

The establishment of the slaughteryard at Aubervilliers was in the final account done according to most of the health council's recommendations. The health council considered it to be a very important public health measure, especially because it made possible the final suppression of the city dump at Montfaucon in 1841, an event which hygienists had advocated for many years.⁴⁵

⁴⁵Molén, R. G. . . . 1824, 299; 1835, 105-06; 1837, 172-73; 1838, 207-09; 1839, 233-35; 1840, 42-45; 1841, 101-02; see Parent-Duchâtelet, "Projet d'un rapport demandé par M. le préfet de la Seine sur la construction d'un clos central d'équarrissage pour la ville de Paris," HP, II, 309-26; the definite work on équarrissage is Parent-Duchâtelet, "Les chantiers d'équarrissage de la ville de Paris, envisagés sous le rapport de l'hygiène publique," HP, II, 123-257. For the new processes which rendered the industry practically

Another case which demonstrates the influence of the health council involved the recommendations of the health council regarding the cholera epidemic of 1832. In 1831, as cholera was moving westward across Europe, administrators and hygienists in Paris began making plans to keep the disease out of Paris, or if that failed, to deal with it when it arrived. In 1831 the prefect of police asked the health council to prepare a report outlining preventive measures against cholera, as well as a plan of what to do should cholera invade the city in spite of the preventive measures. A health council commission presented such a report, which served as the basis of the administrative measures that were taken in Paris both to prevent cholera and to deal with it if and when it arrived.

The preventive measures proposed by the health council primarily dealt with specific ways to clean up the city in order to improve its sanitary state. A major clean-up campaign was launched in the city of Paris, but cholera was not deterred. When the epidemic hit, the various recommendations of the health council had been put into effect: these included the organization of first aid stations, ambulance service, the setting up of temporary hospitals all over the city, the keeping of accurate statistical records, services to provide

inoffensive, see Parent-Duchâtelet, rapporteur, "Rapport sur les nouveaux procédés de MM. Salmon, Payen et Compagnie, pour la dessiccation des chevaux morts et la désinfection instantanée des matières fécales; précédé de quelques considérations sur les voiries de la ville de Paris," HP, II, 285-308; this report was done by a commission of the health council.

for sufficient and sanitary burials, the curtailment of public gatherings, and disinfection and continual cleaning on the public and private levels. It is to the credit of the Paris health council that the city was well prepared for cholera when it finally struck.⁴⁶

On the other hand the health council had many good plans and recommended various programs and measures that were not adopted. Almost always, when the administration failed to accept the recommendations of the health council or a particular plan proposed by the health council the reason was lack of money. A good example of this involved the problems associated with garbage and mud disposal in the city of Paris. What to do with garbage and mud from the streets of Paris was a major public health problem. In the 1820's the health council proposed a plan which consisted of a daily garbage and mud pickup and the sending of the mud and garbage out of the city on barges to be deposited away from the city, where it could ferment, eventually to be used as fertilizer. The health council's plan was never adopted because it was too expensive. Against the advice of the health council the administration permitted mud and garbage deposits on the land surrounding Paris, a practice which the health council deplored, but which became less offensive and less of a health hazard in the 1830's because of the application to the garbage heaps of a

⁴⁶R. G. . . . 1830-34, 75-80. These five annual reports were published as one report. See Sussman on this. Sussman, Yellow Fever to Cholera, 214-277.

recently discovered disinfectant.⁴⁷

Another example of the administration's failure to adopt a plan recommended by the health council involved water drainage in the rural communes outside of Paris, where the sewer system was very primitive. Upon investigation of the situation the health council recommended the construction of a complete drainage system including the paving of streets and construction of sewers, for, as the members pointed out, an unhealthy situation in the communes surrounding Paris might compromise the health of the city. By the 1840's the suggested plan had not been effected, probably because of lack of money, or rather in the opinion of the health council that the available money was being spent on monuments for the city of Paris, instead of for a sewerage system in the suburban areas. The problem of water drainage and stagnant water in the rural communes went unsolved.⁴⁸

The third major area in which the health council exercised considerable influence was industrial authorization and classification. As a result of the 1810 imperial decree and the 1815 royal ordinance on dangerous trades, the health council's most time-consuming duty became the investigation of and reporting on industries seeking

⁴⁷R. G. . . . 1827, 36-38; 1828, 329-30; 1835, 112-13; 1837, 186-88; 1839, 253-55. Other than financial reasons were probably involved as well. Resistance from ragpickers might also have been a reason, as they were a powerful group. See on this point Chadwick, Report on the Sanitary Condition, 93, 94, and Sussman, Yellow Fever to Cholera, 290-303.

⁴⁸R. G. . . . 1828, 319-27; 1841, 106-08; 1842, 170-73; 1847, 105.

authorization, and in the case of new industries, both classification and authorization.⁴⁹ Indeed in most years over 3/4 of the health council's reports dealt with industrial authorizations and the investigation of complaints against industries.⁵⁰

When the proprietor of an industrial establishment sought authorization for his industry from the prefect of police (or in the case of a first class industry, from the Conseil d'Etat), the health council conducted an investigation of the proposed establishment to find out what the inconveniences to property owners in the area were, as well as what the dangers to the public health were.⁵¹ Posters were put up in the locality of the industry and inhabitants were asked to make known their complaints or approvals.

In most cases the health council recommended authorization, but usually there were conditions imposed without which the authorization would not be given. For example, if the health hazard and the inconvenience to inhabitants was smoke, the proprietor might be required to build a high chimney or to use a smokeless fuel in order to receive authorization. In the case of a first class, or particularly obnoxious or dangerous industry, authorization could only be

⁴⁹See above, page 180.

⁵⁰For example, in 1842 out of 590 reports, 516 were requests for authorization or complaints against industrial establishments.

⁵¹In the case of a new industry, the investigation would result both in a recommendation as to how the industry should be classified, as well as to whether it should be authorized or not.

granted if the industry were located outside the city center away from inhabitants.⁵²

Usually the prefect of police followed the recommendations of the health council with regard to industrial classification and authorization, as well as the conditions to be imposed. The only problem came when the imposed conditions had to be enforced, for then the health council was powerless and was dependent upon the police to ensure that the required conditions were met. We know that in many cases enforcement was lax, for the health council often lamented the situation.⁵³

Thus the health council as an advisory board to the prefect of police did exert considerable influence in various areas of the Parisian public health administration. Its influence varied, of course, depending on who was prefect of police and the exigencies of the moment. Generally, the influence and authority of the health council increased as the period progressed. This was due to several factors: first, as the necessity for public health measures became more and more evident due to increased awareness of public health, the importance and the authority of the health council increased;

⁵²For this reason, much of Parisian industry by the 1840's was growing up in the communes surrounding the city rather than in the city itself. This was beneficial to the public health of the city, but of course, presented increasing problems for the rapidly growing suburbs.

⁵³See, for example, R. G. . . . 1837, 157-58. In fact, complaints against industrial establishments were evidence that the imposed conditions had not been adhered to. By 1844 the situation was better. See R. G. . . . 1844, 269-70.

secondly, publicity of the work of the health council through its published reports, as well as through articles in learned journals and newspapers, increased its authority and influence in both the Parisian and the national administrations; and thirdly, especially after 1835 under Rambuteau, as prefect of the Seine, and Delessert, as prefect of police, the Parisian administration gave more attention to urban public health problems, and as a result the influence of the health council grew.⁵⁴

Outlook and Attitudes of the Paris Health Council

The general attitude of the members of Paris health council toward the public health was pragmatic. Their appointment to and continued service on the health council being dependent on the prefect of police (and after 1832 the approval of the Minister of Commerce), they had to court his favor. They also realized that public health was only one of several important rights and interests of Parisian citizens, and not always the most important in the public opinion. Furthermore, they had to take into consideration the fact that for many in the ruling classes the right of all to public health was secondary to the rights of a few to liberty and property.

It was up to the health council, convinced of the importance of public health, to find ways in which the requirements for public

⁵⁴Rambuteau, Mémoires du Comte de Rambuteau publiés par son petit-fils (Paris, 1905), 267-93, 325-94; Tulard, La préfecture de police, 102-111.

health might be reconciled with the interests of liberty and property. The reconciliation of these varying interests was often difficult for the men on the health council, for their outlook was predominantly liberal. While in theory they adhered to the principle of the non-intervention of the government in commerce and industry, in practice they often had to recommend government intervention to protect the public health and safety. Outside the realm of industry and commerce, the health council by no means favored a policy of laissez-faire, for that would have been completely contradictory to the whole idea of public health, which was that of preventive medicine. The public hygienists and others who were members of the Paris health council advocated an active role by the government in initiating and promoting public health programs and measures.

During the period under discussion the Paris health council had to deal with two trends characteristic of some areas of western Europe in the first half of the nineteenth century: urbanization and industrialization. Both of these developments created numerous problems for public hygienists and municipal administrators, and the health council devoted much of its attention to the solving of these problems.

As early as the 1820's the health council began to view the rapid growth of the city of Paris and all that it entailed as a menace to the public health. The members of the council commented on many occasions on the new construction going on in the city, and noted that it was being done at the expense of the public health, by eliminating

sunshine and air, and replacing trees, flowers, courtyards, and parks with new, often shoddily built edifices.

They urged the administration to engage in some sort of urban planning program to ensure the preservation of the public health. Over and over they advocated the adoption of a building code so that new construction would have to meet certain minimum health and safety requirements. Until such a time as a code was adopted, they urged the administration to enforce the existing ordinances which regulated such matters as the height of buildings proportional to the width of streets. Much new housing had to be built between 1820 and 1848 to accommodate a rapidly growing population. The health council, recognizing that much of this new private housing was substandard, recommended the issuing of a police ordinance regulating the salubrity of private dwellings. Only in late 1848 was the health council finally successful.⁵⁵

Because of the special duties of the health council with regard to industry resulting from the 1810 decree on dangerous trades, the Paris health council devoted more time and attention to industrialization than urbanization, though admittedly to a great extent the two were interrelated. To the members of the Paris health council industrialization did not imply all that it does today, for they saw the process in strictly early nineteenth century terms. It meant to

⁵⁵Moléon, R. G. . . . 1824, 308-11; 1825, 357-62; 1827, 39; 1829, 37-39; 1848, 172-92.

them the rapid increase in the number of small workshops, the application of steam power to industry, and as a result of this the growth of some large factories, and the development of a home industry for the manufacture of capital goods. The industrial revolution (they used this term) that they saw taking place in Paris, especially after 1830, was the application of steam power to industry, or the mechanization of industry.⁵⁶

Their outlook toward industrialization was optimistic, for they considered industrialization to be a sign of the progress of civilization. Because of this they believed that industry should be left as free as possible to develop, as long as it did not infringe upon the rights of property-holders, or menace the public health.

When it came to industry, the health council members had great difficulty reconciling their belief in laissez-faire with the requirements of public health. Good capitalists, they feared restrictions on the freedom of industry even for the benefit of the public health, for they believed that wealth was essential for health. They had to consider public health in economic terms, for they thought that if the industrial system did not work, general poverty would result, and then the health of all was likely to suffer.

⁵⁶Moléon, R. G. . . . 1818, 121; 1820, 159; 1822, 221-22; 1823, 260; 1824, 281-84, 298-99; 1827, 7; 1837, 145; 1838, 195, 200; 1841, 49; 1842, 156-58.

Villermé had demonstrated the relationship between poverty and high mortality rates, and his hypothesis had been generally accepted among French public hygienists.⁵⁷ Optimistic about the social and economic benefits of industrialization, most hygienists believed that industrialization was bringing about a general increase in wealth and that the wealth was filtering down even to the common worker. Increased wealth meant more consumption of goods, which meant more factories and workshops, which meant more wealth and so on.⁵⁸

In spite of the fact that industry posed certain recognized hazards to the public health, at the same time industrialization, or mechanization, could be beneficial to the public health. By the 1840's, as the health council pointed out, the improvement of industrial processes had eliminated many of the inconveniences associated with various industries in their infancy, such as the équarrissage industry. Better processes, better fuels, better machines, better means of using and disposing of industrial wastes had improved the healthfulness of certain industries. Mechanization of some processes meant that some of the most hazardous and unhealthy jobs could be relegated to machines.⁵⁹

⁵⁷Moléon, R. G. . . . 1821, 208; 1824, 281-84; 1827, 15; 1829, 38; 1838, 216-17; 1842, 157; 1846, 2-4.

⁵⁸R. G. . . . 1838, 195-96.

⁵⁹R. G. . . . 1835, 88-89, 104-06; 1845, 296-98; 1846, 2-4, 57; 1848, 207-08.

In dealing with industry and public health the big problem confronting the Paris health council was how to reconcile the freedom of industry with public health requirements. The health council had come to interpret the purpose of the 1810 decree as being the reconciliation of the interests of industry, property, and public health. Unfortunately, in many cases the three were irreconcilable, for public health measures usually infringed on the freedom of industrialists to do as they pleased.

The policy of the health council was to try to give industry as much freedom as possible, but especially after 1830, when industrialization increased rapidly in the Prisian area, the health council began to favor increased government intervention to regulate industry and enforce existing laws and ordinances. Noting a tendency of industrialists not to abide by the health conditions imposed by the administration at the time of their authorization, the health council favored the intervention of the government to force industrialists to abide by such conditions.⁶⁰

By the 1840's the health council was advocating the preparation of a uniform industrial code which would regulate all industries by posing general prescriptions for common health hazards, and which would assure as much freedom as possible to the industrialist as long as the public health and the rights of property owners in the

⁶⁰Moléon, R. G. . . . 1822, 221-22; 1837, 157-58; 1842, 157; 1843, 225, 229; 1844, 269-70; 1846, 2.

vicinity were in no way compromised. A draft of such a code was written into the health council report for 1845, but no formal industrial code was ever promulgated during the period under discussion.⁶¹

The Paris health council considered itself to be and was considered by others to be the leading French authority on questions of public health. In fact, this was due both to its illustrious membership as well as to the unique situation of the city of Paris. It has already been pointed out that some of the most competent bureaucrats and the most respected public hygienists sat on the Paris health council.

The fact that the seat of the council was Paris also contributed to the importance of the problems they dealt with and the decisions they reached. It was in Paris that many of the scientific and technological inventions and discoveries took place; hence, many new industries got their start there. Paris was also the home of the learned academies, some of which debated on important public health questions; Paris was the center of the intellectual activity of the nation. Finally, Paris during this period was the medical capital of the western world, with students from all over Europe and the Americas going there to study with leading French doctors.

Thus the Paris health council was in a position to consider new discoveries, inventions, and industries before provincial groups,

⁶¹R. G. . . . 1845, 282-85.

and also to be in close touch with the important medical and hygienic debates and controversies going on in the academies, the faculties, and the hospitals. For these reasons the Paris health council set the example for the rest of the nation, and the decisions of the Paris health council could be used as guidelines by other health councils as well as administrators throughout the rest of the country.⁶² Recognizing their own authority and their unique situation, the members of the Paris health council desired two things: publicity of the health council's activities, and a legal basis for the regulation of the public health.

Because the members of the Paris health council considered the council to be the leading public health authority in France, they desired as much publicity as possible for their work for several reasons. First, they wanted to increase the awareness of public health problems and solutions among hygienists and bureaucrats throughout the nation, as well as the importance of public health in general. Secondly, they believed that publicity of their work would help avoid a duplication of effort by other health councils; the fact that the Paris health council had considered most of the important public health problems of the age meant that other councils could use the decisions of the Paris council as general guidelines, adapting them to their own particular circumstances. Thirdly, they

⁶²R. G. . . . 1829, 35; 1837, 145; 1842, 189; 1843, 191-92; 1844, 247-48; 1846, 1.

believed that publicity of their activities and the influence they had exerted on public health measures in Paris would continue to increase the prestige and authority of the Paris health council, and might eventually result in its being granted some independent power.⁶³

From 1815 on, the work of the Paris health council was reported on regularly in newspapers and periodicals. From 1815 to 1828 V. de Moléon was in charge of publishing the annual reports of the health council in the Recueil industriel, manufacturier, agricole et commercial de la salubrité et des Beaux Arts.⁶⁴ When the Annales de l'hygiène publique et de médecine légale was founded in 1829 by a group of eminent hygienists, the publication of the annual reports was taken over by the Annales.

The intention of the editors of the Annales was to publish the yearly reports in their entirety, and in the first volume of the Annales (1829) the 1828 report appeared. Unfortunately from 1829 on, the annual reports of the health council ceased to be published annually. The annual reports for the years 1829-39 were not published until 1840, and the reports for the years 1840-45 were not published until 1847. When these volumes appeared, the Annales could not reproduce them in their entirety, and so the editors opted for lengthy analyses of them by Adolphe Trébuchet, a member of the Paris health

⁶³Moléon, R. G. . . . 1821, 208-12; 1837, 145.

⁷⁴Moléon, R. G., vii-viii; from 1820-27 the journal was called the Annales de l'industrie nationale et étrangère.

council and head of the sanitary bureau at the prefecture of police.⁶⁵

Nevertheless, throughout these years the Annales reported on the important activities of the Paris health council. Some of its more interesting reports were published in the Annales as separate articles, much of the work of Parent-Duchâtelet gaining publicity in this manner.⁶⁶ Police ordinances which were issued as a result of health council recommendations were also published in the Annales.

Publicity was received from other organs as well. For example, a running account of the important activities of the Paris council was kept by the Moniteur universel, the official government newspaper. Frequent articles kept readers up to date on the important topics under consideration by the Paris health council. Like the Annales, the Moniteur also reported the passage of police ordinances regulating the public health.⁶⁷

When the reports of the health council were published at varying intervals, they became primarily administrative works. Copies were sent to other health councils, to prefects, and to the Minister of Commerce. There were copies in libraries and in various

⁶⁵Trébuchet, "Rapports généraux," Annales, 25 (1841), 61-99; and 38 (1847), 79-150.

⁶⁶Most of the articles that were published in 1836 in Hygiène publique had originally appeared in the Annales.

⁶⁷See, for example, Peuchet, "Administration. Conseil de salubrité," Moniteur (13 dec. 1828), p. 1822, for a summary of the work done by the health council in 1827. See the summary for 1826 by Peuchet (14 dec. 1827), 1702.

administrative offices which dealt with the public health.⁶⁸

Desirous of having a legal basis for their activities as well as establishing uniformity in the application of public health measures, in the 1840's the health council proposed the preparation of a uniform health code, to be drawn from the decisions of the Paris health council. A health code, the members felt, would establish the importance of public health, would give a legal basis to the enforcement of public health measures, and would make the application of certain established public health measures uniform throughout the country. It would be a way in which the rest of the nation could benefit from all the work done by the Paris council, they believed, for their decisions would act as general guidelines to be followed by other health councils. Other important aspects of French life had been codified, so why not the decisions of the Paris health council?

⁶⁸ A. N. F⁸171, Circulaire n. 12. Ministère du Commerce. Bureau sanitaire. Salubrité. Paris, le 19 mai 1835. In this circular the minister tried to convince the prefects of the advantages to be obtained from a departmental health council; he recommends that each of the general councils would be well advised to allocate 8 fr. for the purchase of the printed collection of Paris health council reports; A. N. F⁸171, Circulaire du Ministre de l'Agriculture et du Commerce, le 25 oct. 1843 à M. le préfet au sujet de l'envoi du 2^{ème} volume des actes de ce conseil. In a form letter of that same year the Minister of Commerce and Agriculture states that the prefects should have copies of vol. 1 of the health council reports, and says he is sending a copy of vol. 2 (Moléon, 1827-39; they were also published independently). Both the Paris council and their reports were most favorably spoken of by the Minister of Agriculture and Commerce; A. N. F⁸171, Ministre de l'Agriculture et du Commerce, Bureau sanitaire. A M. le Préfet de _____ au sujet de salubrité, Oct. 1843.

It was their opinion that the codification would also benefit the Paris council itself by lending consistency and continuity to its work. The members felt that a codification would be most advantageous, for then those desiring to benefit from their work would have a handy, usable guide, instead of having to plow through the detail and repetition of the annual reports.

In addition to a health code, the Paris health council advocated a national law dealing with the conservation of health. The members noted that almost every aspect of social life was regulated by law, but that health had been completely ignored.

By 1848 no health code had been compiled and no law dealing with the public health had been passed. Public health was rarely a matter of debate in the national chambers in the 1840's, and as no health code was compiled, the annual reports continued to be the only guide to follow. The health council continued throughout the period to function only in an advisory capacity.⁶⁹

However, after the revolutions of 1848 some of the hopes of the hygienists were fulfilled. In December 1848 a national public health law was finally passed. The law of 18 December set up health councils throughout France at the departmental level. It also provided for health councils in each arrondissement and for health commissions in the cantons.

⁶⁹R. G. . . . 1828, 319-20; 1829, 37-39; 1842, 189; 1843, 191-92. For the discussions in the chambers see the Moniteur.

The law left any possible changes in the Paris health council undecided, dependent upon consultation with the Consultative Committee on Public Health which had been set up, as well as with the health council itself.⁷⁰ The Paris health council favored keeping the same organization it had always had, and opposed separate health councils in each Parisian arrondissement, for the members felt that this would undermine the traditional authority of the Paris health council as well as destroy any uniformity which had been established in public health measures within the city. The Consultative Committee on Public Health concurred in the opinion of the health council. In their report the members pointed out the major problem of the Paris health council, which was its lack of legal authority and coercive power.⁷¹ However, this problem was not remedied by the 1848 law, and the health councils continued as advisory bodies only.

The organization of the Paris health council was not changed. This was definitely stated in a decree of 15 December 1851 in which the traditional organization was preserved and the name changed from the Conseil de salubrité to the Conseil d'hygiène publique et de

⁷⁰A. N. F⁸171, Ministère de l'Agriculture et du Commerce. Comité consultatif d'hygiène publique. République française . . . for the law see Recueil des textes officiels, II, 231. For the formation of the Consultative Committee which replaced the superior health council, see ibid., II, 230. This decree was dated the 10 August, 1848.

⁷¹A. N. F⁸171, Préfet de police à Ministère de Commerce et de l'Agriculture. 20 nov. 1849.

salubrité, a title it kept into the twentieth century. Thus throughout the Second Empire the Paris health council continued to function much as it had under the Restoration and the July Monarchy.⁷²

⁷²A. N. F⁸171, Decree of 15 dec. 1851 regarding the organization of the Paris health council.

CHAPTER VI

PUBLIC HEALTH IN PARIS: THE COLLECTION AND DISPOSAL OF WASTES

One of the biggest problems of public health in Paris was how to keep the city clean. In order to keep Paris clean adequate sewerage and garbage disposal systems were necessary. The streets and public places as well as the rivers and canals had to be maintained and cleaned; and the problem of dead, sickly, or stray animals, especially horses, had to be dealt with. As the prevalent belief among hygienists in Paris during the period was that disease-causing miasms emanated from stagnant water, garbage heaps, and badly kept sewers and cesspits, the collection and disposal of wastes was of utmost importance for the preservation of the public health.

From 1815 to 1848 public hygienists considered the problems related to the collection and disposal of wastes in cities, publicizing them in their writings. Public hygienists offered solutions to these problems; some of their solutions were effected by the Parisian administration; others were ignored for various reasons. From 1815 to 1848 significant improvements were made in Paris in the area of the collection and disposal of wastes. Where improvements were not made, at least awareness of the problems had been generated by the public hygienists.

Drainage and the Paris Sewer System

The Parisian sewerage system of the first half of the nineteenth century differed in several ways from a modern sewerage system, or even from other sewerage systems in use at the time in places such as London and Montpellier. Parisian sewers were primarily storm sewers, that is, their primary function was to provide adequate water drainage. They were also used for the disposal of waste water, both household and industrial, but were never intended for the disposal of human or animal wastes. Waste matter from latrines did not go into sewers, but into cesspits (fosses d'aisance), the forerunners of the septic tank. Of course, much human waste, as well as animal waste did in fact find its way into the sewers.¹

Parisian sewers were of three types: underground vaulted sewers, open sewers or gutters, and absorbent pits, or drains which were intended to absorb fluids into the earth. Even though the number of covered sewers was significantly increased during the period, many areas of Paris had no easy access to sewers, and open gutters running between buildings and down the center of the streets were commonplace. Through these open gutters flowed household waters, industrial wastes, animal and human wastes, and other assorted garbage. These gutters would generally at some point flow into an underground sewer, which in turn flowed into a larger sewer which flowed into the

¹See below, pages 225-32, for discussion of this.

Seine. The inveterate British traveler, Frances Trollope, found these open gutters one of the most disgusting aspects of Parisian life in the 1830's. She spoke of "that monstrous barbarism, a gutter in the middle of the streets expressly formed for the reception of filth."²

With regard to construction, there was little uniformity in the Parisian sewers, two main types of materials having been used: some were of pierre de taille, a paving made of a combination of small stones and cement, which produced a rough surface, therefore making cleaning extremely difficult, as the mud and sand clung to the sides; most of the more important sewers built after 1830 were in meulière, that is, tiled with large smooth stones, a surface which greatly facilitated keeping the sewers clean. The diameter of the sewers varied from 50 cm. to 2 meters; in heavy storms the smaller sewers were virtually useless, as they filled up in about 5 minutes. The length of the sewers varied from a few meters to over 6,000 meters, which was the length of the largest sewer, the égout de ceinture, which encircled the whole right bank. The openings to the sewers were covered with iron grills, although according to a health council report of 1829, there were not enough of these openings, so that in many areas instead of running through the sewers, the water ran through the open gutters.³

²Frances Trollope, Paris and the Parisians in 1835 (2 vols., London, 1836), I, 116.

³R. G. . . . 1829, 33-35.

The hygienist who was the main authority on the Parisian sewers was A. J. B. Parent-Duchâtelet. Even though he published articles on many aspects of public health, he is primarily remembered for his painstaking research on sewers and prostitution. His early fame as a public hygienist came from a lengthy work done in 1824 on the sewers of Paris, in which he discussed their history, construction, lay-out, and various problems related to sewers.⁴ He gathered his historical information from the Archives of the Prefecture of Police, while the contemporary data he gathered himself by going into the sewers and talking to sewer workers. Parent divided his time among his health council duties, his duties as one of the editors of the Annales, the Archives of the Prefecture of Police, sewers, dumps, brothels, and other unsavory places necessary to his research. According to his biographer, F. Leuret, Parent was a very timid man, who preferred his work to social gatherings. Leuret gave an amusing example of this: one day Parent found himself at a celebration at the Hôtel de Ville. Amidst all the clamor and the attempts by men to impress each other, Parent said to one of his friends, "I would one hundred times prefer to go into a sewer than to come to this meeting; no one will see me here again." Apparently he kept his word.⁵

⁴"Essai sur les cloaques ou égouts de la ville de Paris, envisagés sous le rapport de l'hygiène publique et de la topographie médicale de cette ville," HP, I, 156-307.

⁵Leuret, "Notice historique sur A. J. B. Parent-Duchâtelet," HP, I, V-XXI. The quotation is from p. XII. This same notice also appeared in the Annales, 16 (1836), V-XXI, as well as in the introduction to Parent's De la prostitution dans la ville de Paris, I, V-XIII.

Parent's 1824 article on the sewers of Paris is the only major work on this aspect of public health done during the entire period. That no one else took up the subject is a tribute to Parent, for he had covered the topic so thoroughly that there was little left for anyone else to do.⁶ The only unfortunate thing is that the article was never updated or revised; having been written in 1824, it was, of course, out of date by the 1840's, by which time the sewers had been greatly extended and improved, and many of the early problems associated with their upkeep and cleaning had been solved.

In his article Parent pointed out the absolute necessity of an adequate sewer system in large cities, declaring that without sewers, such cities would be virtually uninhabitable. He mentioned the fact that while many hygienists had done research on cesspits, there had been little attention given to sewers and sewer workers; yet sewers were equally as important to the public health as cesspits. Parent commented that his purpose in publishing his observations on the Paris sewers was to attract the attention of doctors to the question of sewers.

Parent-Duchâtelet presented a detailed description of the Paris sewer system in 1824: some of the longest and most important covered sewers in Paris were: on the right bank, the égout de ceinture, 6,866 meters long, which encircled the right bank starting at St. Paul and

⁶ M. A. Chevallier did do a general article comparing the sewers of Paris, London, and Montpellier. See "Mémoire sur les égouts de Paris, de Londres, de Montpellier," Annales, 19 (1835), 366-424.

emptying into the Seine beyond the Pompe à feu below the Marbeuf garden. Many branch sewers emptied into this sewer, which was one of the principal sewers which emptied directly into the Seine. The next most important sewer on the right bank was the Amelot sewer, 3,905 meters long, which also emptied directly into the Seine; other major right bank sewers were the Carrousel sewer (2,706 meters) and the sewer of the Louis XV square (2,278 meters).⁷ The sewer system on the left bank was less developed than that on the right, the two longest sewers being the one from the wine market (1,050 meters) and the Champ de Mars sewer (1,350 meters), which served the Ecole Militaire. The total length of the underground sewers in Paris in 1824 was 35,846 meters.

The most important open sewers ran through the most industrialized and populous areas of the city. They were, in the Faubourg St. Antoine, the Traversière and Rambouillet sewers, and in the Faubourg St.-Marceau, on the left bank, the Bièvre river.⁸

A third type of sewer, the absorbent pit (puisard) was more common in the rural communes surrounding Paris than in Paris itself. This was because the rural communes lacked any paved and covered sewer systems.⁹ Absorbent pits were still used in certain instances,

⁷Under Rambuteau the Place Louis XV was rebuilt and became the Place de la Concorde.

⁸Parent-Duchâtelet, "Essai sur les cloaques ou égouts," 212-15.

⁹Ibid. For an example of the inconveniences of puisards see A. Chevallier, "Notice historique sur l'égout dit le grand puisard de Bicêtre: ses inconvénients; moyens de les faire cesser," Annales, 40 (1848), 110-121.

however, in Paris, but they were not the preferred method of drainage.¹⁰

Problems of the Parisian Sewer System

Two major problems associated with the Paris sewerage system were the inadequate drainage due to the insufficient number of underground covered sewers, and the difficulties and dangers associated with the cleaning of the sewers.

Inadequate drainage resulting from the small number of underground sewers contributed, along with the cobblestone paving, to the habitual dirtiness of the streets of Paris as well as that of the rural communes surrounding Paris.¹¹ This problem became most noticeable, of course, during and after a heavy rainstorm. In his memoirs Rambuteau described what Paris was like when it rained. He stated that when it rained most of the streets turned to rivers, and had to be crossed on boards. Sidewalks and gutters were uncommon. Water pouring off roofs was a hazard for pedestrians, and because of inadequate drainage, household waters stagnated in front of houses.¹²

¹⁰Parent-Duchâtelet, "Essai sur les cloaques ou égouts," 212-15.

¹¹It was customary for mud, often infected with urine and animal excrement, to accumulate between the stones, giving off a fetid odor.

¹²Rambuteau, Mémoires du Comte de Rambuteau publiés par son petit-fils (Paris, 1905), 375-76. Maxime Du Camp gives a similar description in Paris. Ses organes. Ses fonctions et sa vie dans la seconde moitié du XIX^e siècle (6 vols., Paris, 1873), V, 432-35. For a picture of such a board on wheels and pedestrians trying to use it, see Marcel Poëte, Une vie de cité. Paris de sa naissance à nos jours (Paris, 1925), 432, illustration 460.

If there were gutters, they typically ran down the center of the streets. The streets were built in such a way that the sides were more elevated than the center, so that water ran to the gutters in the center of the streets and accumulated there. As many of them had little incline, often the water just stagnated there in the gutters. Even where there were covered sewers, they often could not serve their intended purpose due to their inability to handle large amounts of water. Some sewers could not handle large amounts of water because their entrances were too small. Other sewers were inadequate for the job of drainage because they were too short or too narrow, and therefore quickly overflowed. Many sewers were so clogged up so in need were they of a cleaning, that they had no capacity for water.

The drainage situation in the rural communes surrounding Paris was even worse, owing to the lack of any paved and covered sewer system at all. Therefore drainage was accomplished by means of uncovered sewers (gutters) and absorbent pits. As late as 1842 and 1847 the Paris health council noted that improper drainage and stagnant water were major problems in the rural communes. They believed that as the absorbent pits were no longer adequate there, some sort of sewer system was obviously necessary.¹³ To make matters worse, Chevalier reported that the streets of the rural communes were nearly always cluttered with garbage, vegetable debris, and animal matter.

¹³R. G. . . . 1842, 170; 1847, 105.

When it rained, this stuff turned to a half-liquid state because of improper drainage, thereby making the streets practically unusable.¹⁴

The cleaning of sewers, dealt with by individual hygienists and the Paris health council, was the second major problem associated with the Parisian sewers. The sewers were hard to keep clean, especially those built before 1830. Many of these sewers were built of rough stone to which solid matter, sand, and mud would cling, therefore making a thorough cleaning practically impossible. Secondly, many of the sewers were of such small dimensions that they clogged up rapidly, and were extremely difficult to clean. In addition the sewers often lacked sufficient incline, so that matter stagnated in them until a good rainstorm washed it out. Finally, before the 1830's the water supply of Paris was inadequate to keep the sewers clean.

Not only were the sewers physically difficult, if not impossible to clean, but also the cleaning of them was hazardous to the health of the sewer workers (vidangeurs of cesspits suffered from the same afflictions). The major health hazards were traditionally those of asphyxiation (plomb) and severe eye irritation (mitte).

The interest of hygienists in the problem of asphyxiation associated with the cleaning of sewers and cesspits dated from 1782, when eight workers had been asphyxiated in the Amelot sewer, shortly after entering. This accident gave rise to research by public hygienists on the matter, and both Cadet de Vaux and J. N. Hallé

¹⁴Chevalier, Considérations pratiques, 2.

published reports on the subject.¹⁵ In the 1820's the problem of cleaning sewers complicated by that of asphyxiation was dealt with both by the Paris health council, as well as by Parent-Duchâtelet.

By 1826 some of the major sewers of Paris, like the Amelot sewer, were in desperate need of a thorough cleaning.¹⁶ The health council reported that it had been so long since some of the sewers had been cleaned that they had actually been lost. In June of that year the prefect of police named a commission including some members of the health council to decide on the hygienic precautions that should be taken in preparation for the cleaning of the Amelot sewer. The commission advised the provision of adequate ventilation along with thorough disinfection of the sewers with chloride of lime.

The job, undertaken in July 1826, and completed in January 1827, was judged by public hygienists to have been a great success, because an examination of the sewer workers showed them all to be in good health at the end of the cleaning. All totalled, 3,000 cubic meters or 2,150 barrels of solid matter were extracted, and 2-1/2 times that much liquid matter. The solids were deposited at the city dump at Montfaucon, and the liquids were dumped into the Seine. The cleaning of the Amelot sewer set an important public health precedent: it

¹⁵Parent-Duchâtelet, "Essai sur les cloaques ou égouts," 260-61; see J. N. Hallé, Recherches sur la nature et les effets du méphitisme des fosses d'aisance (Paris, 1785); Cadet de Vaux (Antoine-Alexis), Observations sur les fosses d'aisance, et moyens de prévenir les inconvénients de leur vidange (Paris, 1778).

¹⁶See above, Chapter V.

showed that with proper precautions, sewer cleaning need not be hazardous to health, a discovery that made likely the more frequent cleaning of sewers in the future.¹⁷

The uncovered sewers also presented problems for the public health. The Bièvre river, one of the most important uncovered Parisian sewers, was a much discussed public health issue in the 1820's. The Bièvre river (sometimes called the Gobelins river after the Royal Tapestry Manufacture of the Gobelins located on its banks) was a small, shallow river about 8-10 feet wide, which emptied into the Seine, and along which were located over 150 workshops and factories of various types, such as laundries, tanneries, and dying and degreasing establishments. Located on the left bank, the Bièvre ran through the quartier St.-Marceau, one of the most industrial areas of Paris.

The Bièvre had for a long time been regarded as hazardous to the health of those living in the vicinity. As far back as 1789 J. N. Hallé had been charged by the government to do a report on the sanitary

¹⁷Moléon, R. G. . . . 1826, 365-71; see the report of the commission, written by the reporter, Parent-Duchâtelet, "Rapport sur le curage des égouts Amelot, de la Roquette, Saint-Martin et autres, ou exposé des moyens qui ont été mis en usage pour exécuter cette grande opération, sans compromettre la salubrité publique et la santé des ouvriers qui y ont été employés," HP, I, 308-437. The other members of the commission were D'Arcet, Girard, and Gaultier de Claubry, members of the Paris health council, and Devilliers, chief engineer of the St. Martin canal, Cordier, division inspector of mines and professor of geology at the Museum of Natural History, and Parton, general inspector of salubrity for Paris. See the article, p. 312.

state of the Bièvre and to suggest ways to clean up the air.¹⁸ At that time various types of fevers and sore throats were being attributed to the emanations from the river. As a result of the Hallé report, by the 1820's some improvements had been made, but there was still much to be corrected. In 1821 and 1822 both the Paris health council and the Royal Academy of Medicine became involved in the question of what to do about the Bièvre and whether or not it was a real health hazard.¹⁹

The many important industries located along its banks used its water supply and at the same time dumped their own industrial wastes into the river. Many laundries located on the river used the water to wash clothes in, and as the health council pointed out, customers were beginning to complain of big yellow spots left on their clothes by the water. Animal carcasses were thrown into the river and smaller sewers emptied into it human excrement and household wastes. To make the situation worse, the course of the river was

¹⁸Hallé's report was presented at the Royal Society of Medicine in 1790. See C. Lachaise, Topographie médicale de Paris (Paris, 1821), 200.

¹⁹The best piece of research on the Bièvre was that of Parent-Duchâtelet and Pavet de Courteille, a report originally submitted for consideration to the Royal Academy of Medicine and read there in January of 1822. It was later published as an article in the collected hygienic works of Parent, Hygiène publique (see "Recherches et considérations sur la rivière de Bièvre, ou des Gobelins, et sur des moyens d'améliorer son cours, relativement à la salubrité publique et à l'industrie manufacturière de la ville de Paris," I, 98-155). That same year (1822) the Paris health council (Parent was not yet a member) also considered the question of the Bièvre, and endorsed the recommendations of the authors of the report. It was this report on the Bièvre, so carefully done, that really launched Parent-Duchâtelet's career as an urban hygienist.

natural and not embanked and the current too sluggish. The bottom and banks of the river were a slimy, muddy mass, which, when churned up by the factory waterwheels spread horrible odors throughout the vicinity. The smells were particularly bad in the summer, for at that time of year the water level was extremely low and the river was practically stagnant.²⁰ Parent-Duchâtelet called the Bièvre "a veritable sewer filled with water charged with animal matter, exhaling habitually a detestable odor, especially during the heat of summer."²¹

It was generally believed that the situation on the Bièvre was so bad that the people living on or near it must be subject to bad health and weakness. However, when Pavet and Parent examined the health of those living in or near the river, they did not find what was assumed, to be in fact, the case. Even though they were prejudiced against the river at the beginning of their research, they could not find the slightest difference in the health and physical constitutions of those who lived along its banks and of those inhabiting other quarters. All the workers who were questioned said that even though the odor of the river was foul, their health did not suffer. All the workers and their children looked healthy. However, Parent and Pavet admitted that they might have become acclimated to the situation, most

²⁰C. Lachaise spoke of the "thick, gooey mud several feet deep on either side." See Topographie médicale, 198-201, for Lachaise's opinion of the Bièvre. The quotation is from page 198.

²¹Parent-Duchâtelet, "Recherches sur la rivière de Bièvre," 128.

of those questioned having admitted to having lived there all of their lives. The records of the local dispensary showed no difference in health records of these people and those from other areas.

It had been said at the Hôtel-Dieu that those with diseases who came from the St. Marceau quarter had more serious cases and took longer to get well than did other people. The authors found that this opinion did have some foundation, but it was their belief that if the health of the workers from the St. Marceau quarter was in any way inferior, it was not due to the emanations from the river, but to the physical constitution of those living along the river and to the type of work they did. Thus it did not seem that it was the bad air that contributed to bad health, but other work and constitution-related conditions.

Collection and Disposal of Garbage and Human Wastes

A second area of urban public health problems associated with the collection and disposal of wastes concerned the collection and disposal of garbage and human wastes. What to do with the garbage and mud collected from the streets of Paris was a major public health problem. The garbage was collected in Paris daily by wagons which picked up the heaps deposited at frequent intervals along the streets.²² Rather than keeping the streets clean, this system of garbage collection

²²This was the same system that had been in use since the eighteenth century. See Mercier, Tableau de Paris (2 vols., Hamburg and Neufchâtel, 1781), 46, 93.

contributed to the habitual dirtiness of the streets of Paris. Writing in 1826, Blaquièrè spoke of the filthiness of the streets, with heaps of fuel and garbage stacked along the pavement. The garbage heaps were usually gone through by both dogs and ragpickers, so that by the time the garbage collectors arrived, much of the garbage was spread all over the pavement. Blaquièrè wondered why Parisians did not adopt the London system of garbage collection whereby the garbage-men rang the doorbell and then the inhabitants brought down their garbage and gave it to them.²³

Some Parisians did not even bother to stack their garbage in heaps along the pavement. Blaquièrè described the custom of many Parisians of simply throwing their garbage out of the window into the streets. C. Lachaise complained of the same thing. Speaking of the scorn of Parisians for police ordinances, he noted that as soon as night fell, all sorts of filth were emptied out of the windows into the public thoroughfare.²⁴ Frances Trollope, who was in Paris in 1835, reported that being a pedestrian was quite hazardous, as garbage and household waters were often just thrown out of windows into the streets.²⁵

Once the garbage, as well as mud, was collected, it was then carted off to the communes surrounding Paris, where it was deposited

²³Blaquièrè, Mémoire concernant diverses améliorations urgentes à apporter au système de police de la ville de Paris . . . (Paris, 1826), 7-9.

²⁴C. Lachaise, Topographie médicale, 194.

²⁵Trollope, Paris and the Parisians, I, 116-118.

along the roads in big heaps, so as to ferment and become fertilizer.²⁶

One authority, A. Chevalier, said that in the early 1830's there were 230 barrels of mud and garbage carted off daily from Paris to the rural communes.²⁷

The Paris health council deplored this state of affairs, stating that the land immediately surrounding Paris was becoming a source of infection. The members commented that visitors approaching Paris would notice the stench of the city before they saw its monuments.²⁸ The health council asserted that it was self-defeating to have the interior of the city clean if it was surrounded by piles of garbage. They noted in their 1828 report that most roads leading out of Paris had heaps of mud and garbage piled along their sides.²⁹ The health council received numerous complaints from inhabitants of the rural communes about the mud and garbage heaps, primarily related to the bad odors they gave off.³⁰

There were also problems connected with the disposal of human wastes of the Paris population. With a few exceptions (the Ecole

²⁶This was the same system that had been in use since the eighteenth century. See Mercier, Tableau de Paris, 46, 93.

²⁷A. Chevalier, Considérations pratiques, 7.

²⁸Moléon, R. G. . . . 1827, 36-38. A continual complaint of many hygienists and visitors was that the administration was spending too much money on showy monuments and too little on practical things, such as sewers. Rambuteau's point of view was that monuments were as necessary to the population as sewers. See Mémoires, 269-70.

²⁹R. G. . . . 1828, 329-30.

³⁰R. G. . . . 1837, 186-87.

Militaire, the Hôtel des Invalides, and the hospice of Salpêtrière, which did not have cesspits and so emptied solid wastes into the sewers),³¹ human excrement was disposed of by a system of cesspits. A cesspit was a large underground tank, usually built of some impermeable material, in which human wastes, both liquid and solid, were allowed to accumulate. A pipe connected the cesspit with the latrine, and in some few dwellings a small stream of water provided a sort of primitive flush.³² There is no indication that a real flush toilet was in use at this time in France; although as the water supply increased, greater amounts of water were used for the "flush."

There were approximately 30,000 cesspits cleaned in Paris in 1842. As cesspits were not necessarily cleaned every year, there were probably somewhat more than that in use. Maxime Du Camp reported that in 1873 there were 85,275 cesspits in use in Paris, so probably in the 1840's we can estimate the number at 50,000.³³ As the population of Paris in the 1840's was around 900,000 that meant one cesspit for every 18 people. This is not an unreasonable figure when one considers

³¹Parent-Duchâtelet, "Rapport sur les améliorations à introduire dans les fosses d'aisance, leur mode de vidange, et les voiries de la ville de Paris," HP, II, 381-82; Parent-Duchâtelet, "Essai sur les cloaques ou égouts," 215.

³²For the history of the W. C., see Lawrence Wright, Clean and Decent: the Fascinating History of the Bathroom and the Water Closet (N. Y., 1960).

³³Henri Bayard, "Mémoire sur la topographie médicale du IV^e arrondissement de la ville de Paris," Annales, 28 (1842), 48. Du Camp, Paris, V, 471, note 1.

that there was generally one cesspit per building, and that many Parisians lived in multi-dwelling buildings.

There is evidence that many people did not bother to use latrines in any case, probably because there were so few of them on the public thoroughfares. Félix Hatin, writing in 1832, for example, may have been exaggerating, but he claimed that pools of urine and piles of excrement were to be found everywhere in the streets, along the quays on the banks of the Seine, and especially around Notre Dame.³⁴ Henri Bayard noted that any space between buildings became a public urinal.³⁵

Urinating and defacating in gutters, on sidewalks, in streets, on buildings, and off bridges into canals and the river was common practice, to the chagrin of many hygienists.³⁶ In fact there was little practical alternative when one was away from home, for public latrines were few and far between. The only mention of the existence of any public latrines in Paris dates from a health council report of 1817 in which it is stated that there were some in the Rue Neuve St.-

³⁴Dr. Félix Hatin, Essai médico-philosophique sur les moyens d'améliorer l'état sanitaire de la classe indigente . . . (Paris, 1832, février), 2-4.

³⁵"Mémoire sur la topographie médicale du IV^e arrondissement," 297.

³⁶See for example, J. B. Monfalcon and A. P. I. de Polinière, Traité de la salubrité, 110-111; Gisquet, Mémoires de M. Gisquet, ancien préfet de police, écrits par lui-même (4 vols., Paris, 1840), 429.

Augustin.³⁷ There were, of course, ordinances against public urination and defecation, but Prefect of Police Gisquet (1831-36) noted that these ordinances had done nothing to change the habits of Parisians.³⁸

Aside from the fact that human wastes did not always find their way into the cesspits, the main problem associated with cesspits, as with sewers, had traditionally been that of cleaning them. After a certain length of time, varying from a couple of times a year to every couple of years, the cesspit had to be emptied, a horrible spectacle by all accounts, before the discovery and common use of disinfectants.³⁹ Cesspit cleaning was carried out by a special group of men called vidangeurs. In an article in the Annales it was estimated that there were between 200 and 250 vidangeurs in the city of Paris in 1842 to clean an estimated 30,000 cesspits.⁴⁰ Guérard estimated that in 1846 about 100 cesspits were cleaned a night.⁴¹

New methods of cleaning out cesspits were developed during the period, the most popular of which consisted of using a pump to extract

³⁷Moléon, R. G. . . . 1817, 115. On the lack of public toilet facilities, see Hatin, Essai médico-philosophique, 3; Dutertre, Considérations sanitaires sur la ville de Paris (Mans, 1822), 5; Blaquièrre, Mémoire concernant diverses améliorations, 15-16; Gisquet, Mémoires, 430-31; Monfalcon and Polinière, Traité de la salubrité, 110-112.

³⁸Gisquet, Mémoires, 430-31.

³⁹Two major treatises on cesspits are: Alexandre Bottex, Des améliorations à introduire dans la construction et le curage des fosses d'aisance (Lyon, 1838); and Parent-Duchâtelet, "Rapport sur les améliorations à introduire dans les fosses d'aisance," 350-407.

⁴⁰I. Bricheteau, A. Chevallier, and Furnari, "Note sur les vidangeurs," Annales, 28 (1842), 48.

⁴¹Guérard, "Note sur un nouveau système de vidanges des fosses d'aisance," Annales, 35 (1846), 77-78.

the liquid wastes. The vidangeurs then had to descend into the cess-pit and shovel the heavy wastes into barrels. Both liquid and solid wastes were put into closed barrels, and put on wagons to be transported to the city dump at Montfaucon.

The increasing water supply of the city of Paris during the period further complicated the problems associated with the cleaning of cesspits. Usually household waters were dumped into the streets or into gutters, but sometimes people dumped them down the latrine. With increased water available in the 1830's and 1840's and also increased bathing, the practice of dumping these waters down the latrine became more common. This meant that more frequent cleaning of cesspits was necessary. Whereas up to this time cesspits normally were cleaned every couple of years, or at the most every year, it now became necessary to clean many of them a couple of times a year, a situation which made the cesspit even more inconvenient and obnoxious than it had previously been.⁴²

The receptacle for the human wastes of the city of Paris was the dump at Montfaucon. Since the eighteenth century Montfaucon had been one of the most important public health problems dealt with by Parisian public hygienists. The area in which the dump was located, at the foot of the hills of Belleville, had centuries earlier been

⁴²See treatises by Bottex and Parent-Duchâtelet cited above. See also H. Gaultier de Claubry, "De la suppression de la voirie de Montfaucon comme conséquence des procédés perfectionnés de désinfection des fosses d'aisance," Annales, 40 (1848), 308-311. Gaultier de Claubry stated that formerly (before increase in water supply) cesspits were filled with about 90 percent solid matter; but by 1848, especially in rich areas they were filled with 90 percent liquid matter.

quarried, with the result that huge basins had been dug out. These basins, used for the deposit of fecal matter, were over 32,800 meters in area. Daily 230-244 cubic meters (yearly 1,197,000 cubic feet) of the products of cesspits were brought to Montfaucon and deposited in the two 30 foot deep basins where the solids were separated from the liquids, with the liquids flowing into lower basins.⁴³

The liquids that were drained off eventually flowed via canals and sewers back into the Seine.⁴⁴ Prefect of Police Gisquet (1831-36) estimated that daily about 220 meters of eaux vannes (urine and other assorted liquid wastes) flowed into the Seine.⁴⁵ The solid matter was allowed to dry on some eighteen acres of land. Once dried it was then transported into the rural communes surrounding Paris, where it was piled in heaps to ferment into fertilizer.⁴⁶

⁴³Parent-Duchâtelet, "Essai sur les cloaques ou égouts," 234. The figures refer to 1824. The whole group of five basins was called l'étang de Loiseau after Loiseau, an old horse flayer, who made a name for himself in the trade.

⁴⁴After 1823 the urine flowed to the canal St.-Martin, thereby crossing the city of Paris. Then it flowed into the Seine. Gaultier de Claubry called the situation a state of barbarism. He pointed out (312) that the stuff flowed into the Seine below the Pont d'Austerlitz, where the baths were located. See H. Gaultier de Claubry, "De la suppression de la voirie de Montfaucon comme conséquence des procédés perfectionnés de désinfection des fosses d'aisances," Annales, 40 (1848), 311-312. See also Parent-Duchâtelet, "Des chantiers d'équarrissage," 252. Before the opening of the St.-Martin canal, sewage wastes from Montfaucon flowed into the Seine above Chaillot, below the most inhabited area of the city. See also Gisquet, Mémoires, IV, 299-300.

⁴⁵Gisquet, Mémoires, IV, 300-301.

⁴⁶This practice caused many complaints and the health council dealt with the problem. See Moleon, RG. . . 1823, 265; 1827, 36-38; 1828, 329-30; 1839, 254-55.

As far as the hygienists were concerned, the main problems associated with Montfaucon were the foul odors it gave off and the belief by some hygienists that its emanations gave rise to disease. In earlier times the dump had not been a major problem for Parisians, for it had been located away from the center of habitation. However, by the late eighteenth and early nineteenth centuries, as the city of Paris grew in size and population, the city expanded outward toward Montfaucon, so that the dump was surrounded by dwellings, and as the population grew, the amount of cesspit matter deposited at Montfaucon also increased. The result was that these populated areas were subjected to increasingly insupportable odors emanating from the city dump, odors which were commonly believed in the early nineteenth century to be capable of causing disease.⁴⁷ The foul odors given off by the dump at Montfaucon were, however, only partially caused by the deposits of human waste matter. Montfaucon served a dual purpose, housing one of the main centers of the équarrissage industry for the city of Paris and the surrounding areas.

The Disposal of Animals and Animal Wastes

In the early nineteenth century the disposal of animals and animal wastes was a more urgent urban health problem than it is today,

⁴⁷On this point, the viewpoint of the 1832 sanitary commission, see Parent-Duchâtelet, "Des chantiers d'équarrissage," 222-241. Parent did not share this point of view.

primarily owing to the great number of horses customarily in cities. In addition, the problem was compounded by the fact that in Paris in the period under discussion pigs, chickens, and cows were often raised within the city limits.

Most of the horse excrement was probably cleaned up with the mud and sent to the rural communes along with the garbage, or else was washed into gutters and sewers by rain. The wastes from pigs, chickens, and cows kept in the city ordinarily flowed through open gutters into the sewers and eventually into the Seine. In spite of the fact that Parisian sewers were intended to be storm sewers, they ordinarily received much animal waste, in addition to some human waste.

Public hygienists were more concerned with the disposal of the animals themselves than they were with the disposal of animal wastes. The city of Paris had no service for picking up dead animals; this was done by individuals, who were paid money for the carcasses they gathered. Small animals, such as rats, dogs, and cats were customarily gathered up and sold by ragpickers. Horses rarely died on the public thoroughfare, but if one did, the individual who informed the équarisseurs (horse flayers) got paid for his information. Usually old, useless, and sick horses were the ones flayed and cut up at the horse slaughteryards.⁴⁸

⁴⁸Parent-Duchâtelet, "Projet d'un rapport demandé par M. le préfet de la Seine sur la construction d'un clos central d'équarrissage pour la ville de Paris," HP, II, 320. An informer would be paid 10-15 fr.; see p. 164 in Parent-Duchâtelet, "Des chantiers d'équarrissage." The transportation of dead horses to the slaughteryards was

The équarrissage industry, an old established industry in Paris, was generally viewed as distasteful, disgusting and unhealthy.⁴⁹ The problem of what to do with old, sick, and dead horses was important to the public health at a time when Parent estimated that the Parisian horse population was about 20,000 (in the early 1830's).⁵⁰ Two of the

effected by means of special trucks, the back of which was inclined so that one man using a rope could slide the horse onto the truck. Parent discussed the oft-encountered disgusting spectacle of dead horses being transported in uncovered trucks through the streets of Paris, often with half the horse, or the head hanging over the edge and often with blood and mucous streaming out from the mouth and nostrils. Old and sick horses were walked to the chantiers in groups of 15 or 20. See Parent-Duchâtelet, "Des chantiers d'équarrissage," 163-65.

⁴⁹Nearly all parts of the horse were worth money: the hide was sent to tanners, the blood was used both by refineries and as animal food; the flesh was eaten by both people and animals; the insides were used for fertilizer; the tendons, for glue; the oil, by industry, as it made a fine burning oil; the horse shoes were re-used; the bones were used for ammonia, to make gelatin, and for fertilizer. Horse-hair, surprisingly, was not an important product, much of the hair having been lost by old and sick horses. An estimate of the value of the products from the horse was given in 1821 as being: 15 fr. for the hide; 2 fr. the kilo for the hair; 30 centimes the kilo for flesh; 60 centimes the kilo for tendons; 20 centimes the kilo for oil; 60 centimes the kilo for shoes; and 4 centimes the kilo for bones. For this information see Parent-Duchâtelet, "Des chantiers d'équarrissage," p. 160. This information is in note 1 and was taken by Parent from the Recherches statistiques de la ville de Paris. For use of various parts of the horse, see "Des chantiers d'équarrissage," 167-213.

⁵⁰On the question of whether the cutting up and flaying of animals that had died of contagious diseases constituted a public health problem, see Parent-Duchâtelet, "Notice sur cette question: Peut-on sans inconvénient laisser tomber en désuétude l'art. 6 de l'arrêt du Conseil d'Etat du 16 juillet 1784, relatif à l'enfouissement des animaux morts de maladies contagieuses," HP, II, 332-349. The commission of the Academy of Medicine which dealt with the problem (Villermé, Barruel, Pelletier, Adelon, Girard, and Parent-Duchâtelet) concluded that the practice was not dangerous to the public health.

On the question of the horse population, Parent estimated on the basis of an investigation carried out in 1825 that 35 horses a day

most important horse slaughteryards, or clos d'équarrissage, were located at the Montfaucon dump, their existence there making even more serious the problem of what to do about the bad odors emanating from the dump and accused of causing disease.

Parent-Duchâtelet^A in a major 1832 article on the chantiers d'équarrissage, described the clos at Montfaucon, which were situated in the highest and most remote part of the dump. The first clos consisted of a paved court with a covered hangar which was attached to a stable and a large storehouse. Nearby was a foundry. These buildings were surrounded by walls and solid doors. Beneath the clos were two small houses where the worker and his family and the gutmaker lived. A deep pit absorbed the liquid residue. If this enclosure did not present too disgusting an aspect, the second one did.

were flayed and cut up, or 12,775 a year. Of course this number was not constituted just by Parisian horses, as horses were also brought in from the surrounding countryside to be sold in Paris to the équar-risseurs. Furthermore, Parent felt that the number of 16,000 (precisely given as 16,382, Cadet de Gassicourt's estimate in a manuscript work on Paris, which Parent-Duchâtelet used as a major source) was too low, it being calculated on the amount of horse feed sold. By the early 1830's Parent estimated, in agreement with veterinarians, that the approximate figure of 16,000 had increased by about one-fourth. See "Des chantiers d'équarrissage," 159-62. Parent rejected the official Parisian statistics done by Chabrol, the Recherches statistiques, as being inexact with regard to the horse count. According to the Recherches statistiques, the number of horses flayed and cut up in 1821 was estimated to be 4,142 a year, based on the number of bones sold. Parent thought the figure was grossly inaccurate, being far too low. David Pinkney states that by 1850 the horse population was about 37,000. See Napoleon III and the Rebuilding of Paris (Princeton, N. J., 1958), 19. Rambuteau maintained that by the end of his administration, there were 70,000 horses circulating in the city of Paris. See Mémoires, 369. Perhaps Pinkney referred to the permanent horse population, whereas Rambuteau included transients as well.

In the second yard all the work of the flaying and cutting up of horses and other small animals was done in the open air. There were no buildings, except one in which the horsemeat to be sold as food was kept. The courtyard had some partial paving beneath the soil, so that liquids did not easily run off, but rather stagnated. Blood and intestinal debris being constantly underfoot, a few paths were shoveled out so that the workers could get to the places where the various processes were carried out. A wall which had formerly surrounded the second clos had been destroyed by rats, so the walls had been replaced by horse carcasses stacked one on top of the other. There was no well, nor any adequate water supply, so cleaning the enclosure was impossible. There were no vases for gathering and saving water.⁵¹

If the basins filled with urine and fecal matter were bad, the clos d'équarrissage were far worse. Prefect of Police Gisquet commented that the fecal matter at the dump smelled like perfume in comparison with the emanations from the clos d'équarrissage.⁵²

⁵¹Parent-Duchâtelet, "Des chantiers d'équarrissage," 155-59. Parent recounted the story of some men who were at the yard doing physiological research. They bought some water to wash their hands, and it was brought to them in a large horse intestine which had been tied together at one end. See ibid., 159, note 1.

⁵²Gisquet, Mémoires, 307. While the situation at Montfaucon was bad enough, it could have been worse. Parent reported that the industry in Paris had been practiced along these lines since the sixteenth century. Monfalcon and Polinière stated that until late in the eighteenth century in Lyon, horses and other animals were just thrown into the Rhône where they putrified in the mud along the banks. See Hygiène de Lyon (Paris, 1846), 395-96.

The problems associated with the équarrissage industry were the same as those associated with the rest of the dump: bad odors, which were commonly believed to be capable of causing disease. Common sense seemed to dictate that any industry that smelled so bad and presented such a disgusting spectacle must be hazardous to health.

Solutions to Problems Associated with the Collection and Disposal of Wastes

Some of the problems associated with drainage and the Paris sewer system were solved or partially solved by the 1840's. Especially after 1830 the construction of new underground sewers proceeded rapidly. For example, in 1824, when Parent-Duchâtelet wrote his renowned work on Parisian sewers, Paris had 35,846 meters of underground sewers.⁵³ By 1837 the amount of underground sewers had doubled with about 70,000 meters of sewers being in service that year.⁵⁴ Rambuteau, Prefect of the Seine from 1833 to 1848, claimed that yearly he built 7,000-8,000 meters of cement sewers, which would have meant that by 1848 there would have been approximately 140,000 meters in use.⁵⁵

⁵³Parent-Duchâtelet, "Essai sur les cloaques ou égouts," 210.

⁵⁴M. A. Chevallier, "Mémoire sur les égouts de Paris, de Londres, de Montpellier," 382; Parent-Duchâtelet reported that by 1830 there were 40,000 meters in service; that between 1830 and 1834, 21,960 meters were built; in 1835, 5,028 meters were built; see "Essai sur les cloaques ou égouts," 207.

⁵⁵Rambuteau, Mémoires, 376. In his memoirs Haussmann said that before he enlarged the sewer system, Paris had 107,430 meters of sewer. By 1869 there was a sewer network of 560,625 meters. See

An American visitor to Paris in the 1840's, Augustus Kinsley Gardner, commented that since 1829 the sewers had attracted much attention; he went on to say that there were 60 miles of sewers constructed in vaulted masonry (approximately 90,000 meters of sewers; some of the older sewers, however, were not built of vaulted masonry, which may explain the discrepancy between his and Rambuteau's figures).⁵⁶

The cholera epidemic encouraged officials to undertake reforms to clean up the city, such as enlarging the sewer system and moving the dump. Both Rambuteau, Prefect of the Seine after 1833, and Delessert, Prefect of Police from 1836, took especial interest in public health matters, which had been publicized by leading hygienists like Parent-Duchâtelet and Chevallier, by the Paris health council, and by the organ of the French public health movement, the Annales d'hygiène publique et de médecine légale.

The sewers built after 1830 were better constructed than the early ones; they were better paved, large enough to clean, and underground. At the same time a greater water supply, due to the new water

Louis Réau, Pierre Lavedan et al., L'oeuvre de Baron Haussmann, préfet de la Seine (1853-1870) (Paris, 1954), 136-37. Maxime du Camp said Rambuteau had built 78,675 meters of new sewers. See Paris, V, 431. David Pinkney, in the Rebuilding of Paris, says that in 1851 Paris had only 82 miles of underground sewers for 250 miles of streets, p. 20. F. Bédarida says that before Haussmann there were only 100 kilometers of sewers in Paris, mostly of small capacity (100,000 meters). See his article, "Population and the Urban Explosion," in The Nineteenth Century, ed. Asa Briggs (London, 1970), 130.

⁵⁶Augustus Kinsley Gardner, M. D., Old Wine in New Bottles, or Spare Hours of a Student in Paris (New York, 1848), 285-86.

from the Ourcq canal,⁵⁷ and better distribution of water through pipes into some establishments and homes and by the proliferation of fountains, made it possible to keep the streets cleaner, as well as the sewers. Because of the increased supply of water in use, there was more water continually running through the sewers, a situation which virtually eliminated the old problem of asphyxiation. Sewers, furthermore, could easily be washed out and cleaned on a regular basis two or three times a week. In addition, the use of disinfectants made the cleaning of sewers less obnoxious.

While much progress was made in both the extension and cleaning of sewers, the solution for the Paris sewer system advocated by Parent-Duchâtelet was not undertaken in the period under discussion. In spite of the enormous expense and disruption involved, Parent advocated the complete reconstruction of the Paris sewer system. He envisaged a sewer system in which all dwellings would be connected with underground sewers by underground pipes, some pipes carrying household wastes and urine to the sewers, and others bringing in fresh water.⁵⁸

A vast sewer project was, however, undertaken by the municipal administration in 1847. The project was to include the building of two large branches of sewers which would parallel the banks of the Seine and carry water from all existing sewers down below the Pont

⁵⁷See below, page 253.

⁵⁸Parent-Duchâtelet, "Des cloaques ou égouts," 299; Parent-Duchâtelet, "Rapport sur les améliorations," 370-89, 392-402.

d'Iéna, where all the matter would then be dumped into the Seine. The sewer system was part of a master plan which Rambuteau had outlined, but which never was implemented, because of the 1848 revolution. Rambuteau commented in his memoirs that it was in a sense his "last will and testament."⁵⁹

Because a major overhaul of the sewer system was not undertaken, the administration preferring piece-meal reform, some problems persisted. Many uncovered sewers and gutters still remained, with their usual problems. The Bièvre was, however, enclosed, and cleaned out under Rambuteau, so that one of the major sewerage problems of the left bank was solved.⁶⁰ The drainage situation in the communes was not solved, no adequate system being in operation there by as late as 1847.⁶¹ And the sewer system, even though it had been significantly extended, was still inadequate.

⁵⁹Rambuteau, Mémoires, 292-93.

⁶⁰Ibid., 371; Pinkney, Rebuilding of Paris, 19. In their article on the Bièvre, Pavet de Courteille and Parent-Duchâtelet had recommended as solutions that the water supply should be increased so that the river would flow more quickly, that the river should be paved and embanked so that it would be easier to keep clean, and that the banks of the river should be free of high buildings and trees to improve circulation of air and water. They estimated the costs of such improvements at 300,000-400,000 fr. and stated that the rich manufacturers whose establishments were located along the river should pay the bill. As usual, only some of their solutions were effected. See "Recherches sur la rivière de Bièvre."

⁶¹R. G. . . . 1847, 105.

The problems associated with garbage disposal were not solved before 1848. In 1823 the Paris health council put forward a plan which consisted of a daily garbage and mud pickup and the sending of the mud and garbage out of the city on barges to be deposited away from the city and used as fertilizer.⁶² The plan was rejected, probably because it was too expensive, and heaps of rotting garbage continued to line the roads of the rural communes.

By the late 1830's disinfectants were in common use, and it became possible at least to keep the heaps relatively odorless. Rather than encouraging the administration to get rid of the heaps (which were eventually useful as fertilizer) the health council contented itself with recommending enforcement of the disinfection of the heaps.⁶³ The use of disinfectants allayed the problem and there was no major renovation of the system of garbage disposal in the period.

The problems associated with human waste disposal, namely the cesspit system and the cleaning of cesspits, as well as the control of public urination and defecation were partially solved by 1848. Even though cesspits were a real nuisance because of the problems related to their cleaning and the odors that badly built ones gave off,

⁶²Moléon, R. G. . . . 1823, 265.

⁶³R. G. . . . 1839, 254-55; Chevalier, who opposed the health council's plan as being a waste of good fertilizer, had a proposal for cleaning up the rural communes by digging special ditches in which the mud and garbage could ferment. His research was done at the request of the administration in 1832, in an attempt to clean up the city as a preventive measure against cholera. See Considérations pratiques.

few hygienists ever contemplated the possibility of moving to a multipurpose sewer system like those developing in London and Montpellier.⁶⁴ Even Parent-Duchâtelet, who advocated a complete overhaul of the sewer system and thought that urine could be disposed of through sewers, did not advocate a true multipurpose sewer system through which fecal matter could be disposed of.⁶⁵ So for the most part improving the old cesspit system was what hygienists concentrated on.

Jean D'Arcet, for example, emphasized improved ventilation and developed a system whereby noxious gases were blown off into the air above the house. This improvement, along with the use of disinfectants rendered the cesspit acceptable and modern in his opinion.⁶⁶

⁶⁴A multipurpose sewer system consisted of both storm sewers and sanitary sewers.

⁶⁵Parent-Duchâtelet, "Rapport sur les améliorations," 370-89, 392-403. One individual who did advocate multipurpose sewers for Paris, and the total abolition of cesspits, had his ideas rejected by a commission of which Parent was a member. It was the opinion of the commission that such a system would be impractical in Paris because of lack of sufficient incline and lack of adequate water. See "Rapport fait au préfet de police sur une modification proposée dans le système des égouts de Paris," Annales, 9 (1833), 224-26. For an example of the lack of interest in moving to a multipurpose sewer system and the concentration on the improvement of cesspits, see Alph. Guérard, "Observations sur le méphitisme et la désinfection des fosses d'aisance," Annales, 32 (1844), 326-50. Liquid wastes were disposed of by sewers starting in 1850, but did not prove as odorless as had been anticipated. The magnificent sewer system of Haussmann was primarily a storm sewer system to solve the city's drainage problems and clean up the Seine. Sewers were still not used for sanitary disposal and cesspits continued to be in common use and present the traditional problems, which continued to become more acute with the increased supply of water. See Pinkney, Rebuilding of Paris, 129, 144-45.

⁶⁶Bottex, La construction et le curage des fosses d'aisance, 6; Jean D'Arcet, "Instruction du Conseil de salubrité sur la construction des latrines publiques, et sur l'assainissement des latrines

A more popular solution was an invention of the period called the movable cesspit (fosse mobile), developed in 1818 by Cazeneuve. The movable cesspit apparatus consisted of two barrels, one for liquids, and one for solids, instead of the usual permanent underground pit. The excrement flowed through pipes into one barrel, with the liquid flowing down into a pipe leading to another barrel. The barrels were closed, and therefore theoretically odorless. When full, they could simply be carted off to the dump and replaced by an empty barrel.

The advantages of the movable cesspit apparatus were mainly that it eliminated all the dangers and inconveniences associated with the cleaning of cesspits, and also that it separated wastes, therefore making it easier to turn the solid matter into fertilizer.⁶⁷ Hygienists were generally enthusiastic about the advantages to be offered by the widespread adoption of movable cesspits. They became quite common in Paris, but in Lyon, for example, according to Monfalcon and Polinière, they were hardly in use by 1846, except in some public buildings.⁶⁸

et des fosses d'aisances," (1822) in Collection de mémoires relatifs à l'assainissement des édifices publics et des habitations particulières (2 vols., Paris, 1843), 144-59. Vol. II is an atlas containing sketches; see plate 15.

⁶⁷Bottex, ibid., 17-20; Parent-Duchâtelet, "Améliorations des fosses d'aisance," 357-63.

⁶⁸Bottex, ibid.; Parent-Duchâtelet, ibid., 364-68; Monfalcon and Polinière, Hygiène de Lyon, 395; Monfalcon and Polinière, Traité de la salubrité, 71-72, 76. Some idea of how widespread the movable cesspits probably were in the 1840's can be gleaned from a statistic

The problems associated with the cleaning of traditional cesspits were partially solved due to improved methods of ventilation and the use of disinfectants. Both of these improvements rendered the task of cleaning less unpleasant and less dangerous for the vidangeurs. Also the increased supply of water tended to make the job less hazardous, as the noxious gases were less concentrated. At the same time the increased supply of water made more frequent cleaning necessary, thereby further complicating the whole system.

Another problem related to the disposal of human wastes was that of public urination and defecation. In order to improve the sanitary state of Paris many hygienists and observers advocated the proliferation of public latrines and pissoirs.⁶⁹ Gisquet, prefect of police from 1831 to 1836, in his memoirs claimed that he had a plan to provide the city with free public latrines and pissoirs. He proposed setting up 1500 pissoirs with running water to keep them in a constant state of cleanliness, and 200 latrines. He estimated the original cost at 400,000 fr. with a yearly maintenance charge of 50,000 fr.⁷⁰ The plan was apparently never carried out by his

dating from 1873: even at that time out of 85,275 cesspits in Paris, only 19,203 were movable; 6,444 had dividing apparatus and branched into sewers, but 52,128 still required the old vidange carried out at night. See DuCamp, Paris, V, 471, note 1. Eight thousand were not accounted for as being cleaned at all.

⁶⁹For advocates of public latrines and pissoirs, see Hatin, Essai médico-philosophique, 3; Dutertre, Considérations sanitaires, 5; Blaquièrre, Mémoire concernant diverses améliorations, 15-16; Gisquet, Mémoires, 430-31; Monfalcon and Polinière in Hygiène de Lyon noted the establishment of a few pissoirs and latrines in Lyon by 1846 (p. 395); see also Monfalcon and Polinière, Traité de la salubrité, 110-112.

⁷⁰Gisquet, Mémoires, 430-31.

successor at the prefecture of police, Gabriel Delessert. There is no evidence that anything was ever done about this problem in the period. This is one reason that the streets of Paris continued to present an unsavory aspect even by the end of the period.

The problems associated with the deposits of fecal matter at the Montfaucon dump were partially solved by 1848. Before the common use of disinfectants, moving the dump away from the city seemed to be the only solution. Yet no suitable location could be found. During the Napoleonic era, after the opening of the Ourcq canal, a piece of land was purchased in the Bondy Forest, about ten miles from Paris, where a new dump was to be set up at considerable cost to the municipal government. The plan was that the cesspit products would be sent to Bondy on barges via the Ourcq canal. For awhile dumping at Montfaucon was forbidden. Then unpredicted obstacles made Bondy far less useful than had been thought, because drainage problems made it practically impossible to get rid of the liquid matter. Some of the cesspit matter could be handled by Bondy, but most of it continued to go to Montfaucon. Commenting on the insufficiency of the Bondy dump, Parent-Duchâtelet remarked that it was against the advice of the prefecture of police and the Paris health council that the dump at Bondy had been built in the first place.⁷¹

⁷¹Gisquet, *Mémoires*, IV, 302-04; Parent-Duchâtelet, "Rapport sur les nouveaux procédés," 285-89. See also, "Des chantiers d'équarrissage," 144.

So the problem of Montfaucon continued to occupy hygienists and administrators during the periods of the Restoration and the July Monarchy. Parent-Duchâtelet had his own solution to the problem. He maintained that the dump could not be suppressed overnight, as many people were demanding, but rather that it required long-range administrative planning. His idea was to use the newly discovered disinfectants to render the matter odorless, then to transport it by canal and railroad out into the départements near Paris where it could be used as fertilizer. With the perfectioning of navigation and other means of transport, Parent envisaged sending the matter 70-100 miles away from the city. Stating that industry and communication offered immense advantages to the public health, Parent believed that the government should spend its money on them rather than on new dumps. The major weakness of Parent's plan was that it was too slow. The suppression of the dump had been discussed for 30-40 years already, and fast solutions were now being called for.

But while these solutions did not work or were not tried, by the mid-1830's the problem of the city dump was at least partially solved by the discovery by Salmon and Payen of a process which used a carbon powder to render fecal matter odorless and to absorb the liquid, thereby turning the liquid into an odorless powder as well. Because of this discovery a dump where fecal matter was spread over a large surface to dry out, as was the case at Montfaucon, was no

longer necessary.⁷²

Furthermore by the 1840's the earlier problems associated with the Bondy dump had been solved, so that the final suppression of Montfaucon was at last possible. The engineer Mary solved the problem of transporting the wastes 15 km. from the city by proposing the construction of a vast depository at La Villette, whereby the use of steam power the liquid wastes could be sent by pipes underground to Bondy and the solid wastes transported in barrels by boat to Bondy.⁷³

The problem of drainage at Bondy was solved by Rambuteau, who had an aqueduct built from Bondy to the Seine near St.-Denis, so that liquid wastes flowed from Bondy to the Seine.⁷⁴

As early at 1815 projects for moving the chantiers d'équarrissage, located at the city dump, were discussed. The success of the municipal abattoirs which had been built under Napoleon had led the city administrators to wonder if a central slaughterhouse for horses

⁷²Parent-Duchâtelet, "Rapport sur les nouveaux procédés," 290-308. For his invention of the disinfectant "noir animalisé" Salmon received the Montyon prize given by the Royal Academy of Sciences in 1834 for the invention of a process capable of rendering a trade less unhealthy. See "Variétés," Annales, 13 (1835), 505.

⁷³Rambuteau, Mémoires, 370. The depository itself consisted of 14 oblong quadrilateral rooms used to separate the liquid from the solid matter. Slanted floors allowed the liquid wastes to run from one room to another and at the end of the last room there was a pipe to transport the material to Bondy. See R. G. . . . 1848, 218-19.

⁷⁴Gisquet, Mémoires, 302.

would not be a good idea.⁷⁵ At that time, and until the processes of the industry were improved, the Paris health council favored moving the industry to a central location and combining with it other small slaughteryards, as well as industries associated with the animal debris.⁷⁶ The health council was of the opinion that centralization would eliminate many of the inconveniences associated with the industry, as well as facilitating government surveillance.⁷⁷

The point of view of the health council was modified, however, especially after 1825, when major improvements were effected in the industry. Various individuals offered to clean up the whole industry by the application of the new processes involving the use of steam power, if the government would grant them a monopoly of the industry. The health council, however, when asked its opinion by the prefect of police, consistently opposed the granting of a monopoly, for fear that this would inhibit further progress in the industry.⁷⁸ Because the administration consistently refused to grant a monopoly in the

⁷⁵There were other small establishments for the flaying and cutting up of horses and small animals, but the large enclosures at Montfaucon, which had been there in one form or another since the late sixteenth century, attracted the most attention.

⁷⁶Moléon, R. G. . . . 1815, 89; the health council continued to favor this project until major improvements rendered such a plan unnecessary. See for example, ibid., 1824, 299.

⁷⁷For a description of three abattoirs and an American's most favorable impression of them, see Appendix 9.

⁷⁸Parent-Duchâtelet, "Des chantiers d'équarrissage," 143-45; R. G. . . . 1835, 104-06.

late 1820's and early 1830's there were few requests for the establishment of an improved industry. Renewal of interest in the dump in general and the chantiers d'équarrissage in particular was aroused by the threat of cholera and the admonitions of the sanitary commissions regarding the odorous emanations that came from Montfaucon. These sanitary commissions opposed the belief of Parent-Duchâtelet that the emanations from the dump were innocuous.⁷⁹

In 1835 the company of Payen, Buran, and Cambacérès sought authorization for an équarrissage establishment based on new processes that would clean up the industry. Their process involved the use of steam power. The advantages were that the new processes rendered the material odorless and also made it possible to use almost all parts of the horse profitably. The cadaver, cut in pieces, was carried to an iron container which would accommodate four horses at once. The steam from a steam boiler acted on the horse cadavers, took the flesh off the bones, bleached the bones, and took out the grease in the bones. This operation took from 1-1/2 to 2 hours. The bones were removed, the other stuff being put under a hydraulic press which pressed the oil out. The remaining material could be used as fertilizer. No odor remained after this process and the

⁷⁹Parent-Duchâtelet, "Des chantiers d'équarrissage," 147; Parent's opinion based on numerous interviews and observations was that these emanations were not harmful to health. See ibid., 227-241. On these pages is presented a detailed discussion on the effects of the emanations giving Parent's opinion and the opposing opinion of the sanitary commissions. Opinion among hygienists was generally that the emanations gave rise to disease.

resulting material kept indefinitely and could be easily transported.⁸⁰

The Paris health council was greatly impressed by this process and noted that were it adopted, this industry could henceforth be practiced in the interior of the city without presenting any inconveniences to the public health.⁸¹ By using this new process it was felt by hygienists that chantiers d'équarrissage could be reclassified second class; therefore, there would be no need to establish an elaborate central slaughterhouse, as these industries could henceforth exist with little inconvenience to the surrounding areas.⁸²

Once the health council became aware of the effectiveness of the new processes of Buran and Payen in rendering the industry agreeable, they no longer believed that it was necessary for the Paris municipal administration to build the central slaughterhouse which had been under consideration since about 1815. In 1836 the administration asked the health council to recommend conditions for a central slaughterhouse. At that time the health council concluded that the industry had changed so much that the proposals they had put forward ten years earlier were no longer applicable. They advised instead the purchase by the administration of a vast tract of land where individual proprietors could set up their businesses

⁸⁰Parent-Duchâtelet, "Rapport sur les nouveaux procédés," 294-96.

⁸¹R. G. . . . 1835, 104-06.

⁸²Parent Duchâtelet, "Rapport sur les nouveaux procédés," 300, 305.

all in the same location. They felt that it was unnecessary to spend money on a monumental establishment as had been up to this time envisioned by the administration.⁸³

By 1839 the administration had finalized its plan for establishing a slaughteryard for the équarrissage industry, and Cambacérès had been granted the concession. The advice of the health council had been taken with regard to the establishment of a slaughteryard rather than a monumental slaughterhouse, and the health precautions indicated by the health council such as adequate water supply, drainage, use of the new processes involving steam, and adequate waste disposal were all to be taken. With the opening of the new slaughteryard at Aubervilliers in 1841 the suppression of Montfaucon was at last realized.⁸⁴

Even though many of the health problems associated with the collection and disposal of wastes remained unsolved by the end of the period under discussion, the work of the urban hygienists should not be underestimated. Their investigation of these problems and the solutions they offered contributed to a growth of awareness of public health problems confronting a large city among hygienists and administrators both in Paris and in other large cities in western Europe and the United States. Some of their solutions were put into effect and helped improve the sanitary state of the city of Paris.

⁸³Parent-Duchâtelet, "Projet d'un rapport demandé par M. le Préfet de la Seine," 309-26.

⁸⁴R. G. . . . 1841, 101-02; 1839, 233-35.

Some of their solutions, while not tried before 1848, later served successfully as models for cleaning up the city.

CHAPTER VII

PUBLIC HEALTH IN PARIS: THE IMPROVEMENT OF THE QUALITY OF LIFE

In addition to the problems associated with the collection and disposal of wastes, there were other public health problems dealt with by the urban hygienists and the Parisian administrators in the period under discussion. An adequate water supply was necessary both to keep the city clean, as well as to provide for personal cleanliness. Salubrity in public and private dwellings was necessary for the preservation of health, as was the provision of pure food and drink. Finally, prostitution was considered an urban health problem because it was closely related to the spread of venereal diseases.

The Parisian Water Supply

An adequate water supply was essential for the maintenance and preservation of healthy conditions in Paris. Water was necessary to keep the streets and public places clean; water was necessary to insure personal cleanliness; and a sufficient amount of pure water was necessary to provide Parisians with drinking water. Because of the relationship of an adequate water supply to the preservation of the public health, the success of the Parisian public health movement was at least in part dependent upon the municipal administration's actions with regard to increasing the water supply of Paris.

At the beginning of the period under discussion (1815) the water supply of Paris was notoriously inadequate. Rambuteau (Prefect of the Seine from 1833 to 1848) estimated that at the beginning of the nineteenth century only eight liters of drinkable water were available per person per day.¹ The supply came from the Seine, which furnished 7,000 cubic meters of water daily by means of pumps at Chaillot, Gros-Caillou, Notre-Dame, and Pont-Neuf (the Samaritaine pump), from the Ourcq River via a canal, which supplied 10,000-12,000 cubic meters of water, and from the Arceuil source via an aqueduct, which brought in 1,000 cubic meters of water from Rungis. In addition a little water came from the sources of Belleville and Pré-St.-Gervais, and from numerous private wells.²

A major expansion in the Parisian water supply had been started under Napoleon who conceived of bringing water from the Ourcq River to Paris via canals. The first canal to bring the waters of the Ourcq to the city of Paris was opened in 1809, and an additional 10,000-12,000 cubic meters of water became available to Parisians.³ By 1815 there were available daily from all sources excluding private wells, approximately 20,000 cubic meters of water.

¹Rambuteau, Mémoires, 378.

²From the Memoirs of Haussmann in Réau, Lavedan et al., L'Oeuvre du Baron Haussmann, 134-36. Jean Tulard, Le Consulat et l'Empire, 228, 238.

³The water from the canal accumulated in the La Villette basin, built by Girard. See Maxime Du Camp, Paris, 315.

Water was distributed by means of fountains and water carriers.

A few people had water piped into their homes, but even as late as 1850 this included only 1/5 of the Parisian population.⁴ There were three types of fountains in operation: the merchant or commercial fountains (fontaines marchandes) dating from the Napoleonic era and for the use of professional water carriers,⁵ public fountains (fontaines publiques), for the use of individuals, and free of charge, and the short fountains (bornes-fontaines), used for cleaning streets and gutters, and also used by the poor as a water supply. Jean Tulard states that at the beginning of the Consulate there were 55 fountains in all of Paris, and that Napoleon planned to build 15.⁶

For those who could afford it, water could be bought from water carriers, who fetched it from the merchant fountains (having obtained a concession from the city government) and delivered it to the homes of their customers. There were two principal types of water carriers, those who carried it on their shoulders (à bretelles), usually drinking water, and those who had carts with big barrels, and who distributed large amounts of water both for drinking and cleaning

⁴Pinkney, Rebuilding of Paris, 21; Rambuteau, Mémoires, 380. He says by 1840, 5,300 houses had water piped in.

⁵In 1832 there were 14 merchant fountains in use. See note 10 below.

⁶Tulard, Le Consulat et l'Empire, 228.

(especially at-home bathing) purposes.⁷ Frances Trollope, noting the inadequate supply of water in Paris as late as 1835, described the way Parisians got their water: "nearly every family in Paris receives this precious gift of nature doled out by two buckets at a time, laboriously brought to them by porters, clambering in sabots, often up the same stairs which lead to their drawing rooms."⁸ Her point of view was shared by other travelers and public hygienists: that Paris would have been better off to spend money on water distribution than on the Church of the Madeleine.⁹

An example of the dependence of Parisians on water carriers for their water supply is furnished by the Compte de recettes. In 1832 the city of Paris furnished by subscription to industries and private individuals (who had water piped in) 135,405.54 hectoliters of water; in that same year the city sold through the 14 merchant fountains, the main source of water supply for the water carriers, 4,282,719.85 hectoliters of water.¹⁰ Of course, by 1848 the number

⁷For pictures of these water carriers, see Marcel Poëte, Une vie de cité, 438-73. For water carriers with carts and barrels dealing in bath water, for water carriers carrying buckets by hand, see H. Daumier, L'oeuvre gravé du maître (2 vols., Paris, 1933), I, 162, "Porteur d'eau criant," and II, 458 and 516.

⁸Trollope, Paris and the Parisians, 231-32.

⁹Ibid.; the Church of the Madeleine was constructed according to plans adopted by Napoleon for a temple of glory, but, finished in 1842, it became a church. See Poëte, Une vie de cité, 383, Illus. p. 412, no. 420.

of individual subscribers had increased, but most people still obtained their water from water carriers, or if they could not afford that, by going to the fountains themselves.

Distribution of water was a major problem, more water actually being available after the 1820's than could be distributed.¹¹ David Pinkney pointed out that by 1850, even though about 26 gallons (100 liters) of water were available per inhabitant per day, because of the outmoded distribution system, only about half that amount, or 13 gallons, could be used.¹²

Not only was the water of an insufficient quantity and poorly distributed, but it was also not always of a high quality either. This was due to the fact that the Seine furnished a major portion of the city's water before the 1820's. The Seine served not only as a source of water, but also as the receptacle for the city's sewage. In spite of the fact that the quality was generally not good, Tulard reports that most people were more concerned during the Napoleonic era with the insufficient quantity rather than the bad quality of the water.¹³

As has been suggested there were several problems associated with the Parisian water supply from 1815 to 1848 which were dealt with by both administrators and hygienists. The major problem was

¹¹See below for information on increased water supply dating from the 1820's.

¹²Pinkney, Rebuilding of Paris, 21.

¹³Tulard, Le Consulat et l'Empire, 228.

that there was not enough water available to keep the city clean, to provide water for industry, and to provide water for personal use, both for cleaning and drinking purposes. Related to this was the problem of distributing the water that was available. And finally, there was the problem of assuring the purity of the water to be used for drinking.

These three problems related to the Parisian water supply were partially solved between 1815 and 1848. Even though in 1848 the supply and distribution were still inadequate, and the quality of the water not uniformly good, improvements had been made, due to the efforts of public hygienists and municipal administrators.

The major increase in the Paris water supply took place in the 1820's under Prefect of the Seine Chabrol, who completed the project started in 1802 by Napoleon, which provided for making available to Parisians the water from the Ourcq River.¹⁴ The opening of the Ourcq Canal in 1809 was only the first part of the project. Under Chabrol the St.-Martin and St.-Denis canals were opened, bringing water from the Ourcq canal into Paris, and greatly increasing the water supply. Whereas the opening of the Ourcq canal in 1809 had only increased the supply by 10,000-12,000 cubic meters, when the

¹⁴The provision of water for the city of Paris was the duty of the Prefect of the Seine. Yet the prefect of police, who was in charge of public health, was naturally often involved with the water supply. It was the prefect of police who was in charge of the cleaning and upkeep of the fountains, well, and aqueducts of the city of Paris. He also issued police ordinances regulating the use of the fountains. Material can be found in APP, D^a207, D^a208.

whole project was completed, 105,000 cubic meters of water were made available daily from the Ourcq. While in 1815 the total amount of water available to Parisians (excluding private wells) had been about 20,000 cubic meters daily, after the completion of the Ourcq project, 113,000 cubic meters of water were available daily. With the increased supply, there was available to Parisians an average of 25 gallons (100 liters) of water per person per day.¹⁵

Under Rambuteau, Chabrol's successor at the Prefecture of the Seine, attempts were made further to increase the water supply. Unfortunately, they were not a great success. In searching for new sources of water the idea of digging Artesian wells was suggested, for it seemed in the 1830's that this was the only possible source of additional water. In 1833 digging was started in the Grenelle area, but no water was forthcoming. For eight years the digging continued, and finally in 1841 water was struck. The results were disappointing, the well yielding only 600 cubic meters of water a day and therefore not substantially increasing the water supply.¹⁶

¹⁵Rambuteau, Mémoires, 378; Du Camp, Paris, V, 315. None of these figures make the distinction as to whether this figure included water for industrial use as well as for cleaning the city, or simply for personal use. It was probably the former. Lévy in 1844 stated that each inhabitant of Paris had 40 liters of water a day; he was probably referring to personal use; he compared this with Glasgow, where each inhabitant had 90 liters a day. Note that the figure of available water could be much higher than what each person actually had to use. See Lévy, Traité d'hygiène, II, 545-46.

¹⁶Du Camp, Paris, V, 321-25. In appreciation of the work of M. Mulet, who was in charge of the digging, in 1841, when water finally gushed forth, the Paris municipal council voted him an annual pension for life of 3,000 fr. In Du Camp, V, note 1, 325.

The efforts of the prefects of the Seine with regard to improving the distribution of water were more noteworthy than their efforts at increasing the water supply.¹⁷ It was up to Rambuteau to distribute the new supply of water from the Ourcq. He claimed in his memoirs to have built 200,000 meters of pipes and six great reservoirs holding 10,000 cubic meters of water each. In addition he had the older steam pumps on the Seine replaced with a turbine installation at Pont-Neuf.

The number of dwellings with piped-in water also increased under Rambuteau, who reported that by 1848 over 5,000 dwellings had water piped in. For a fee of 75 fr. a year, these dwellings had 25 gallons of water available daily. Even more houses could have had water piped it, had it not been for the expense involved. According to Rambuteau, in the late 40's an English company offered to distribute water to all floors in all houses, but the municipal council did not approve the plan, probably because it was too expensive.¹⁸

Rambuteau, who considered himself a préfet voyer,¹⁹ and who claimed that when he came to office his main goal was to supply Paris with "shade, light, and water," was proud of the improvements he made in the distribution of water during his administration. Especially notable was the increase in the number of short fountains. The Paris

¹⁷Chabrol completed a project already underway, but made no major contribution as to tapping a new supply of water.

¹⁸Rambuteau, Mémoires, 378-81.

¹⁹A prefect whose primary concern is public works.

health council encouraged the proliferation of short fountains throughout the city for the purpose of street and gutter cleaning as the best way in which the increased supply of water from the Ourcq canal could be used for the benefit of the public health.²⁰ In 1828 there were 124 short fountains in Paris;²¹ by 1830 there were 146; by the late 1830's there were around 700 of them;²² and by 1848, the end of Rambuteau's term in office, the number had increased to 1,840.²³

The problem of the purity of the water supply was dealt with by some of the public hygienists. In his 1824 article on sewers Parent-Duchâtelet discussed this problem. The question for public hygienists was whether the mass of water was great enough to render the wastes harmless to health. The answer was variable depending on the season. Parent noted in his article that chemists had done experiments on Seine water which showed the composition of the water to be the same both before and after the material from sewers was dumped in. These chemists had concluded that sewage had no influence on the water, the amount of water being great enough to neutralize

²⁰R. G. . . . 1829, 36. See also APP, D^a208, Lettre de Lappey, de l'établissement royal des eaux clarifiées et Dépurées de la Seine, au Préfet de Police, le 15 Dec. 1841, in which he speaks of the goal of the short fountains as proposed by the health council as being that of cleaning the streets and thereby improving the sanitary condition of the capital.

²¹Moniteur, 2 déc., 1828, 1777.

²²APP, D^a207, Service des bornes-fontaines dans les 4 inspections des eaux de Paris. Itinéraire général.

²³Rambuteau, Mémoires, 378.

any noxious elements from the sewers.

Parent, however, did not share the optimism of those who asserted the purity of Seine drinking water. He believed that in winter it was acceptable, because the current was swift and the river high, but in summer he noted that storms stirred up the mud and sewage, the river was low, and it often looked black and filthy, especially where the Bièvre emptied into the Seine.²⁴

There were two main solutions used for improving the quality of the drinking water for the city of Paris. The first was to get the water from another source, which had not been polluted by sewage. This was the case with the water from the Ourcq, although its quality was not judged by popular opinion to be as good as that of the Seine water. The second solution was to use filtering devices to purify the Seine water. Various filtering methods were used for Seine water, for the most part consisting of carbon and sand filters, along with sponges to act as grease filters. A new method developed in the 1840's involved the use of wool filters; in their 1841 report the members of the health council noted that all filtering methods in use were effective in purifying the water.²⁵

Filters were located at the various pumping stations, as well as at the merchant fountains, from where the water carriers purchased

²⁴Parent-Duchâtelet, "Essai sur les cloaques ou égouts," 235-46. The Bièvre flowed into the Seine below the city, below the Pont d'Austerlitz. See Parent-Duchâtelet, "Recherches et considérations sur la rivière de Bièvre," 111, 153-55, map.

²⁵R. G. . . . 1841, 112-20.

their water. The public fountains did not have their own filtering devices.²⁶ However, individual houses and establishments usually had their own filters to complete the filtering process.²⁷

In spite of the assertions of chemists that Seine water was pure, and in spite of the filtering process, some people still drank dirty water. Parent-Duchâtelet gave an example of this. He and his friend Villermé attributed the high sickness rate to St. Lazare prison to the foul water drunk by the prisoners. Parent-Duchâtelet found their drinking water to be "of a horrible taste and truly repulsive." It seemed that the high incidence of diarrhea, the main sickness at St. Lazare prison, was directly related to the poor quality of the water, the prison being an otherwise healthy place.²⁸ Of course, Parent was writing in 1824, and the situation probably improved as more attention was given by hygienists to the possible dangers involved in drinking dirty water.

The increased water supply and improved distribution of water had important ramifications for the public health. It meant first of all that it would be possible to keep the streets, public places, and sewers cleaner than before. It also meant that standards of personal hygiene could be improved, more water being available for

²⁶Du Camp, Paris, V, 346-47.

²⁷Gardner, Old Wine in New Bottles, 285.

²⁸Parent-Duchâtelet, "Les cloaques ou égouts," 236-38; the quotation is from p. 237.

domestic use. In addition, it meant that bathing, a practice heretofore restricted only to the wealthy, would become more commonplace.

Parisian Bathing Facilities

Personal cleanliness was hard to come by in the cities of early nineteenth century France. Bathing was difficult, expensive, and sometimes even dangerous. Public hygienists consistently advocated the establishment of numerous free public bathhouses, for they considered private hygiene and personal cleanliness as an important contributory factor in the improvement of the public health. Mainly because of the enlarged water supply, the number of public baths increased greatly between 1810 and 1848, and it seemed that Parisians were becoming more and more conscious of the benefits of personal cleanliness.

In 1810 the topic of bathing came up for consideration by the recently instituted Paris health council. The council found the facilities hopelessly inadequate, and noted that only the affluent could afford the public bathing establishments.²⁹ Bathing at home offered no acceptable alternative, for most homes did not have an adequate supply of water. Throughout the period it was both difficult and expensive to procure enough water for a bath; some dwellings had wells, but generally water had to be purchased from a water carrier. In addition, many dwellings were not equipped with permanent

²⁹Moléon, R. G. . . . 1810, 49-50.

bathtubs. Portable bathtubs could be rented, but this made a bath even more of a major production.

Public bathhouses could have provided a suitable alternative, but until the eighteenth century they were mostly steam baths, were generally expensive, and were frequented primarily by the wealthier classes. The poor had to bathe in the Seine. From the eighteenth century on, bathing boats in the Seine gained in popularity, but they were not always at a price that most people could afford. Of course, the river was free, but as the health council pointed out, this was not so simple a solution as it might seem. Unless one patronized bathing boats or bathing establishments, a person was forbidden to bathe in the Seine in the center of the city. Rather one had to go to the outskirts of town, and there, as the health council noted, bathing often became dangerous because of the current.³⁰

Up until 1821 the situation did not improve much. For example, P. S. Girard, Chief Engineer in charge of Municipal Service for the city of Paris, furnished the following statistics: in 1789 there were 300 public baths in Paris (the figures refer to bathtubs, not bathing establishments); in 1816 the number had increased to 500.³¹ In 1817 Benoiston de Chateauneuf said there were between 20 and 25 bathing establishments in the interior of Paris and four bathing boats

³⁰Molén, R. G. . . . 1810, 49-50.

³¹P. S. Girard, "Recherches sur les établissements de bains publics à Paris depuis le IV^e siècle jusqu'à présent," Annales, 7 (1832), 44-48.

on the Seine; he estimated that 25 baths per day were taken in roughly 30 establishments, or 22,500 per month and 270,000 per year.³² The 1817 census showed the Parisian population to be 713,966. If Benoiston de Chateauneuf's figures were accurate, that meant that the number of baths did not even average one per person per year in public establishments.³³

In their 1821 report the Paris health council stressed the importance of cleanliness for good health and pointed to the deplorable situation of public baths in Paris. The council urged the provision of free public baths in the Seine in the middle of the city, noting that the poor still had to go outside the city to bathe.³⁴

Dating from the 1820's the bathing situation began to improve, because the increased water supply provided by the new water from the Ourcq made possible the opening of numerous bathing establishments. From 1817 to 1831, according to Girard, 37 bath houses were built in Paris, their water supply coming from the Ourcq.³⁵ In 1822 the Paris health council commented that there had been a noticeable improvement in the bathing situation. There were more baths available and the

³²Benoiston de Chateauneuf, Recherches sur les consommations de tout genre de la ville de Paris en 1817. 2^{eme} partie. Consommation industrielle (Paris, 1821), 141.

³³C. Lachaise, Topographie médicale, 208. In a budget worked out for the average Parisian, Chabrol, prefect of the Seine until 1830, allowed the Parisian two baths a year, one to be taken in the summer in the Seine. See Bertier de Sauvigny, The Bourbon Restoration, 241.

³⁴Moléon, R. G. . . . 1821, 198-99.

³⁵Girard, "Bains publics," 48.

cost was low enough for the poor to afford. The council noted a greater general cleanliness among the population and more demand for baths, attributing this to decreased ignorance and increased awareness.³⁶ By contrast with 1816 when Girard found 500 baths in Paris, in 1832 there were 2,374 public bathtubs (fixes) and several hundred portable bathtubs (baignoires mobiles), which individuals could rent out to use at home. In addition, there were five bathing boats along the Seine. All totalled, Girard estimated that there were 3,760 public bathtubs available in 1832. Not only were there more baths, but because of the increased water supply, they cost less. By 1832 it was becoming easier and cheaper for even a poor person to take a bath every now and then.³⁷ Frances Trollope, who, on her visit to Paris in 1834 was most critical of the drainage and sewerage system of Paris, as well as the lack of water, was nevertheless favorably impressed with the cheapness and facility of public baths.³⁸

An article in the Moniteur in July 1827 stated that that summer the Seine was covered with public baths, some of them costing so little that even the working class could afford them. The article

³⁶Moléon, R. G. . . . 1822, 254-55.

³⁷Girard, "Bains publics," 53-56.

³⁸Trollope, Paris and the Parisians, 282. The Dictionary of Police gives the number of bathing establishments in 1835 as 75 bath-houses, and five bathing boats, a total of 3,768 bathtubs, not counting portable baths. See Elouin, Trébuchet, and Labat, Nouveau dictionnaire de police (2 vols; Paris, 1835), 92.

went on to point out that bathing was becoming one of the necessities of life.³⁹

In spite of the greatly increased number of public baths in 1832 as compared with 1816, the supply still did not meet the demand. In 1839 the health council noted that the number of public baths was still insufficient. In that year, according to the health council, the increase in bathing establishments had levelled off. The council only received two requests for the authorization of new bathing establishments: one for steam baths, the other for Barèges baths.⁴⁰

In spite of the fact that the number of bathing establishments continued to increase, as late as 1846 the health council commented that there still were not enough cheap bathing establishments in the center of the city. Most of the establishments were at such a price that only the affluent could afford them.⁴¹ Nevertheless, substantial improvements had been made since the beginning of the Restoration, primarily because of the increase in the water supply.

Even though the supply of water was intimately related to the public health, public hygienists did not devote much attention to the question of water supply in the period under discussion. They did consider certain problems related to water supply, but it did not rank

³⁹Moniteur, 12 juillet, 1827, 1062. For pictures of bathers and bathing establishments, see "Paris dans l'eau, vignettes par Daumier," in L'oeuvre gravé du maître, II, 786-95.

⁴⁰A Barèges bath was a sulphur water bath; it was named after a town in the Pyrenees. R. G. . . . 1839, 257.

⁴¹R. G. . . . 1846, 25.

as a top-priority problem. Several explanations account for this. The first is that after a vast increase in water supply as a result of the completion of the Ourcq canal project in the 1820's, many people were reasonably satisfied with the amount of water available, if not with its distribution, and in any case the search for new sources of water was not the duty of the public hygienist, but rather of the engineer or geologist. The second point is that water supply was handled by the office of the prefecture of the Seine and not the prefecture of police. The prefect of police and his advisory council, the health council, were in charge of public health, but water supply was not one of their public health duties.⁴² Thirdly, the interest of the public hygienists was actually in how the water that was available could best be used for the benefit of the health of the populace, so hygienists tended to devote their attention more to related problems, such as street cleaning, bathing establishments, and purity of the water supply than to the question of the water supply itself.

The Paris health council, which considered the major public health problems of the time and offered solutions to them, as recorded in their annual reports only had three major discussions concerning the Parisian water supply: in 1810, 1829, and 1841.⁴³ In

⁴²For an enumeration of the specific duties of the Paris health council, see above, Chapter V.

⁴³Moléon, R. G. . . . 1810, 42-43; 1829, 36; 1841, 112-17.

1829, for example, they discussed how the increased water supply from the Ourcq could best benefit the public health, and suggested that by a proliferation of short fountains throughout the city, the streets and gutters might be kept cleaner.⁴⁴ As has been mentioned earlier, their suggestions were effected, the number of short fountains multiplying dramatically after 1830.

The point to be made, and the hygienists were well aware of this, is that without an adequate water supply, neither the city nor its inhabitants could be kept in a good sanitary state. For this reason the increase in the amount of water available and the improvements in the distribution and quality of water made between 1815 and 1848 made it possible for the city to be kept cleaner (streets, gutters, and covered sewers) and for personal hygiene to be improved.

Even though in 1848 the water supply was still insufficient and all the water available was still not distributed, the achievements of Chabrol and Rambuteau were by no means negligible. The water supply had been increased five-fold since the Napoleonic era and the water had been distributed by a proliferation of fountains and by the construction of underground pipes which made water available from the tap in at least 1/5 of the private dwellings. The number of bathing establishments had increased greatly, and the number of people that bathed at home increased as well. It is impossible to say that Parisians were actually any cleaner in 1848 than they had

⁴⁴Moléon, R. G. . . . 1829, 36.

been in 1815; but it can be asserted that more Parisians had access to more water than before, and so had the capability of being cleaner.

Yet in comparison with other cities like Glasgow and London, the water problem in Paris was still unsolved. New sources of water needed to be found and better methods of distribution introduced. But the municipal council of the 1840's was not in favor of a great outlay of money to improve distribution. For example, the council refused an offer of an English company to pipe water into every home, probably because it considered it prohibitively expensive. It was completely unlikely that a vast expansion program such as Belgrand's and Haussmann's, which finally modernized the water system of Paris in the late 1860's, would ever have been approved by the municipal council of the 1840's, even if someone had suggested it.

Yet Chabrol and Rambuteau did effect important improvements, and Rambuteau, at least, thought that major progress had been made in the area of public works during his administration. Hygienists generally concurred in this opinion, and were optimistic that in time, more improvements would be made. From their writings and deliberations it seems that none of them ever envisioned such a major overhaul as would take place under Haussmann.

Pure Food and Drink

Public hygienists and the public health administration of the city of Paris realized the importance of the provision of pure food and drink for the preservation of the public health. In order

to assure the purity of comestibles the municipal government provided administrative surveillance through the office of the prefecture of police. Public hygienists investigated suspected substances, reached some conclusions as to the danger they constituted to the public health, and made suggestions to the administration as to how the problems should be dealt with.

Complaints by individuals with regard to adulteration of food and drink were handed over either to the prefect of police or to police commissioners. Typically, the complaints were then turned over to the Paris health council for investigation. Usually samples of the material were tested and a conclusion reached, but sometimes more extensive research was necessary. The provision of pure food and drink was regulated by means of police ordinances and inspections. The prefecture of police had in its employ both wine tasters and food inspectors who periodically made the rounds of the various establishments that dispensed food and drink.

Some of the questions and problems dealt with by public hygienists concerning pure food and drink were: adulterations of milk, vinegar, bread, wine, salt and other commodities; whether pigs fed on horse meat were safe to eat; whether diseased cows were safe to eat; what sort of food coloring was safe; and what metals were safe for food containers and counters in wine shops.

Many beverages and liquids were investigated for supposed adulterations, such as wine, beer, liquor, coffee, water, and vinegar, but more complaints received by the prefecture of police

concerned the adulteration of milk than any other beverage.⁴⁵ In 1828, for example, the health council was asked to investigate what substances were being used and if they were harmful to health. The health council found that none of the substances being used to adulterate milk were harmful to health and concluded that the consumers could be left to their own devices to deal with merchants of bad faith.⁴⁶

In 1829 J. P. Barruel, a member of the Paris health council, investigated the problem of pure milk and found that the most common adulteration was the addition of water to make the milk go further. Another substance was then added as a thickening agent, often flour. Barruel found no harmful additions, but believed it was up to the authority to require clear labeling of milk sold, and to require the selling of only pure milk.⁴⁷

In the early 1840's the police received complaints that milk was being adulterated with animal brains. The complaints were turned

⁴⁵See, for example, Labarraque and Pelletier, "Rapport fait au Conseil de salubrité sur un sel de plomb contenu dans l'eau de fleurs d'oranger," Annales, 4 (1830), 55-62; Barruel, "Analyse d'une bière que l'on croyait falsifiée. Rapport à M. le Préfet de police," Annales, 10 (1833), 75-79; Girardin, "Rapport sur un café avarié par l'eau de mer et livré à la consommation," Annales, 11 (1834), 96-103; Boutigny, "L'eau qui coule sur les toitures en zinc, est-elle potable?" Annales, 17 (1837), 281-95; A. Chevallier, Th. Gobley, and E. Journeil, "Essais sur le vinaigre, ses falsifications, les moyens de les reconnaître, d'apprécier sa valeur," Annales, 29 (1843), 55-82; R. G. . . . 1843, 232-33; 1844, 264; 1845, 311-14.

⁴⁶R. G. . . . 1828, 4-5.

⁴⁷Barruel, "Considérations hygiéniques sur le lait vendu à Paris comme substance alimentaire," Annales, 1 (1829), 404-19.

over to the health council, which put Gaultier de Claubry in charge of the investigation. Gaultier de Claubry found no evidence of such adulterations. A pharmacist at the Charity hospital, T. A. Quevenne, whose work appeared in the Annales, also attested that he had never seen such an adulteration.⁴⁸

The usual adulteration of bread concerned the addition of some starch other than wheat, such as potato or rice flour. While these were not harmful to health, their nutritional value was at the time uncertain. Some adulterations concerned the use of various leavening agents such as alum, which was not believed to be a health hazard, but whose long-range effects were not known. In 1842 many samples of bread turned in to the police as adulterated were found merely to be molded.⁴⁹

⁴⁸Gaultier de Claubry, "Sur la sophistication du lait à moyen de la matière cérébrale," Annales, 27 (1842), 287-95. This work was originally read at the Royal Academy of Medicine; T. A. Quevenne, "Mémoire sur le lait," Annales, 26 (1841), 5-125; and "Falsification du lait," Annales, 27 (1842), 241-86. Many of the important hygienists were pharmacists. On the importance of pharmacists in the public health movement, see Ackerknecht, Paris Hospital, 124; see especially Alex Berman, "Conflict and Anomaly in the Scientific Orientation of French Pharmacy, 1800-1873," BHM, 37 (1963), 453-57.

⁴⁹R. G. . . . 1835, 116-17; 1839, 255-56; 1840, 72-73; 1841, 121-25; 1842, 174-75; see also Alph. Guérard, "Note sur une altération singulière du pain," Annales, 29 (1843), 35-39 and A. Chevallier, "Note sur le pain moisi," Annales, 29 (1843), 39-50; for other articles on falsification of bread, see Barruel, "Conseil de salubrité. Rapport sur une prétendue falsification du pain par les sulfates de cuivre et de zinc," Annales, 3 (1830), 342-46; Chevallier, "Sur l'emploi d'un sel de cuivre dans la préparation du pain," Annales, 4 (1830), 20-24; Kuhlmann, "Considérations sur l'emploi du sulfate de cuivre et de diverses matières salines dans la fabrication du pain," Annales, 5 (1831), 338-56; A. Chevallier, "Pain dans la fabrication duquel on a fait entrer du savon," Annales, 27 (1842), 306-13.

The question of the adulteration of salt was a much investigated item during the period. The health council, which dealt with the problem in the early 1830's, found upon examination that the adulteration of kitchen salt was common. Having collected 3,000 samples from salt merchants in Paris and the vicinity, they found that 309 had been adulterated. As a result of their findings a police ordinance forbidding the adulteration of salt was issued on July 20, 1832.⁵⁰

The yearly examination of salt samples done by the health council in 1840 showed that out of 4,878 samples, 2,561 were adulterated, so that apparently the situation had gotten worse instead of better.⁵¹ In an 1833 article Chevallier had noted that the results of the periodic examinations required by the 1832 ordinance were unacceptable. He suggested that the inspectors were careless in their examinations, for 18 out of 19 of them found the salt they examined to be pure, when in fact it was adulterated. Chevallier suggested the appointment of one competent person as salt examiner.⁵²

⁵⁰R. G. . . . 1830-34, 65-66. See also A. Chevallier, "Essai sur les falsifications qu'on fait subir au sel marin, muriate de solide; travaux faits sur ce sujet; dispositions prises par l'autorité par suite de ces falsifications," Annales, 8 (1832), 250-311.

⁵¹R. G. . . . 1840, 80-81.

⁵²A. Chevallier, "Rapport à M. le Préfet sur l'examen du sel vendu à Paris," Annales, 9 (1833), 85-89; the ordinance of 20 July 1832 forbade falsifications and provided for visits to check on the purity of salt from time to time with the assistance of "hommes d'art"; see Chevallier, "Essai," 306.

A major problem which the hygienists dealt with was the use of coloring in food and drinks as well as in the paper in which food was wrapped. In 1829, when upon examination the health council found lead salt, copper, and arsenic in liqueurs and colored candies, the members proposed that no mineral colors should be used in food. A police ordinance of 1830 regulated the use of food coloring and along with repeated visits by the authorities to candy sellers, the abuses lessened. A report by the health council to the prefect of police of 1832 gave rise to modifications of the original ordinance: specific mineral colors still in use were forbidden, as well as the use of mineral colors for food containers, like candy wrappers.⁵³

There is evidence that visits were regularly made to the candy and liquor stores by health council members to be sure that the ordinance was being enforced.⁵⁴ The 1837 health council report noted that health council members had regularly been visiting candy shops and that the ordinance of 11 August 1832 was generally being adhered to. The ordinance was reissued every few years--15 nov. 1838, and 22 sept. 1841.⁵⁵ Even though the situation was much improved by

⁵³"Salubrité. Rapport à M. le Conseiller d'Etat, Préfet de police sur le danger qui peut résulter de l'emploi des bonbons colorés," Annales, 4 (1830), 48-51; Annales, 28 (1842), 55-72; Gaultier de Claubry, "Rapport à M. le Préfet de Police, sur les visites faites chez les confiseurs, distillateurs, et débitants de bonbons et liqueurs," Annales, 7 (1832), 114-27.

⁵⁴Ibid.; R. G. . . . 1837, 177-82.

⁵⁵R. G. . . . 1841, 134.

1842,⁵⁶ there were still omissions. In 1842, for example, a man was poisoned as a result of eating cheese which was wrapped in paper colored with mineral colors. This gave rise to the publication and posting at the instigation of the health council of a public notice stating that consumers should be made aware of the possibility of poisoning, especially from green and blue papers. Sellers were warned of their responsibility for accidents.⁵⁷

An interesting problem of the period concerned the feeding of horsemeat (from well and sick horses) to pigs. The question for public hygienists was: is it safe to eat meat from pigs fed on horsemeat? The problem was considered by eminent authorities such as the veterinarian J. B. Huzard, and Parent Duchâtelet, both members of the Paris health council, and the conclusion reached by all was that it was not hazardous to health. Furthermore, it was economically beneficial, since the wastes from the équarrissage of horses could be purchased as pig feed very reasonably.⁵⁸

⁵⁶A. Chevallier and F. Habert, "Sur la nécessité d'indiquer légalement aux confiseurs, pastilleurs qui habitent les départemens et à tous ceux qui préparent des sucreries colorées et des liqueurs; les matières colorantes qu'ils doivent employer pour colorier ces produits," Annales, 28 (1842), 55-72.

⁵⁷R. G. . . . 1842, 182-83.

⁵⁸R. G. . . . 1835, 114-16; Adelon, Huzard fils, and Parent-Duchâtelet, "Examen de cette question: peut-on sans inconvénient pour la santé publique, permettre la vente, l'abattage et le débit des porcs engraisés avec de la chair de cheval, soit que cette chair leur ait été donnée à l'état cuit ou à l'état de crudité?" Annales, 14 (1835), 240-57. Also in HP, II, 445-59.

A related problem of much importance was whether the meat from diseased animals could be safely eaten. This was a very timely question, as many of the cows of the Parisian area were tubercular (phthisic). The hygienists who investigated this question concluded that in most cases, unless the meat looked or smelled peculiar, it could be safely eaten.⁵⁹ It was believed, however, that eating too young veal was a definite health hazard and therefore should be regulated by the administration.⁶⁰

A final problem concerned the possible harmful effects on food of various metal containers, as well as the effects on wine of different types of counters (spilled wine ran down the counters, was collected, and sold as a mixture).⁶¹ It was generally accepted that food should not be stored, cooked, or served in copper or lead containers. If copper was to be used, then the containers had to be tinned.⁶²

⁵⁹Hazard fils, "Rapport fait au Conseil de salubrité sur la vente de la chair provenant des animaux morts des maladies," Annales, 10 (1833), 80-84; Hazard fils, "Rapport à M. le Préfet de police, sur la pommelière ou phthisie pulmonaire des vaches laitières de Paris et des environs," Annales, 11 (1834), 447-56; R. G. . . . 1840, 75-76; 1841, 125-34.

⁶⁰Grogner, "De l'usage alimentaire de la chair de veaux trop jeune," Annales, 2 (1829), 267-77; Etienne Sainte-Marie, Lectures relatives à la police médicale faites au Conseil de salubrité de Lyon et du Département de Rhône pendant les années 1826, 1827, et 1828 (Paris, 1829), 39.

⁶¹This is explained in Parent-Duchâtelet, "Observations sur les comptoirs en étain et en marbre dont se servent les marchands de vin de la ville de Paris," HP, II, 460-78.

⁶²Barruel, "Note sur les inconvénients des vases de cuivre et de plomb employes dans la préparation des alimens," Annales, 14 (1835), 131-33; R. G. . . . 1837, 182-86.

In 1837 and 1841 the health council considered the problem of food containers and wine merchants' counters. An earlier report by Parent-Duchâtelet had attested to the safety of marble and tin counters, and according to an earlier police regulation wine merchants and others selling liquids were to use an alloy of tin containing at the most 18% lead. The ordinance, however, did not cover food containers, and the health council was of the opinion that the regulation should be extended to include containers as well.⁶³

While these were the main questions considered by public hygienists in relation to pure food and drink, there were also others, such as: are green fruits harmful to health and should merchants be forbidden to sell them?⁶⁴ are the materials used in sausage safe?⁶⁵ do putrid emanations have a bad influence on food, so as to make it unfit for consumption?⁶⁶

The principal solution to the public health problems related to the provision of pure food and drink for the inhabitants of Paris was regulation and inspection of these commodities. Even though before 1848 there was no specific food and drug administration, there were market inspectors, shop inspectors, and wine tasters attached to

⁶³R. G. . . . 1837, 182-86; 1841, 120-21.

⁶⁴R. G. . . . 1835, 111-12.

⁶⁵R. G. . . . 1839, 255-56.

⁶⁶Parent-Duchâtelet, "Recherches pour déterminer jusqu'à quel point les émanations putrides, provenant de la décomposition des matières animales, peuvent contribuer à l'altération des substances alimentaires," HP, II, 85-127.

the prefecture of police to investigate food and drink establishments. In addition the Paris health council conducted investigations of items of a questionable nature.

At the instigation of public hygienists and the Paris health council, various police ordinances were issued during the period in order to assure the purity of food and drink. Their effectiveness depended on their enforcement, which varied according to the item. There is evidence from health council reports that enforcement of ordinances was greater in this area of public health administration than in many other areas.

The various studies and investigations done by hygienists and the health council on questions related to purity of food and drink show that hygienists were aware of its importance as an aspect of public health. The fact that this aspect of public health was investigated and regulated in Paris is significant, for it shows that the municipal administration and the hygienists recognized that the provision of pure food and drink was essential for the preservation of the public health.

Perhaps the best way to judge the activity of the Parisian hygienists and administration in this area is by a contemporary observation. Etienne Sainte-Marie, a member of the Lyon health council, noted that while in Paris there were commissioners at the entrance gates to prohibit the entry of unsafe foods, inspectors at the various markets, as well as wine tasters, nothing like this

existed in Lyon.⁶⁷ Once again, Paris set the example for the rest of the nation in terms of public health awareness and the application of public health measures.

Prostitution as an Urban Public Health Problem

A. J. B. Parent-Duchâtelet, who wrote the definitive sociological and hygienic work on prostitution in France in the first half of the nineteenth century, considered prostitution an urban public health problem. Prostitution was considered a public health problem not because of any occupational health dangers to the women, but because prostitutes were a primary source of the spread of venereal diseases. Parent believed that prostitution was inevitable in big cities, as were sewers, dumps, and garbage heaps. He thought there was no way to eliminate prostitution, as it was an "industry against hunger," but by active governmental surveillance and regulation the inconveniences and public health problems associated with prostitution could be lessened.⁶⁸

⁶⁷Etienne Sainte-Marie, La police médicale, 40-50.

⁶⁸A. J. B. Parent-Duchâtelet, De la prostitution dans la ville de Paris, II, 526-28. The first edition was published after the death of Parent in 1836. Parent spent eight years researching the topic, both by using material in the Archives of the Prefecture of Police and by means of personal visits and interviews. Parent visited various brothels, accompanied in the day by doctors, and at night by a peace officer. See I, 621. For a contemporary review of Parent's book, see Valleix, De la prostitution . . . par A. J. B. Parent-Duchâtelet (Paris, 1836). Extrait du Journal Hebdomadaire des Progrès des Sciences Médicales, n. 41 and 44, 1836.

The actual number of prostitutes in Paris during the period was a matter of some debate. Various estimates from the years 1762 to 1826 put the number at between 15,000 and 30,000. Once the registration of prostitutes was begun in 1816 it was possible to get a more accurate count; even then, though, as many prostitutes practiced their trade illegally, refusing to register, the number was obviously quite a bit higher than the records would show. In 1832, the number of registered prostitutes was 3,358.⁶⁹

Preventive measures against the spread of venereal disease were advocated by Parent-Duchâtelet, A. Potton, and other public hygienists who dealt with prostitution as a public health problem.⁷⁰ Essentially the proposed measures involved active governmental surveillance of prostitutes and the creation of a sanitary apparatus to deal with the treatment of the disease, in hopes that early treatment would prevent further contagion.

⁶⁹Ibid., I, 28-37. Frégier, who was the head of a bureau at the Prefecture of Police said that as of July 1, 1836, there were 186 tolerated brothels, 3,800 registered prostitutes, and around 4,000 unregistered prostitutes. See H. A. Frégier, Des classes dangereuses de la population, I, 48. Frégier won a prize given by the Academy of Political and Moral Sciences for this work. Augustus Kinsley Gardner, an American medical student who was in Paris in the late 1840's, said there were 60,000 prostitutes in Paris. He was undoubtedly exaggerating. See Old Wine in New Bottles, 83-85.

⁷⁰A. Potton, De la prostitution et de la syphilis dans les grandes villes; F. S. Ratier, "Mémoire en réponse à cette question: quelles sont les mesures de police médicale les plus propres à arrêter la propagation de la maladie vénérienne," Annales, 16 (1836), 262-97.

In France it was the city of Paris that set the example in the administrative treatment of prostitutes as a public health problem.⁷¹ The official policy of the Parisian government was toleration of prostitution, along with active police surveillance to enforce the sanitary measures set up to curb the incidence of venereal disease among prostitutes, and hopefully, therefore, its propagation among the general population. Prostitutes were required to register at the prefecture of police and to submit themselves to regular examinations by doctors attached to the sanitary service.⁷²

The sanitary apparatus set up in Paris to deal with prostitution as a public health problem dated from the Napoleonic era.⁷³ Several doctors who were involved with the sanitary inspection of prostitutes, instituted by the first prefect of police, Dubois,

⁷¹Potton, De la prostitution, 215, 247-48. Potton contended that the way prostitutes were dealt with in Paris should be imitated by other large French cities. Gisquet, prefect of police from 1831 to 1836, stated that statesmen from nearly all the European governments had written to him asking for a collection of Paris regulations concerning prostitutes. Gisquet saw this as evidence that the system for dealing with prostitutes in Paris was better than elsewhere. See Gisquet, Mémoires, 366. See 47-66 for his discussion of prostitution in Paris during his time as prefect of police. The Paris system of dealing with prostitutes had its champions in the United States as well. William Sanger, a prominent N. Y. physician, for example, in the 1850's recommended that New York adopt the Paris system of sanitary inspection of prostitutes. The city of St. Louis tried such a program in the 1870's. See John C. Burnham, "Medical Inspection of Prostitution in America in the Nineteenth Century: The St. Louis Experiment and its Sequel," BHM, 45 (1971), 203-218.

⁷²The registration dated from a prefectural ordinance of 15 July 1816 prescribing a general registration of all prostitutes. See Parent-Duchâtelet, De la prostitution, I, 369.

⁷³In the eighteenth century, apparently there were several individuals who suggested to the lieutenants of police a program of

proposed the creation of a special center where sick prostitutes could receive free treatment; in 1802 the Health Dispensary (Dispensaire de salubrité) was opened. It was reorganized under Prefect of Police Pasquier in 1810, and at that time a permanent commission for the improvement of the dispensary was also instituted. At the same time more thoroughgoing and active surveillance was begun, it being decided that prostitutes would be visited regularly twice a month by doctors.⁷⁴

Pasquier's reorganization of the dispensary and extension of the sanitary program were a success. The active surveillance lowered the incidence and gravity of venereal disease among prostitutes, and the advantages of such a sanitary program began to be appreciated.

sanitary visits by prostitutes to doctors. The ideas were rejected probably because of public opinion, which did not favor the aiding of prostitutes, who were considered criminal and immoral and not worthy of charity. The idea that prostitution constituted a public health hazard and should be dealt with for that reason was not a very compelling one until the nineteenth century, and even then many voices of criticism could be heard. There had been attempts during the Revolution to deal with prostitution as a public health problem. For example, a law of 22 July 1791 provided for severe penalties for prostitutes who did not present guarantees that they were in good health. The idea of submitting prostitutes to sanitary visits dated from 1798, but no program was developed at that time. Under Dubois, the first prefect of police of Paris (1800-1810), several projects were considered. The idea of sanitary visits was put into a program: the administration hired some doctors to hunt out prostitutes, examine them, and then charge them for their examinations. It is not surprising, given such a set-up, that for the most part the doctors sought out and examined only those who could afford to pay. This information in Parent-Duchâtelet, De la prostitution, II, 50-60.

⁷⁴Parent-Duchâtelet, De la prostitution, II, 62-69.

Anglès, prefect of police from 1815 to 1821, continued and completed Pasquier's work. Surprise visits were instituted in addition to the regular semi-monthly visits, and in 1816 the registration of prostitutes at the prefecture of police was begun. During the early years of the Restoration there was even a possibility that sanitary surveillance of prostitutes might be spread to all of France. In 1816 the Minister of the Interior Becquey began to work on such a program. A special infirmary for prostitutes came under consideration. For various reasons, nothing ever came of a national law to deal with prostitutes as a public health problem, or of the idea of instituting sanitary surveillance throughout the nation.⁷⁵

There were several problems associated with the sanitary program for the surveillance and regulation of prostitution. These were the lack of effective treatment for venereal disease, clandestine prostitution, extending the jurisdiction into the rural communes surrounding Paris, and public opinion, which tended to be heavily weighted against a program of prevention rather than cure.

Part of the sanitary program involved treatment of those prostitutes found to be infected. Even though there was no really effective treatment at the time, the sanitary program included treatment of prostitutes by the methods then in use. Commonly used were the Montpellier method, a modified mercury treatment, and treatment with potassium iodide. The average hospital stay for treatment was 65-70

⁷⁵Ibid., II, 73-81.

days. Presumably all who underwent the treatment were healed, although we know now that this was actually not the case.⁷⁶

Treatment was made difficult because relatively little was known about venereal disease. At the time of Parent-Duchâtelet's research (early 1830's) there was still no positive differentiation between the various venereal diseases. It was not until 1837 that a French doctor, Philippe Ricord, successfully established gonorrhea and syphilis as two distinct diseases.⁷⁷ In retrospect, preventive measures against venereal disease were all the more important, as there was no certain cure. This was a fact not always realized in the early nineteenth century, however, for it was generally assumed that if the symptoms disappeared, the disease was cured. Yet after 1837 and the publication of Ricord's work on syphilis, the tertiary symptoms of syphilis were recognized along with the often lengthy period of latency between the secondary and tertiary stages.⁷⁸ So

⁷⁶Parent-Duchâtelet, De la prostitution, II, 231, 239-44. The first hospital for the treatment of prostitutes in Paris dated from 1683 when one room at Salpêtrière was allocated for this purpose. At that time, to gain admittance a prostitute first had to be arrested. Upon entering the hospital, she was then punished and beaten, venereal disease being considered a crime rather than a disease. The mortality rate of afflicted prostitutes was very high, probably being due just as much to the horrible conditions in the hospitals as to the diseases for which they were being treated. Conditions began to improve, as was the case with most Parisian hospitals, in the late eighteenth century. As conditions improved the mortality rate dropped from about 1/10-12 to 1/47. See Parent-Duchâtelet, De la prostitution, II, 167-201.

⁷⁷Erwin Ackerknecht, History and Geography of the Most Important Diseases (N. Y., 1965), 119. Thomas Parran gives 1837 as the precise date in Shadow on the Land: Syphilis (N. Y., 1937), 44.

⁷⁸Philippe Ricord, Traité pratique des maladies vénériennes (Paris, 1838); Mémoires et observations (Paris, 1834); Lettres sur

in many cases, a cure meant that the first stages of syphilis were merely over, not that the disease had actually been cured.⁷⁹

Another problem of the sanitary program, in addition to the fact that there was no effective treatment for venereal disease, was that of clandestine prostitution. The registered prostitutes were submitted to sanitary surveillance and the statistics kept on them showed a very significant decline in the number infected with venereal disease. In 1800, according to statistics provided by Adolphe Trébuchet at the prefecture of police, one prostitute in nine (1/9) was found to have venereal disease; by 1816 the percentage had dropped to 1/26, and by 1836 to 1/60.⁸⁰ But many girls and women practiced prostitution secretly; they did not live in brothels, but worked in small rooms or boutiques. In addition, many kept women, of a higher social status than the common prostitute, did not register. For many, prostitution was not even a permanent way of life, but a passing thing in times of unemployment.

The effectiveness of the sanitary program was further jeopardized by the failure to extend it to the rural communes

la syphilis (Paris, 1851). On the various stages of syphilis and problems of treatment, see Alexandre Bottex, De la nature et du traitement de la syphilis (Lyon, 1836). Bottex recognized the distinction between syphilis and gonorrhea, as demonstrated by Ricord. Bottex believed that mercury was the most effective anti-syphilitic, even though it did not cure all cases.

⁷⁹On the treatment of syphilis, see Owsei Temkin, "Therapeutic Trends in the Treatment of Syphilis Before 1900," BHM, 29 (1955), 309-316.

⁸⁰Trébuchet's figures found in F. S. Ratier, "La maladie vénérienne," 282, n. 1 and 284, n. 1.

surrounding Paris. The necessity for the extension of toleration and the institution of sanitary surveillance in the rural communes was obvious. For one thing, many soldiers were garrisoned there, a sure attraction for prostitutes. In 1840 and 1841 the situation in the communes became critical, with many workers and additional soldiers being sent in to work on the construction of new fortifications around the city of Paris. The main argument against extending the sanitary program to the rural communes was the expense which would have been involved in hiring new doctors and setting up new dispensaries.⁸¹

A final problem associated with an effective sanitary program to prevent the spread of venereal disease was that of unfavorable public opinion. Public opinion in the first half of the nineteenth century, insofar as we can tell, was not generally favorable to the toleration of prostitution and the establishment of a sanitary program to attempt to prevent the spread of venereal disease. Even Parent-Duchâtelet could not escape the prevailing opinions of his age.

Public hygienists like Parent and Potton maintained that syphilis was even worse than epidemic diseases, being both endemic and contagious, and affecting not only those afflicted, but their offspring as well. The French national government, however, had traditionally been more concerned with epidemics such as plague and yellow fever than with syphilis and other endemic diseases which year in and year out affected many more people than the epidemic diseases,

⁸¹Parent-Duchâtelet, De la prostitution, I, 596-609.

but which were not so spectacular in nature.

The sanitary apparatus of the national government was geared toward keeping out certain contagious epidemic diseases. At great cost various lazarettos had been constructed and cordons sanitaires had been enforced. Parent pointed out that in spite of many attacks on the national sanitary apparatus, people still defended the system, regarding it as an important public health measure. Parent-Duchâtelet noted that through the years millions of francs had been spent on plague and yellow fever, but nothing on syphilis, which had been wrecking lives for three centuries, at least in France. While there was a national law regulating the importation of contagious and epidemic diseases, there was no national law regulating prostitution, the main source of the propagation of syphilis.⁸²

The attitude of many towards the regulation and sanitary surveillance of prostitutes showed that in fact it was for most people much more of a moral than a public health issue. A common opinion was that if it were not for fear of venereal disease, morals would be even worse. Some believed that prostitutes, being immoral, and even criminal, were not worthy of help, and therefore they reasoned that money spent on them would be badly spent. The public health advocates dismissed these opinions as being old-fashioned, maintaining that the important thing was to prevent the spread of the disease.⁸³

⁸²Ibid., II, 37-40.

⁸³Parent said that people that held such opinions "had never crossed the limits of a cloister." See Parent-Duchâtelet, De la prostitution, II, 41-42.

The varying opinions with regard to prostitution as a public health problem were exemplified over the issue of the taxes paid by prostitutes. Originally prostitutes had to pay 3 fr. for their examinations. If they missed their doctor's visit, a 2 fr. fine was levied on them; furthermore, the madame of a brothel paid 12 fr. tax to have her house "tolerated." In the early 1820's opinions changed, however, and many argued that this was an unfair tax. As prostitutes had not asked to be submitted to sanitary surveillance, why should they have to pay for it? Another argument, put forward by hygienists and administrators at the prefecture of police, was that the sanitary program benefited the whole community by improving the public health, so therefore it should be paid for by public funds. Just as public funds paid for the national sanitary apparatus designed to protect the populace from plague and yellow fever, so public funds should pay for the sanitary surveillance of prostitutes, designed to protect the public from syphilis.

Throughout the 1820's the Paris municipal council was repeatedly asked by the prefect of police to allocate money to support the program. Finally under Prefect of Police Debelleyne in 1828 a commission found the tax to be both illegal and immoral and contrary to the spirit of the institution, concluding that the whole populace should pay for such a publicly useful institution.⁸⁴

⁸⁴Parent-Duchâtelet, *ibid.*, I, 374-87; II, 392.

Yet if Parent was critical of others for opposing what he considered to be useful public health measures to prevent the spread of syphilis, in the final analysis, he himself could not escape the prevailing climate of opinion, which was basically more concerned with the immorality of the disease than with the health hazards. There were in existence prophylactics which were effective in preventing the spread of venereal disease. F. S. Ratier, an authority on syphilis, favored their use as a means of preventing the disease.⁸⁵ Especially as there was no certain cure for venereal disease, prevention was of the utmost importance if the disease were to be eliminated. Yet Parent could not advocate the use of prophylactics as a preventive measure. Noting that the man who had invented the prophylactic in England in 1820 had had to change his name as a result of public outrage, Parent maintained that to endorse the use of prophylactics would have grave repercussions with regard to public opinion.⁸⁶

Parent believed that when it was a question of public morals vs. public health, the government's responsibility being both, morals had to be chosen over health. Once a prostitute had the disease, it

⁸⁵Ratier, "La maladie vénérienne," 285-86. So also did Valleix, a reviewer of Parent's work. See Valleix, De la prostitution par A. J. B. Parent-Duchâtelet, 42. Potton was also favorable; see Prostitution, 287-88.

⁸⁶Parent-Duchâtelet, De la prostitution, II, 543. The man was probably Dr. Condom. See Henry Alan Skinner, The Origin of Medical Terms (N. Y., 1970), 121. Dr. Condom (or Conton) was an eighteenth century London physician credited with inventing the prophylactic.

was the duty of the government and the individual doctor to treat her and prevent the spread of the disease, but Parent could not advocate preventive medicine if to do so might encourage public license.⁸⁷

Parent was still a revolutionary in his time for undertaking the topic at all, for going into the brothels, and for publishing a detailed account on the subject. At a time when two major newspapers, the Temps and the Débats, would not use the word syphilis in their columns, at a time when the Pope's pastoral letter (1826) said that prophylactics interfered with decrees of Providence which had wanted to punish His creatures when they had sinned, Parent was braver than most.⁸⁸ But in the final analysis, he was a man of his age, and even for the sake of public health he was not willing to flout the ideas of public morality.

Public hygienists and municipal administrators tried to solve the problems associated with an effective sanitary program for prostitutes. The prefect of police took action to extend the sanitary program to the municipal communes. In the late 1830's the prefect of police asked for and received additional money from the municipal council in order to extend sanitary surveillance to the communes.⁸⁹

⁸⁷Parent-Duchâtelet, De la prostitution, II, 529-44.

⁸⁸Ratier, "La maladie vénérienne," 266. Ratier also pointed out that the philanthropic and mutual aid societies in France refused all assistance to those members afflicted with venereal disease (266).

⁸⁹APP, D^a122, Conseil municipal. Séance du 5 mai 1837. Demande de la création de sept nouveaux inspecteurs du dispensaire (brigade sanitaire); Préfecture du Département de la Seine. Extrait du Registre des procès-verbaux des Séances du Conseil municipal de la ville de Paris. Séance du 5 mai 1837.

Delessert, prefect of police, wrote to the municipal council expressing concern for the increase in the incidence of venereal disease in the communes, noting the lack of regular sanitary surveillance, the problems of clandestine prostitution, and the number of soldiers, as well as construction workers associated with the fortifications. His solution was to extend the official policy of toleration to the communes in hopes of regularizing prostitution and making possible a more effective sanitary surveillance. He asked the council to appropriate more money to extend further the sanitary service.⁹⁰

In 1842 after some debate over who should pay for the extension of the sanitary service to the communes (Delessert had pointed out that among prostitutes who were not subject to sanitary surveillance, the incidence of venereal disease was 1/4) additional money was made available in the Paris budget by the Minister of the Interior to cover the extension of the sanitary service.⁹¹ Thus by 1842 the sanitary program for prostitutes had been extended to the rural communes surrounding Paris.

Because there was no effective way to deal with clandestine prostitution, and because it was these prostitutes who were often the main carriers of venereal disease, the success of the whole sanitary

⁹⁰APP, D^a122, Lettre de Delessert, préfet de police, à MM. les Membres du Conseil Municipal de la ville de Paris. Le 4 juin 1841.

⁹¹APP, D^a122, Delessert à MM. les membres du Conseil Général du Département, le 15 oct. 1841. Also Lettre du Sous-secrétaire d'état au département de l'intérieur à Delessert. Le 29 avril 1842.

program was never to be complete. Parent-Duchâtelet attributed the continual widespread existence of syphilis in Paris to the inability of the authorities to regulate clandestine prostitution.⁹² Of course, the continued existence of syphilis was also attributable to the lack of a cure for the disease. Many of the prostitutes who, upon examination were not found to be infected, could in fact have had syphilis after all.

The solution of Parent-Duchâtelet of how best to deal with the public health problems associated with prostitution was by means of national legislation. Parent called for a national law on prostitution and the establishment of a nationwide sanitary apparatus to enforce it. Such a law, as envisioned by Parent, would have been aimed both at the repression of prostitution on a nationwide scale, and the initiation of a nationwide system of dispensaries and sanitary programs to prevent the spread of venereal diseases. These facilities would have been assimilated to the other national sanitary establishments of public utility. Parent saw three advantages to such a law: (1) it would give a legal basis to the dispensaries; (2) it would give legal power on the national level for the repression of prostitution; and (3) it would definitely place the sanitary establishments for prostitutes and the control of venereal disease among

⁹²Parent-Duchâtelet, De la prostitution, I, 492-99.

the other establishments of recognized public utility.⁹³

Unfortunately such a law was never passed. Paris continued to operate a reasonably effective program which other cities sought to imitate, but no nationwide program was ever effected. Like many public health problems, prostitution continued to be dealt with on a local level.

The Salubrity of Private Dwellings and Public Establishments

The public health improvements made in the city of Paris from 1815 to 1848 were attributable to increased awareness of and

⁹³Parent-Duchâtelet, De la prostitution, II, 516-23. Parent did not consider a social and economic solution to the problem of syphilis, which would have been the elimination of prostitution. A. Potton, however, the authority on prostitution in Lyon, felt that the ultimate solution to the problem of many diseases was the elimination of poverty. Potton did not believe prostitution would ever be completely eliminated, but it might be drastically reduced, for Potton believed that women were driven to it by low wages, or unemployment, and industrial crises. Sexism (to use a modern term) was another cause, for in Lyon women's wages were normally 1/2-2/3 less than those of men. Thus Potton believed that a solution to a public health problem like prostitution was a change in the social and economic organization to eliminate misery caused by low wages, industrial crises, and unemployment. At the same time Potton saw that unless the problem of poverty were solved, the problem of disease would not be solved. And the relation was a self-perpetuating one: poverty caused disease and then disease caused poverty. In the case of syphilis he pointed out that the disease had a debilitating effect on those afflicted with it, especially the working class; not only could they not afford to quit work to go to a hospital for treatment (65-70 days), but furthermore, they passed the disease on to their children. Citing syphilis as a powerful cause of poverty among the working class, as well as vice-versa, Potton advocated the same sanitary measures advocated by Parent, but went further than Parent by favoring a reorganization of the social order to get at the root of the problem. See Potton, Prostitution, 6, 15-30, 164-81, 241-48.

interest in public health. Even though the city in 1848 may still have seemed medieval in many ways, the fact was that the streets were cleaner, the hospitals and prisons were cleaner and better ventilated, industries had been moved away from the city center, and many had undergone hygienic improvements, the sewer system had been enlarged, the water supply had been increased, and prostitution was better controlled. There had been many public health improvements since 1815.⁹⁴ Yet there was one important area where improvements were negligible: private dwellings. The hard facts were that new construction of private dwellings had not kept pace with the population increase. Furthermore, many of the new dwellings that had been built consisted of small, badly built apartments. Many Parisians lived in sub-standard, unsanitary housing. While some quarters of Paris were sumptuous and healthful, as least as many were filthy and filled with hovels--virtual slums, primarily inhabited by the working classes and the dregs of society.

Yet in spite of recognizable public health improvements in Paris, statistics showed little overall improvement in mortality rates, the barometer by which the health of a society could be measured, according to public hygienists.⁹⁵ In the eighteenth

⁹⁴Ch. Lachaise, "De l'influence de l'entassement de la population sur la mortalité des grandes villes; prouvée par les registres mortuaires de Paris de 1820 à 1840," Bull. de l'Acad. Roy. de Méd., 5 (1840), 573; Communication verbale, présentée dans le séance du 1^{er} sept. 1840.

⁹⁵On the importance of the mortality rate, see above, Chapter II.

century the mortality rate in Paris had been about $1/28$; from 1804-1817 it was $1/31$; the average from 1817-1832 was $1/32$. According to C. Lachaise this improvement was in part attributable to the increased application of public health measures. However, this trend did not continue; in 1817 the mortality rate was $1/32$; in 1831 it was $1/30$; thus from 1817 to 1831 the mortality rate actually increased. By 1838 it was back down to $1/32$, the same figure as 1817. Thus from 1817 to 1838 in spite of all the public health improvements in Paris, the mortality rate had not changed, on the average.⁹⁶

Another disturbing factor was that in spite of the fact that the greatest strides in public health during the period were made in Paris, Paris had a higher mortality rate than many of the departments of France. Some departments had a mortality rate as low as $1/41$ and $1/42$. The average mortality of France as a whole was about $1/40$. Thus, according to Lachaise, the Parisian had about $1/4$ less chance of living than other Frenchmen.⁹⁷

Salubrity of Private Dwellings

Public health theorists had consistently maintained that public health improvements, a decreasing mortality rate, and the advance of civilization were all concomitant.⁹⁸ Therefore, how did

⁹⁶Lachaise, "De l'influence de l'entassement," 572, 574.

⁹⁷Ibid., 574-75.

⁹⁸See above, section on public health theory, Chapter I.

they explain this apparent contradiction of the city with the best application of public health measures having one of the highest mortality rates in the nation?

The answer, according to Lachaise and Villermé, was inadequate living conditions. Lachaise blamed the high Parisian mortality rate on crowded conditions in the poor areas of Paris. Villermé had presented statistics to show that crowded conditions alone were not necessarily a cause of bad health, but they were when accompanied by poverty.⁹⁹ Other incriminating evidence was presented to show the relation of crowded living quarters to disease, especially when the crowdedness was accompanied by poverty. For example, during the cholera epidemic in Paris, the mortality rates were higher in crowded areas with narrow streets. Of course, most crowded narrow streets were inhabited by the poor.¹⁰⁰ P. A. Piorry later suggested that various observations on cholera did not prove that cholera was the result of bad housing, but that bad housing was what gave the epidemic its serious and fatal character.¹⁰¹

The findings on cholera and mortality rates in general supported the anticontagionist beliefs prevalent at the time, according

⁹⁹Lachaise, "De l'influence de l'entassement," 575-79; Villermé, "De la mortalité dans les divers quartiers de la ville de Paris," 305-07, 322-24. There was a distinction between high population density, which was not necessarily related to high mortality rates, and overcrowdedness which was usually related to high mortality rates.

¹⁰⁰Lachaise, "De l'influence de l'entassement," 44; Report on the Cholera in Paris (N. Y., 1849), 164.

¹⁰¹P. A. Piorry, Des habitations et de l'influence de leurs dispositions sur l'homme, en santé et en maladie (Paris, 1838), 75.

to which disease was seen as a direct result of unsanitary conditions, many of which it was recognized were caused by poverty. Therefore it was believed that unsanitary conditions in private dwellings were a major determining factor in the cause and spread of disease.

In trying to pinpoint what factors made narrow, crowded dwellings dangerous to health, Piorry concluded that it was not known for certain, but that inadequate supply of air due to bad ventilation seemed to be a contributing factor.¹⁰² Monfalcon and Polinière also stated that inadequate supply of fresh air was probably the main health hazard of crowded living conditions. They noted that both animals and people in an overcrowded situation could quickly use up the oxygen supply, and vitiate the air. Add to this piles of garbage and excrement giving off foul emanations and it was understandable why crowded conditions constituted such a health hazard. Monfalcon and Polinière went on to assert that doctors and health councils were in agreement that the main cause of serious diseases which afflicted the poor in large cities was the alteration of the air by deleterious emanations (they cited such diseases as phthisis, scrofula, chronic gastritis, and rheumatism).¹⁰³

The fact was that, in spite of public health improvements, many people lived in unsanitary conditions in their private dwellings.

¹⁰²Piorry, Des habitations, 83-85.

¹⁰³Monfalcon and Polinière, Traité de la salubrité, 41-45. Phthisis and scrofula were both types of tuberculosis.

Monfalcon and Polinière described the interior of a working class dwelling in Lyon, noting that doctors who treated the poor at home could hardly stand the fetid odor that prevailed.¹⁰⁴ If there were latrines, they were insufficient and filthy and often located in the kitchens. Stairs and floors were covered with the excrement of babies, animals, and children. Good ventilation was practically nonexistent. In addition, the supply of water was usually insufficient, for sometimes one pump served a great number of households, and water sold by carriers cost so much that the poor could not afford it. Without adequate water and toilet facilities, cleanliness was impossible to achieve, and therefore the houses of the poor were filled with mud, excrement, and garbage.¹⁰⁵

Some of the places that were the most crowded and had the poorest ventilation were the lodging houses inhabited by the dregs of society, the so-called hôtels garnis (also called maisons garnies). H. A. Frégier, who was the head of a bureau at the Prefecture of the Seine, and author of a famous work on the dangerous classes of Paris, gave a vivid description of some of the worst of these hôtels garnis. He described how the rooms looked out onto corridors deprived of air and light; the latrines on each floor gave off a suffocating odor,

¹⁰⁴F. Foy mentioned that doctors who made house visits in Paris during the cholera epidemic saw the awful conditions in which some people were living. See F. Foy, Manuel d'hygiène (Paris, 1845), 120. Foy discussed housing and health on pp. 105-120, noting that behind many façades and elegant stores, people were living in deplorable conditions, p. 117.

¹⁰⁵Monfalcon and Polinière, Traité de la salubrité, 87-90.

and the stairs were permanently covered with mud. The courtyard was only 4 ft. square and was filled with garbage; the latrines on the fifth floor let fecal matter run down the stairwell, which was covered down to the street floor. The inhabitants were swindlers, thieves, pimps, and the filthiest of prostitutes--the most abject men and women in society.¹⁰⁶

The Paris health council was also aware of the problem of inadequate housing in the city of Paris, considering the situation in several reports. In an 1824 report entitled Des nouvelles bâtisses entreprises dans la capitale the new construction going on in Paris was considered as being a menace to public health. The health council noted that most of the recently constructed buildings were made up of small apartments which, because of poor ventilation and lack of sunlight, in many cases were unhealthier to live in than most prisons.¹⁰⁷

In 1826 the health council again considered the housing situation in Paris, noting that new streets were being built and new buildings constructed without the public health's being taken into consideration.¹⁰⁸ Some administrative solution was necessary in order to clean up and improve private dwellings and hôtels garnis so they would not constitute a health hazard.

¹⁰⁶H. A. Frégier, Des classes dangereuses de la population dans les grandes villes, I, 140-41. For a drawing of a garni, see H. Daumier, L'oeuvre gravé du maître, II, no. 651 and 652.

¹⁰⁷Moléon, R. G. . . . 1824, 308-11.

¹⁰⁸Moléon, R. G. . . . 1826, 357-62.

Like many of the public health problems bad housing could not be solved by the application of public health measures alone, for the provision of adequate housing for a growing population was as much a social and economic concern as a public health concern. About the only thing public hygienists could do was to advocate government regulation of building and housing, and the institution of some sort of building code.

Individual hygienists and the Paris health council offered solutions as how the problem might be solved. Lachaise, for example, suggested that more industrial establishments could be required to move out of the center of the city, that the legal height of houses could be lowered, and that the width of courtyards and the height of interior constructions could be regulated.¹⁰⁹

The Paris health council called for government intervention and regulation to direct new construction for the benefit of the public health. For example, the health council maintained that the old law regulating the width of streets in proportion to the height of houses was no longer adequate, and called for an ordinance that would state that the width of the street should be equal to the height of the highest house, and that no house could be built that was higher than the street was wide. The members believed that such a regulation would bring about great sanitary improvements. The result would be

¹⁰⁹Lachaise, *De l'influence de l'entassement*," 379-80.

better ventilation, greater cleanliness, and less population accumulated on a given point.¹¹⁰

In 1829 the health council called for a law to regulate urban construction in order to protect the public health. Such a law, the council noted, would especially protect the health of the poor. Stating that there was general agreement on the importance of a healthy environment for the preservation of the people's health,¹¹¹ the health council cited the differences in mortality rates from one quarter to another and noted that misery was related to why people had to live in such unhealthy conditions.¹¹²

The solution of Monfalcon and Polinière was about the same as that suggested by the Paris health council: the builders of dwellings should be subject to certain restrictions. The authors noted that unless builders were forced to build healthful buildings, they would not do so, for they were more interested in money than health. Monfalcon and Polinière backed up the position of the Paris health council and called for a law to regulate urban construction. Until the passage and enforcement of such a law, the health of the citizens

¹¹⁰Molén, R. G. . . . 1824, 308-11; 1826, 357-62. A law of 1792 had prescribed measures relative to the width of Parisian streets in relation to the height of houses. The height of houses was fixed at 54 ft. on streets with a width of 5 fathoms; if the street was narrower, the height was fixed at 45 ft. See Piorry, Des habitations, 44.

¹¹¹See for example, Monfalcon and Polinière, Hygiène de Lyon, 386.

¹¹²R. G. . . . 1829, 38-39.

would be at the mercy of the builders, they commented. The conditions that Monfalcon and Polinière thought should be provided for were: sufficient size rooms for the number of people, adequate ventilation, good construction to discourage humidity, clean, well-lighted and large courtyards and stairwells, construction of latrines and cesspits, and construction of pipes leading from latrines to cesspits.¹¹³

With regard to the unsanitary conditions prevailing in the hôtels garnis, P. A. Piorry and Henri Bayard both recommended active governmental surveillance of these establishments. Piorry urged governmental surveillance in order to limit the number of beds in relation to the amount of space.¹¹⁴ Bayard maintained that the administration should require the observance of certain health conditions in these hotels: clean latrines, white-washed walls, no more people than could adequately be lodged given the number of beds and the amount of air.¹¹⁵

Unfortunately none of these proposed solutions were acted upon by the government in the period under discussion. Finally in late 1848 the Paris health council succeeded in getting an ordinance passed to regulate the salubrity of dwellings in the city of Paris.

¹¹³Monfalcon and Polinière, Traité de la salubrité, 49-71; Frégier also called for government intervention, II, 145-47.

¹¹⁴Piorry, Des habitations, 85-93.

¹¹⁵Henri Bayard, "Mémoire sur la topographie médicale des Xe, XI^e, et XII^e arrondissements," Annales, 32 (1844), 282-85.

In 1848 a commission of the Paris health council presented a report on the salubrity of private dwellings, which had been in the planning stages since 1846. In July 1848 two reports were addressed to the prefect of police. As a result of investigations into dwellings in various quarters of Paris, two main things were found to vitiate the air: too many animals and too many people in a given amount of space using up the oxygen supply and giving off carbon dioxide. Adhering to the old miasm theory, the health council commission stated that they believed miasmatic animal emanations were the cause of most epidemics. In working class dwellings the commission found a lack of air and light, the presence of humidity, and stagnating household waters. A situation of general uncleanness prevailed, with latrines being badly kept. Some people were found to be living in dwellings with no windows at all. The health council's solution was the issuance of a police ordinance to regulate the salubrity of private dwellings, which would place the responsibility of maintaining general cleanliness on the proprietor. Maisons garnies would also be regulated to prevent overcrowded unsanitary conditions.

On November 20, 1848, an ordinance concerning the salubrity of dwellings was issued. An attached instruction sheet discussed the causes of the insalubrity of dwellings, the effects of vitiated air on health, and the means of assuring the salubrity of dwellings.¹¹⁶

¹¹⁶R. G. . . . 1848, 172-92.

The fact that an ordinance regulating the salubrity of private dwellings was finally passed in 1848 at the instigation of the Paris health council could mean that by the end of our period awareness of this public health problem was great enough to convince the municipal administration to take some definite action. This is a plausible explanation. It is more likely, however, given the date, that the passage of such an ordinance was done for two reasons: fear of a second cholera epidemic, which was already threatening Europe at that time; and an attempt of the new revolutionary government to appease the working class. In any case, it was a step forward, although such a measure surely did not lead to the eradication of the slums of Paris. In any case public health reforms could only solve part of the problem, for inadequate housing was as much an economic and social problem as it was a public health problem.

The Salubrity of Public Establishments

An important aspect of public health for the nineteenth century hygienist was the salubrity of public establishments such as hospitals, prisons, theatres, churches, schools, barracks, and dissection rooms. There were specific health problems associated with edifices in which a large number of people gathered, whether it was for a few hours (as in the case of a church or theatre) or for a longer length of time (as in the case of hospitals and prisons). These problems were the provision of adequate heating, ventilation, water,

and toilet facilities.¹¹⁷

In the case of hospitals the main concern of public hygienists was the provision of adequate heating and ventilation. Many of the older hospitals were made of stone, with stone floors; the old Hôtel-Dieu in Lyon was a good example. While the high ceilings and large rooms made for improved circulation of air, heating was almost impossible. David Johnston, a Scottish doctor who visited France in the 1820's, noted that many patients died as a result of the cold in the Lyon Hôtel-Dieu.¹¹⁸ If one considers that public hygienists believed that the best temperature for hospitals was 59 degrees Fahrenheit, one can imagine how chilly the patients must have been.

Although high ceilings, windows, and air vents provided some means for the circulation of air, ventilation in hospitals was still a major problem. In winter adequate ventilation complicated the heating problems, and in summer, especially on still days, natural ventilation was not adequate.

To provide adequate health conditions in prisons, hygienists stressed the importance of ventilation, heat and light. For example,

¹¹⁷For the problems associated with the provision of water and with toilet facilities, see above; with regard to the salubrity of public establishments, the main concerns of the hygienists were heating and ventilation, adequate water and toilet facilities being dependent in most cases on the water and sewerage systems. The Paris health council noted in 1842, for example, that most churches lacked proper ventilation and in winter were cold and humid. R. G. . . . 1842, 169.

¹¹⁸David Johnston, A General, Medical, and Statistical History of the Present Condition of Public Charity in France (Edinburgh, 1829), 169-70.

in 1829 the Paris health council discussed the health conditions of the recently built La Roquette prison, intended to serve as a model prison. The health council found that the primary consideration had been the easy surveillance of prisoners, this having been achieved at the expense of good hygienic conditions. Ventilation was unsatisfactory and the cesspits were inconveniently located.

The health council noted that the high mortality rate in certain prisons was evidence of unhealthy conditions.¹¹⁹ Villermé, in an article published that same year in the Annales, had demonstrated by use of statistics that the mortality rate of prisoners was considerably higher than that of the general population. While he attributed much of this to the miserable state of the prisoners and the suffering they had experienced before being imprisoned, he also stated that the high mortality rate was a direct result of the bad hygienic state of the prisons.¹²⁰

Theatres also presented problems of heating and ventilation. The situation in theatres in the 1820's must have been fairly bad, for in 1820 in a discussion on the salubrity of theatres, the Paris health council declared that there did not exist one theatre in Paris where the laws of hygiene had been observed.¹²¹

¹¹⁹R. G. . . . 1829, 29-33.

¹²⁰L. R. Villermé, "Mémoire sur la mortalité dans les prisons," Annales, 1 (1829), 1-100; see especially, pp. 39-41. See also Villermé, "Note sur la mortalité parmi les forçats du bagne du Rochefort," Annales, 6 (1831), 113-127.

¹²¹Moléon, R. G. . . . 1820, 178-79.

In an 1829 article on the salubrity of theatres, Jean D'Arcet stressed adequate ventilation, adequate and safe heating, and proper maintenance of the latrines as the three main areas that had to be attended to in order to satisfy public health requirements.¹²²

Other public establishments that had given rise to numerous complaints over the years were dissection rooms and anatomy amphitheatres, both of which were central to the teaching of medicine. The popular opinion, as well as that of some hygienists, was that these establishments were unhealthy, because it was believed that the emanations given off by the cadavers gave rise to disease. Parent-Duchâtelet, on the other hand, maintained that they constituted no actual danger to health. In any case, complaints continued about the bad odors, the disposal problems, and the inadequate water supply.¹²³

It was easy enough for hygienists to recognize and discuss the problems related to the salubrity of public establishments. But finding better means of heating and ventilation in the early nineteenth century was no easy chore. Of especial concern was ventilation, for one fundamental belief of most hygienists was that bad

¹²²D'Arcet, "Note sur l'assainissement des salles de spectacle," Annales, 1 (1829), 152-60.

¹²³D'Arcet and Parent-Duchâtelet, "De l'influence et de l'assainissement des salles de dissection," HP, II, 1-70. This article was being written at the time the administration was in the process of closing down the individual dissection rooms and opening the central establishment at Clamart. See below, page 313.

air and bad smells caused disease.

The leading nineteenth century authority on ventilation and heating in France was Jean D'Arcet, who was the author not only of numerous articles on the subject, but also on the improvement of industrial processes, and the salubrity of public establishments.¹²⁴ When D'Arcet started his work, during the Napoleonic era, most theories of ventilation were based on natural ventilation, that is, the use of windows and openings through which fresh air could enter and stale air exit. The idea of mechanical or forced ventilation, which D'Arcet advocated as a major advance in methods of ventilation, was at the time only being used in mines.

D'Arcet's ventilation theories were based on two principles: (1) that natural ventilation alone would not suffice, and that therefore forced ventilation was necessary; and (2) that air had to be regularly distributed and the temperature equalized by gradually increasing openings. D'Arcet's belief was that good ventilation could not be subject to atmospheric variations; it had to be controllable at will. The means of power was heat (combustion), which would generate force to move the air.¹²⁵

¹²⁴Jean D'Arcet, Collection de mémoires relatifs à l'assainissement des ateliers des édifices publics et des habitations particulières (Paris, 1843). "Notice préliminaire," par Philippe Grouvelle. For biographical information on D'Arcet, see Annales, 33 (1845), 5-20. Seventy works by D'Arcet on public hygiene are listed in this article.

¹²⁵Grouvelle, "Notice préliminaire," I-XXV.

Before D'Arcet, ventilation experts had been concerned primarily with natural ventilation and as such had done much research to determine how many cubic feet of air were necessary for people, animals, and the sick.¹²⁶ It was D'Arcet, along with some others like Péclet, who popularized the notion of mechanical ventilation.¹²⁷ Yet unfortunately, as Grouvelle noted, the application of these measures was not so widespread as one might have hoped. Grouvelle pointed out that while the French excelled in theories of ventilation, it was the English and Americans who excelled in the practical application, with the result being that in the early nineteenth century public buildings in England and the United States were on the whole better ventilated than those in France.¹²⁸

There were some actual improvements in the salubrity of public establishments in Paris before 1848. In other cases, solutions were advocated by public hygienists, but no improvements were forthcoming for various reasons. For example, D'Arcet's method of ventilation was successfully used in theatres, industries, at the mint, and in some private dwellings as well, but he was never given the chance to apply it to hospitals; a projected hospital in Paris, where D'Arcet

¹²⁶Denis I. Duveen and Herbert S. Klickstein, "Antoine Laurent Lavoisier's Contributions to Medicine and Public Health," BHM, 29 (1955), 167-69.

¹²⁷Péclet, Traité de la chaleur (Paris, 1828). Cited in Grouvelle, "Notice préliminaire," XXV.

¹²⁸Grouvelle, "Notice préliminaire," XXV-XXXVI.

was to try out his system, was never built.¹²⁹ Generally speaking, in spite of the advocacy of mechanical ventilation by public hygienists, this type of ventilation was not in common use before 1848.

Problems of heating and ventilating hospitals persisted throughout the period. By the end of our period, in the 1840's, hygienists had begun to advocate steam heating for use in hospitals after its successful installation in the Chamber of Peers and the Chamber of Deputies.¹³⁰ In spite of persistent problems of public salubrity, hospitals had undergone much improvement especially since 1801 when the General Council of Hospitals had been established. Most visitors to Paris, like David Johnston and Augustus Kinsley Gardner, were impressed by the general state of the hospitals, especially the urban ones.¹³¹

The physical and material state of the prisons improved greatly as well. After the formation by royal ordinance of the Royal Society for the Improvement of Prisons (1819), of which Villermé was a member, many hygienic improvements were made in

¹²⁹Ibid., I-XXV.

¹³⁰J. Y. Poumet, "Mémoire sur la ventilation dans les hôpitaux," Annales, 32 (1844), 5-51; Alph. Guérard, "Observations sur la ventilation et le chauffage des édifices publics, et en particulier, des hôpitaux," Annales, 32 (1844), 52-70; Guérard, "Sur la ventilation des édifices publics et en particulier des hôpitaux," Annales, 38 (1847), 348-66 (this was essentially the same as the earlier article).

¹³¹Johnston, Public Charity in France; Gardner, Old Wine in New Bottles.

prisons.¹³² So improved were the sanitary conditions and the material conditions of the prisons that by the late thirties the efforts of hygienists and reformers were directed more towards rehabilitation, or moral improvement, as it was called then, rather than sanitary improvements.¹³³

As for the theatres, we can assume that improvements were made during the period. Little was written on the subject of the insalubrity of theatres after the 1820's. Because the Paris health council and individual hygienists as well had publicized some of the problems associated with theatres and had made recommendations, it is likely that new theatres were built along these lines. This was not always the case, though, so our conclusions must be highly tentative. In 1820 the Paris health council noted, for example, that in a recently built theatre, the Gymnase dramatique the suggestions of the health council concerning heating and ventilation had not been taken.¹³⁴

¹³²Villermé, "Mémoire sur la mortalité dans les prisons," 36-38; Pierre Colombot, Manuel d'Hygiène et de Médecine pratique des prisons (Chaumont, 1824), 21-25; Ed. Ducpétiaux, "Questions relatives à l'hygiène des prisons et des établissements de bienfaisance," Annales, 9 (1833), 272-79. He noted that many improvements were still necessary, especially with regard to ventilation and cleanliness (291); he also noted that in some places new prisons had been built with little attention being given to the practical aspects of heating, lighting, and cooking facilities (273). For the situation before many improvements had taken place, see Villermé, Les prisons telles qu'elles sont.

¹³³For more on prisons and prison reform, see above, Chapter IV.

¹³⁴Moléon, R. G. . . . 1820, 178-79.

By the early 1830's attempts were made to solve the problems associated with the salubrity of dissection rooms and anatomy amphitheatres. The administration ordered the suppression of the individual anatomy amphitheatres, and built a new dissection amphitheatre where the old Clamart cemetery had been, near the La Pitié hospital.¹³⁵ According to the health council reports, their report to the prefect of police as to how the dissection room should be built from a health point of view was not taken into consideration. Nevertheless, upon examination of the room, the health council was favorably impressed. The ventilation was adequate, the water supply abundant, and the location was good. The health council concluded that it was a definite improvement over the other establishments.¹³⁶

In the period under discussion public hygienists were well aware of the health hazards presented by unsanitary private dwellings and public establishments. Furthermore they knew what should be done to improve their hygienic conditions. But the problems were the same as they encountered in other areas of public health: no regulations, or regulations which were not enforced; improvements which were not made because of lack of money and/or interest, and in the case of private dwellings the fact that what was a public health problem was also a social and economic problem which could not be solved by sanitary improvements alone.

¹³⁵Ackerknecht, Paris Hospital, 40.

¹³⁶R. G. . . . 1847, 119-25. With regard to ventilation, D'Arcet and Parent-Duchâtelet had advised the use of forced ventilation.

Nevertheless some improvements and achievements were made in this area of public health: the 1848 ordinance on the salubrity of private dwellings (although it may have been issued for reasons other than public health), and the improvements made in some public buildings were encouraging. But it must be admitted that the failure of the administration to provide adequate housing for the population of Paris was and remained one of the major causes of disease in the city of Paris. This was a task, however, that public hygienists could not accomplish. It was only in their domain to try to convince the right people that reforms were necessary and to try to get laws passed regulating construction and maintenance of private dwellings.

Conclusion: The Movement for Sanitary Reform

In Paris the essence of the early nineteenth century public health movement was a movement for sanitary reform; the problems of urban life it was believed could best be solved from a public health point of view by sanitary reform. The underlying belief of the sanitary reformers was that of anticontagionism: that is, they believed that most diseases were spread as a result of deleterious emanations (miasms) coming from garbage heaps, sewers, dumps, badly kept dwellings, polluted water, etc. Proponents of the miasmatic theory of the causality of disease, they advocated cleaning up the city as the best preventive measure against disease and epidemics.

While the movement for sanitary reform was already underway by the early 1830's, it is true that the fear of the cholera epidemic

which moved westward across Europe in the late 1820's and early 1830's was an important motivating factor in the movement for sanitary reform in particular and the public health movement in general. During the 1820's and early 1830's many treatises and articles were published on cholera with the general consensus being that the best preventive measure was cleanliness. This meant that assainissement, or improving the sanitary condition, became the central point of public health in an attempt to avert the cholera epidemic. Attention of public hygienists and municipal administrators was drawn to unhealthy and dirty situations prevailing in Paris, such as the dump, sewers, dirty streets, infected dwellings, cesspits, dissection rooms and anatomy amphitheatres, prisons and hospitals with inadequate sanitary facilities, etc.

A major clean-up campaign was an important part of the cholera program that went into effect in the first months of 1832 in Paris. In spite of the clean-up campaign, as well as other precautions taken against cholera, the disease hit Parisians with a vengeance in the spring and summer of 1832. When the epidemic was finally over, the death toll for Paris had been more than 18,000. In retrospect then it would seem as if the sanitary reforms had not been successful; and, of course, we know that many of the assumptions of the anticontagionists were later proved to be wrong. However, at the time the sanitary reformers and public hygienists in general believed that if their efforts had not prevented the epidemic, surely they had lessened its impact; and, if they had failed, it was because the clean-up campaign had not

been vigorous enough, because many private dwellings remained filthy, and because the conditions of poverty in which many Parisians lived had complicated the evils of filth. So the movement for sanitary reform, the most important aspect of the public health movement in Paris, continued throughout the period under discussion, as hygienists remained convinced that by cleaning up the city, they could to a great extent prevent much disease and epidemic.

Their ideas were confirmed by the findings of Villermé, Benoiston de Chateauneuf, and others who had demonstrated in the 1820's the relationship between poverty, unsanitary living conditions, and high mortality and high morbidity rates. The Villermé thesis, elaborated on in several important articles in the 1820's,¹³⁷ asserted the relationship between crowded unsanitary conditions, whose underlying cause was seen to be poverty, and high mortality rates. By 1830 the Villermé thesis, which had been, according to the standards of the time, scientifically proved by use of statistics, was accepted by most French public hygienists. It received quasi-official sanction at the hands of the commission which did a formal report on the cholera epidemic, as well as at the Paris health council. The cholera commission had found that the areas hardest hit by the cholera were crowded, unsanitary streets, primarily inhabited by the poor.¹³⁸ Even

¹³⁷"Mémoire sur la mortalité en France," 51-98; "De la mortalité dans les divers quartiers de la ville de Paris," 294-341.

¹³⁸Report on the Cholera in Paris, 164.

though Villermé asserted that the underlying cause was poverty, nevertheless the sanitary reformers believed that were the sanitary conditions of the whole city improved, the poor would benefit as well, and a most important cause of disease would be removed.

One man stands out as the champion of sanitary reform in the city of Paris during this period: A. J. B. Parent-Duchâtelet. Parent-Duchâtelet was one of the moving forces behind the public health movement in France in the early nineteenth century. Primarily, his interest was urban health, although he also did research and published articles on other aspects of public health, such as industrial hygiene. Parent was recognized during his lifetime as the leading French urban hygienist, noted for his rigorous investigative techniques, his unwillingness to accept consensus opinions without researching a topic for himself, and his debunking of commonly accepted opinions related to public health. Rejecting armchair philosophy and setting out to test hypotheses that had long been considered as truths, Parent spent his time in such places as the city dump, the sewers, and the cheapest boarding houses and brothels.

Parent was not, as were most of the public hygienists, a convinced anticontagionist. His research led him neither to accept nor to reject the anticontagionist theories, for he could neither prove nor disprove them. For example, it was commonly believed, as has been stated above, that deleterious miasms emanating from unclean places were an important cause of disease: the so-called filth theory of disease. Parent, however, in his research on the city dump,

could not find that those who habitually breathed the smelly emanations from the dump experienced any sort of health problems as a result. He felt that it was questionable that emanations from the dump were a cause of disease. He also investigated the influence of the air from the dirty Bièvre river on people who lived in the vicinity and could not find any correlation between dirty air and bad health of the inhabitants. Nor could he find that these emanations had any bad effect on food.¹³⁹

In the area of industrial hygiene Parent showed that many ideas of dangerous processes, which had been accepted since the work of Ramazzini in the seventeenth century, did not hold up under vigorous observation. He doubted, for example, that tobacco workers suffered any work-related diseases, although for centuries this had been accepted as a hazardous occupation.¹⁴⁰

Yet Parent was a great advocate of sanitary reform and of the improvement of industrial processes. His point of view was that even though he could not prove that certain emanations were harmful to health, this did not mean (1) that they were not, as he was not infallible, and (2) that they would not prove to be hazardous at some time in the future. He felt that somehow filth, dirty water,

¹³⁹Parent-Duchâtelet, "Des chantiers d'équarrissage," 227-41; "Recherches sur la Bièvre," 128-33; Influence des émanations putrides sur les substances alimentaires."

¹⁴⁰For discussion of contributions of Parent to industrial hygiene, see chapter on industrialization and public health.

the city dump, all of these things must in some way be injurious to health and should by all means be cleaned up. He particularly championed the cause of a much enlarged and improved sewer system for the city of Paris.

In his own day Parent wrote the definitive works on Parisian sewers, prostitution, the équarrissage industry, and dissection rooms. His other works were major contributions to the hygienic literature of the period. Influenced by the father of French hygiene, Jean-Noel Hallé, Parent concerned himself exclusively with questions of public health from 1821 to 1836, the result being the publication of 29 articles, on various aspects in public health (most of which were published first in the Annales, and then after his death published as a collection called Hygiène publique), and one monumental two volume work on prostitution in Paris, important as a historical, sociological, and hygienic work.

Parent was a member of the Royal Academy of Medicine, a member of the Paris health council from 1823 until his death in 1836, and was along with Villermé and others one of the founders of the Annales d'hygiène publique et de médecine légale in 1829. His untimely death in 1836 cut short his illustrious and productive career. Yet his influence was tremendous. More than any one other individual he can be credited for increasing awareness of public health problems in the city of Paris, for debunking old myths, and for encouraging the municipal authorities to undertake realistic sanitary reform by enlarging and improving the sewer system, cleaning up the Bièvre river,

cleaning up the dump and équarrissage industry, dissection rooms and anatomy amphitheatres, etc.

Parent-Duchatelet ranks along with his friend, L. R. Villerme as one of the two leaders of the French public health movement. Parent with his important work on urban health problems and Villerme with his statistical research on Paris together were the moving forces behind sanitary reform in the city of Paris in the first half of the nineteenth century.

Conclusion

There are two ways to assess the public health improvements made in the city of Paris during the Restoration and July Monarchy: one way is to look first at Paris after Haussmann, considering the major changes made in the city under Napoleon III--the transformation of Paris from a medieval to a modern city. If one does this, then the various improvements made in Paris before 1850 seem almost inconsequential. Certainly most observers agree that Paris before Haussmann was still a medieval city in appearance. Starting with Haussmann's Paris and looking back, surely the accomplishments of the prefects of the Seine and the prefects of police of the period seem like simple stop-gap measures. This is in fact the way most history books treat the topic, if they treat it at all. Thus the achievements of Chabrol, Rambuteau, and Delessert are either not mentioned or quickly dismissed as being inadequate.

But there is a second way to look at the improvements of the period; and this is the way the hygienists of the era looked at them: that is, to compare the Paris of the 1840's with pre-1800 Paris. Certainly if one does this the achievements do seem more noteworthy, although they were still stop-gap measures, as many writers of the time realized.

Improvements made before 1848 included tripling the mileage of sewers in Paris and improving their construction; increasing the water supply; increasing the number of fountains for both personal use as well as for use in cleaning the streets; suppression of the city dump and improvements in the équarrissage industry; increased sanitary surveillance of prostitutes; improved sanitary conditions in prisons and hospitals; moving of dangerous and unhealthy industries outside the city center; greater surveillance and regulation of food and drink, etc. All these improvements can be attributed to increased awareness of public health among public hygienists and administrators, especially the prefects of police and of the Seine, as well as chemical and technological advances which facilitated many of the improvements.

Yet it must be admitted that by 1848 the major public health problems confronting Paris had not been solved. The rapidly increasing population of the city had made it obvious to some hygienists that what had been done were only stop-gap measures. Some people called for a complete overhaul of various systems and institutions. Parent-Duchâtelet, for example, pointed out that a complete overhaul

of the sewerage system was necessary. In 1848 the sewer system was still grossly inadequate; the water supply even though it had increased greatly, was still insufficient, and the distribution system was so poor that all that was available could not be used; the problems of sewerage and garbage disposal had not been solved; the housing situation was critical, with much of the lower class living in very unsanitary conditions; the streets were still generally dirty, in spite of attempts to keep them clean.

To most observers then Paris still looked like a medieval city. The major problems had not been solved, for they were too all-encompassing to be solved by stop-gap measures. And the municipal council was not ready to appropriate money for anything more than this. Yet the achievements of Rambuteau must not be neglected. It must be noted furthermore that he had planned a major reform program which was under consideration at the time the February revolution of 1848 broke out.¹⁴¹

The important point that must be borne in mind is that much had been done in the way of public health improvements before Haussmann and much more had been suggested by various hygienists than had actually been done. Not all the public hygienists were forward-looking reformers, of course, but many of them did realize that it was going to take more than stop-gap measures, that in fact it was going to take urban planning and major reforms of such things as the sewer and water

¹⁴¹Rambuteau, Mémoires, 292-93.

system to make Paris a healthy place. By 1848 many Parisians, especially public hygienists, were aware of the public health problems and aware that the solutions so far had not solved them. The public health movement had successfully created an awareness of public health at the professional level in Paris, which would have later ramifications.

CHAPTER VIII

PERIODICALS AND BOOKS: AWARENESS AND POPULARIZATION OF PUBLIC HEALTH--A PRELIMINARY SURVEY

The growth of awareness of the importance of public health increased from 1815 to 1848 at both the professional and popular levels. This awareness was to a great extent generated by the coverage given public health in books and the periodical press. Learned journals aimed at professional hygienists, physicians, administrators and others increased awareness at the professional level; at the "popular" level periodicals, pamphlets, and simple health manuals introduced educated readers to various aspects of public and private hygiene.

The purpose of this chapter is first to describe the various publications devoted to the dissemination of public health ideas at both the professional and the popular level, and secondly, to assess the awareness of public health at both levels based on the coverage of public health in the publications discussed.¹

¹Final conclusions on the popularization of public health cannot be drawn until an examination of more periodicals and newspapers of the period can be made. The exigencies of time available for dissertation research made it impossible to investigate fully this important area. It is hoped that this gap may be filled with future research. Until such a time the conclusions of this chapter must remain tentative.

Periodicals Devoted to Medicine and Public Health

In addition to the numerous public health treatises² published in France during the period under discussion, public health information was also disseminated by the many professional journals of medicine and public health. As Paris was the world center for the study of clinical medicine during these years, it is not surprising that there were over 40 medical journals published, some general and some specific.³ However, most of these journals were journals of therapeutic rather than preventive medicine. A few major journals, however, dealt with various aspects of public health, and one journal was devoted exclusively to public health and legal medicine.

The Revue médicale française et étrangère (1822-86),⁴ as its title would indicate, specialized in reviewing and publicizing both French and foreign publications in medicine and public health. There were some articles devoted to public health, and the proceedings of the Royal Academy of Medicine and various local medical societies were reported on. In 1822, for example, there were three articles on yellow fever, as well as a lengthy review by Isodore Bourdon of

²As these public health treatises are dealt with extensively in other chapters, they will not be discussed here.

³Ackerknecht, Paris Hospital, 117.

⁴1822-1886; in 1820 and 1821 called Revue médicale historique et philosophique. The journal was published monthly; a yearly subscription cost 22 fr. The editors included well-known doctors such as F. Bérard, Bousquet, Esquirol, and Prunelle.

Patissier's Traité des maladies des artisans d'après Ramazzini.⁵

The Gazette médicale de Paris (1830-1856),⁶ edited by Jules Guérin, was a general journal whose treatment included public health. Primarily the emphasis of the journal was on pathology, but nevertheless public health reviews and articles did appear. From time to time there were short articles on public health, along with reviews of books and of important articles in the Annales d'hygiène publique et de médecine légale.

Publication of the Archives générales de médecine, edited by Raige-Delorme, began in 1823 and continued throughout the period under discussion.⁷ When the goals of the journal were presented in the Prospectus there was no mention of public health as a topic to be covered by the journal. Nevertheless, the journal did devote space to public health matters, especially before the publication of the Annales d'hygiène publique et de médecine légale in 1829.

In the early 1830's the public health topic that received the most extensive treatment in the Archives was yellow fever, with six articles appearing in 1823 and 1824. Yellow fever was a timely topic,

⁵V. 7 (1822), 303-34; 8 (1822), 93-112; 181-97; review in 8 (1822), 63-73.

⁶From 1779 to 1829 called Gazette de santé. Appeared weekly; subscription cost 30 fr. a year.

⁷The Archives appeared monthly. Each year a commission was to be charged with the publication of the journal. The 1823 commission included some of the most renowned names in French medicine: Béclard, Bousquet, Bréchet, Coutanceau, Désormeaux, Esquirol, Georget, Guersant, Orfila, Raige-Delorme, and Rayer. See V. 1 (1823), 1-4.

the national sanitary law of 1822 having been passed and the sanitary establishments set up to prevent its importation into France.⁸

Primarily the treatment of public health by the Archives was limited to book reviews, with many of the important hygienic works being reviewed, such as the works of Monfalcon, Bérard, Londe, Simon, E. Sainte-Marie, Chervin, Trébuchet, Esquirol, Tanquerel des Planches, Parent-Duchâtelet, Bottex, Motard, and Villermé. Of all the hygienists it was Villermé whose works received the most complete coverage in the Archives.⁹ Before the founding of the Annales in 1829 these reviews in the Archives were most important as a means of publicizing the work being done in public health.

In addition to book reviews and some articles further publicity was given to aspects of public health by the coverage of the proceedings at the Royal Academy of Medicine and the Royal Academy of Sciences, where public health topics often came up for discussion.¹⁰ There was also a section entitled "Revue générale" which contained synopses of noteworthy articles from other journals. In this section after 1829 important articles from the Annales were often summarized. Not surprisingly more attention was devoted to public health before the founding of the Annales than after. Especially after 1829 public

⁸For information on this, see above,

⁹V. 4 (1824), 315-17; 10 (1826), 216-47; 30 (1832), 574-76; 5 (2^e série, 1834), 157; 10 (1841), 254-60.

¹⁰Such discussions were more frequent in the Royal Academy of Medicine than in the Royal Academy of Sciences.

health was dealt with in the Archives mainly in book reviews, announcements, and synopses.

A professional journal devoted exclusively to public health and legal medicine was the Annales d'hygiène publique et de médecine légale, founded in 1829 by a group of prominent hygienists and specialists in legal medicine: Adelon, Andral, Barruel, D'Arcet, Devergie, Esquirol, Kéraudren, Leuret, Marc, Orfila, Parent-Duchâtelet, and Villermé. From 1829 to 1848 the Annales was the primary organ of the French public health movement. Virtually every important public health work done by a French hygienist, and many done by foreign hygienists, either appeared in the Annales as an article, an extract of a book, or in the form of an analytical book review or a bibliographical notice. Most of the publicity received by the French public health movement both in and outside of France came from the Annales.¹¹

The goals of the editors, stated in the "Prospectus," were to give as much publicity as possible to the areas of public health and legal medicine in order to provoke new research in these areas as well as to encourage practical results. The scope of public health as envisioned by the editors of the Annales was all-pervasive, for they defined public health as "the art of preserving the health of men united in society."¹² Public health was seen to be both

¹¹Using just the Annales the historian could write an accurate general account of the French public health movement. Along with the reports of the Paris health council the Annales ranks as one of the two most important sources for the historian of the French public health movement.

¹²"Prospectus," Annales, 1 (1829), vi.

progressive and social; by its association with philosophy and legislation it might exert a great influence on the progress of the human spirit; it ought to enlighten the moralist and diminish the number of social infirmities. Public health was viewed as an important aspect of the progress of civilization.¹³

The Annales appeared four times a year, forming two volumes a year.¹⁴ Each volume was divided into Part I and Part II and each part was divided into a section on public health and a second on legal medicine. Normally the public health section was much larger than the legal medicine section.

Each issue contained usually five or six articles, although sometimes only one or two book length articles would be printed. The articles, which dealt with virtually every aspect of public health, were written by both French and foreign doctors, administrators, statisticians, and scientists. In the case of long works, sometimes only an extract was reproduced. Reports read at the Academies of Medicine and Sciences, as well as the Academy of Political and Moral Sciences were often included, as well as important reports read in foreign academies.

The work of the French health councils was regularly reported on. In fact, the editors intended to publish the annual reports of the Paris health council and did so in 1829. But after that date, as

¹³Ibid., v-vii.

¹⁴The cost of a subscription was 18 fr. a year.

the reports were only published at about ten year intervals, the editors of the Annales settled for lengthy reviews and analyses of the work of the health council by A. Trébuchet. Individual reports done by the health councils were also often included.

In each issue there was a bibliographical section in which important publications, French and foreign, were reviewed. Those not reviewed often received a brief comment. Some books were simply announced, not reviewed. In many issues there was a catch-all section containing short articles, letters, police ordinances regulating the public health, and other assorted items.

Most of the important works of the two most famous and prolific French public hygienists during the period, Parent-Duchâtelet and Villermé, appeared in the Annales. From 1829 to 1836 (the date of Parent's death), 25 articles by Parent were published; from 1829 to 1848, 27 articles by Villermé, as well as numerous book reviews written by him were published.

Because of their professional, scholarly nature the circulation of the Annales and the medical journals discussed above was probably limited to professionals: doctors, hygienists, statisticians, scientists, lawyers, administrators, and perhaps legislators, both French and foreign. To be even more specific, it is probable that the majority of the readers were physicians and hygienists. Through these journals public health information was publicized only to a select elite: but this was the most important group that had to become aware of the importance of public health and the developments taking place

in the field. For it was this select elite that was in a position to instigate reform and encourage the growth of awareness at other levels. Undoubtedly, with regard to the periodicals, it was primarily through the Annales that the awareness of public health was spread at the professional level.

Popular Health Publications: Periodicals,
Pamphlets, and Books

A number of popular periodicals dealing with public and private hygiene were published between 1815 and 1848. Many of them were short-lived, ceasing publication after a few months or a few years. It is uncertain how wide a circulation these periodicals had, but from the format and style of the periodicals and from the expressed intent of the editors and the cost of a subscription, one can get some idea of what type of people the periodicals appealed to.

Generally there were two categories of the so-called "popular" periodicals: those aimed at gens du monde (rich and fashionable society) and the well-educated elite, and those which attempted to reach a wider reading public.

One group of periodicals was aimed at the well-educated upper and middle classes. Their subscription rates ranged from 10 to 20 fr. a year,¹⁵ and they were written on a fairly sophisticated, if not

¹⁵In the 1830's the average French worker earned 2 fr. a day.

scholarly level. They were "popular" only in the sense that they catered to the well-educated layman rather than to the professional.

Le Médecin du peuple,¹⁶ published weekly from December 1827 to January 1829, at a cost of 20 fr. a year, was intended to be a journal of popular medicine. The periodical dealt with public health themes of the day, containing articles on the hygiene of bathing, quackery, the effects of gas lighting on health, smallpox vaccination, dangerous foods, water in Paris, prisons, hygiene of various occupations, statistics, and other items. In the issue of January 6, 1828, the reports of the Paris health council were discussed. Articles on common afflictions appeared in each issue along with articles on private hygiene dealing with exercise, diet, and sleep. Even though much attention was given to the hygiene of various working class professions, the editors, a group of doctors, intended the magazine for gens du monde, and because of the high cost of the subscription and the way in which it was written, it seems that its readers were probably of the educated elite.

Another periodical appealing to the same type of reader was Hygie. Journal de santé et d'économie domestique. Littérature. Moeurs. Théâtre., published twice weekly from 1824 to 1826 at a cost of 20 fr. a year. In spite of its title, it contained only occasional

¹⁶From 2 December 1827 to 11 May 1828 it was entitled Le Médecin du peuple. Journal de santé et d'économie domestique; from 18 May 1828 to 4 January 1829 it continued under the name of L'Economiste (Le médecin du peuple). Journal de santé et d'économie domestique et rurale.

articles on public health. It did, however, contain reports on the activities of the Royal Academy of Medicine, as well as reviews of some works on public health.

In Lyon from January to March 1823, a weekly health periodical, La gazette hebdomadaire de santé, was published at a cost of 10 fr. a year. Its purpose was to enlighten people on medicine, defend them against quacks, and give hygienic advice. Hygienic articles in the first three issues dealt with foods, smallpox, various diseases, with suggestions for prevention, and medical topography. Judging from the price and tone of the periodical it was intended for the educated middle class.

The failure of the periodical after three months publication, according to the explanation given by the editors and publishers, was indicative of the relative importance given to public health in Lyon at this time. They noted that their efforts to educate the populace in medical and hygienic matters were not seconded by the government, national and local, the hospitals, or the police. They commented that it was hard to be successful at a time when all spirits were occupied with political considerations. Lack of cooperation and interest led to the failure of this health journal.

A monthly periodical (cost of subscription was 10 fr.) whose main purpose was to combat quackery by teaching the public the basics of medicine and hygiene was the Gazette de santé à l'usage des gens

du monde, des curés et des bienfaiteurs des pauvres . . .,¹⁷ published between September 1833 and August 1836, by a society of doctors from the medical schools of Paris and Montpellier. Articles appeared on various aspects of hygiene from pure food and drink to epidemics, but primarily the concern of the journal was with the hygiene of food and clothing. Judging from the tone of the periodical, its circulation was probably limited to an educated elite, the sort of people indicated in the title: fashionable society, curés (clergy), and philanthropists. There was no indication as to why publication ceased.

La propagande. Journal des sciences naturelles et médicales, which appeared twice a month during 1839 and 1840 at a cost of 10 fr. a year, was intended to be a popular journal for everybody. A special section of the periodical was devoted to public and private hygiene. Each issue contained at least one article on hygiene: articles dealt with female hygiene, infant hygiene, hygiene of baths. In addition the proceedings of the Academies of Medicine and Sciences were reported on. While theoretically intended for everybody, in fact it was probably read by only the educated elite, the tone of the newspaper being rather sophisticated and not really on the level of the general literate public.

¹⁷The full title continued . . . Journal de médecine domestique, recueil de notions immédiatement applicables à l'entretien et au rétablissement de la santé, mises à la portée de toutes les intelligences.

The publication of Hygie, Gazette de santé, nouvelles des sciences began in 1831 and continued throughout the period.¹⁸ It appeared three times a month and the cost of a subscription was 10 fr. a year. The special goal of the periodical seems to have been combatting charlatanism, but a fair amount of attention was devoted to hygiene as well. Many aspects of health were dealt with from private hygiene, to hospitals, to child labor, to smallpox. Reprints of articles from other journals such as the Gazette des hôpitaux and the Gazette médicale de Paris often appeared, and the proceedings of the Academies were reported on. The periodical seems to have been intended both for the professional and for the well-informed reader with a special interest in medicine and public health.

Another group of periodicals aimed at a wider audience. They were more simply written and cost less, and were intended for the "average literate citizen."¹⁹ Some of them claimed to be directed to the poor classes or to "everybody," but it is doubtful that anyone without at least an elementary education could have read and understood the periodicals.

¹⁸The BN had only 1838 to 1841, so my generalizations are based on an examination of the copies for these years. In 1841 the title was first changed to Hygie, gazette de santé. Bulletin médicale, industriel et d'économie domestique. Mélanges scientifiques et littéraires. Revue des théâtres et des modes. In fact it was still predominantly a journal of medicine and hygiene. Later that year the title was changed again to Gazette de santé, de chimie médicale, de pharmacie et d'économie domestique. Nouvelles des sciences, de la littérature et des arts. From this issue (16 Nov.) less attention was devoted to hygiene and medicine and more to literature and the theatre.

¹⁹Appendix 10.

La Santé. Journal populaire de médecine naturelle, published monthly from July to December 1833 at a cost of 6 fr. a year, had as its goal to be useful to fellow citizens and to contribute to the improvement of the poor classes. The editors stated that the diseases afflicting the working classes often resulted from immoderate conduct and ignorance of hygiene, both of which they hoped to remedy by supplying useful information.²⁰ The editors encouraged those who could afford it to subscribe for 6 fr. a year, but added that each Sunday a sheet would be sold in the streets for 2 sous, so that even the poor would have access to the periodical. In the October issue it was announced that there would be a special subscription for workers, who, for 3 sous a copy could have the newspaper delivered to their homes. Articles in these issues dealt with cholera, personal cleanliness, problems of being overweight, occupational hygiene, and popular errors in medicine.

From January 1834 to 1836 the newspaper continued under the name of Journal de santé à l'usage de tout le monde. In August 1834 the subscription rate increased to 10 fr. Similar types of articles continued to appear. From time to time summaries of articles from the Annales were printed. After 1834 the newspaper lost some of its popular appeal--not only did the cost increase, but the attempt to appeal to the poor and the workers seems to have been abandoned. The

²⁰The editors offered free consultations three days a week for two hours in the morning. In December 1833 they were fined 17,798 fr. for giving the free consultations.

title was again changed in 1836, to Journal de santé par une société de médecins. The phrase à l'usage de tout le monde ceased to appear. The last issue was that of January 15, 1837, and there was no indication as to why publication ceased after that.

In general the articles in this newspaper were simply written, and might have appealed to a rather wide reading audience. It is extremely doubtful, however, if the periodical could have been read and understood by most of the poor and workers, to whom the periodical was directed at least in its initial period. We can assume that this effort failed, and so the editors directed their attention to the educated classes.

The Annales d'hygiène maternelle, costing 5 fr. a year, was a magazine devoted especially to female hygiene, as well as to aspects of general personal hygiene.²¹ In addition to feminine hygiene children's diseases and preventive measures against them were also dealt with. In addition, because the journal was being published during the cholera epidemic, several articles on cholera appeared, along with instructions. Even though the price was low, the journal had the format of a scholarly journal and the style was perhaps too erudite for the magazine to have had much popular appeal. Probably only well educated women would have read this journal.

²¹The editor was Théodore Léger, a doctor at the Paris Faculty.

The Journal d'hygiène et de médecine populaires²² was published monthly from January to June 1844, the cost of a subscription being 7 fr. a year. The periodical was dedicated to preventive medicine and the editors promised to use only easily understandable language. The periodical was aimed at everyone and was to deal with general hygiene, female hygiene, and infant hygiene. Articles dealt mainly with common ailments and simple hygiene. The level was popular, and the periodical could have appealed to the average literate citizen.

La Santé. Journal d'hygiène, de physiologie et de médecine à l'usage des gens du monde, a monthly, appeared in April and May 1845,²³ and was then apparently discontinued. The prospectus stated that the periodical would deal with general hygiene and especially private hygiene and that many copies would be printed and sent to cafés, restaurants, hôtels-garnis, and reading rooms both in Paris and the provinces to encourage a widespread reading public. In the first issue the cost of a subscription was given as 5 fr. a year. Thus there was an attempt by the editors to give the periodical a wide circulation, in spite of the fact that in the title it was supposedly directed toward fashionable society. By the second issue, however, the title had changed and instead of being intended for fashionable society it was directed to families.

²²Publishers were MM. Thivet and Briois. Thivet was a professor of anatomy and surgery and Briois a professor of midwifery and female and children's diseases.

²³The second number was entitled Le guide de la santé. Journal d'hygiène et de médecine à l'usage des familles.

Articles dealt with effects of exercise, care for pregnant women, nervous afflictions of the stomach, pulmonary phthisis, and other private hygiene topics. The periodical was simply written, the size was convenient, and it appeared to be truly popular in approach. There was no explanation as to why it was discontinued.

A rather peculiar health periodical was the Nouvelle gazette de santé, published weekly from November 1841 to April 1847, whose editor-in-chief was Parent-Aubert, who also published a popular Almanach de santé and a Dictionnaire de santé.²⁴ The periodical was intended to enlighten gens du monde on all related to public health, hygiene, medicine, pharmacy, and other items. The periodical was simply written, cost 6 fr. a year, and could have appealed to a relatively wide audience. But the preponderance of advertisements meant that in each issue (4 pages long) there was little to read. It would seem that little public health information was actually dispensed by this periodical.

The periodical underwent a change in 1847, and then publication ceased. The September 2, 1847 issue, entitled La nouvelle gazette de santé, was to be distributed free to cafés, reading rooms, and the like, and at the same time the subscription rate increased to 8 fr. a year. Had this policy been continued, a wider audience might have been reached. However, it appears that the periodical was discontinued after this issue. No explanation was offered.

²⁴See below, page 347.

One last popular periodical was La Santé. Journal d'hygiène publique et privée à l'usage des gens du monde, published monthly from 1845 at a cost of 6 fr. a year.²⁵ The editor, G. Richelot, a former doctor at the welfare office, claimed that this periodical, intended for everybody, was the only popular periodical of public health in existence. Articles dealt with all aspects of health including prevalent diseases, infant mortality, alimentary hygiene, votes of the Paris municipal council on aspects of public health, the city dump at Montfaucon, reform of the penitentiary system, sanitary state of the countryside, and other assorted topics. Even though the title specified gens du monde, the cost of the periodical, the simple style in which it was written, and the fact that the editor said it was for everybody suggest that it could have been appreciated by the average literate reader.

In addition to periodicals there were also published during the period books and pamphlets which were aimed at a wide audience. While most hygienic treatises published in the nineteenth century were scholarly and intended for professionals and the well-educated elite (Rostan, Motard, Foy, Lévy, e.g.), there were published from time to time books and pamphlets that had a more popular appeal, that were intended for the average literate reader. These books and pamphlets were simply written and were not particularly scientific and technical in their terminology.

²⁵The BN had only Jan.-May 1847.

Two specific topics on which numerous works were written to influence the public at all levels were cholera and smallpox. A major effort was made by the Parisian government as well as by individual public hygienists to instruct people in ways to protect themselves from cholera. Likewise public hygienists wrote simple treatises in an effort to dispel popular prejudices regarding vaccination and to convince people of its efficacy.

Examples of popular manuals on cholera were those of Levrat, Marc, and Villermé. Levrat's pamphlet, six pages long, on what precautions to take with regard to cholera and what to do until the doctor arrived was one of many similar pamphlets published to prepare the population for the invasion of cholera. Levrat's pamphlet was written after the initial invasion of cholera in Paris in an attempt to save the Lyonnais from the same fate. Levrat aimed his instructions at the poor and working classes, noting that in Paris it was among this segment of the population that cholera had taken most of its victims. He pointed out that cholera flourished in dirty quarters where the people were poorly fed and among those given to excess, and then proceeded to advise his readers to eat well, keep clean and warm, to exercise, keep their dwellings clean, and take all possible sanitary precautions. He then advised his readers of certain first-aid items that should be available in the event that cholera struck, such as blankets, laudanum, etc. He described the symptoms of the disease

and offered suggestions as to how to deal with the cholera patient until the doctor arrived.²⁶

Instructions written by L. R. Villermé on the prevention of cholera were first published in 1832 in Le Cultivateur, Journal des progrès agricoles, and later as a pamphlet.²⁷ In eight pages Villermé addressed himself to rural inhabitants, noting that the scarcity of doctors in some areas made knowledge of the disease especially pertinent. Villermé wanted not only to advise his readers as to what sort of preventive measures they should take, but also to warn them of pretended remedies which were really useless.

He noted that all classes had been cholera victims, especially when they were intemperate and ignored the rules of hygiene. He assured his readers, however, that cholera was unlikely to invade France because of the level of civilization that had been attained there. He also informed his readers that other diseases such as intermittent fever, smallpox, and typhus killed many more people than cholera, but that because people were used to them, they did not inspire the same fear.

A general description of cholera symptoms followed, as well as a discussion of factors that supposedly contributed to the cause

²⁶F. M. Ph. Levrat, M. D., Instruction familière sur les précautions sanitaires à prendre dans chaque maison ou établissement pour se préserver du choléra-morbus et indication de quelques moyens propres à être employés de suite, en attendant l'arrivée du Médecin (Lyon, April 1832).

²⁷"Sur les meilleurs moyens de se préserver du choléra-morbus et sur les premiers secours à administrer contre cette maladie en attendant l'arrivée du médecin."

and spread of the disease. The readers were warned to protect themselves from the disease by taking all possible sanitary and health precautions. Villermé concluded by giving instructions as to first-aid measures to be taken and what to do until the arrival of the doctor.

Another popular pamphlet for the prevention of cholera was that of C. C. H. Marc, private physician of Louis-Philippe, member of the Paris health council, and an editor of the Annales. Marc's pamphlet was in the same vein as those of Levrat and Villermé: what precautions to take to prevent cholera and what to do if the preventive measures failed and the disease was contracted. Marc assured his readers that it was highly unlikely that they would contract the disease, but advised that it was best to take precautionary measures anyway.²⁸

As it was generally believed by most public hygienists, including Marc, that cholera was spread by dirty, unsanitary conditions and polluted air, the pamphlet concentrated on what to do to avoid such conditions. Marc recommended a clean house and clean air, good ventilation, use of disinfectants, much light, good heating. A regular orderly life with rest and good food and personal cleanliness was also a good preventive. Marc then proceeded, like Levrat and Villermé, to describe the symptoms and explain what to do until the doctor arrived, in the event someone contracted the disease.

²⁸The title was: Choléra-morbus. Instruction populaire sur les principaux moyens à employer pour se garantir du choléra-morbus et sur la conduite à tenir lorsque cette maladie se déclare (Paris, 1831).

One is struck by the fact that not only could most of the poor not read these pamphlets, but also by the fact that it would have been virtually impossible, given their standard of living, for them to put into practice the recommendations of the hygienists. For the most part, personal hygiene was a luxury which the poor could not afford. It was quite naïve on the part of the hygienists to assume that the poor were in a position to benefit from a hygienic pamphlet. It would seem that only the educated middle class and the upper classes could have understood the pamphlets and been in the material situation to benefit from the instructions given. So while popular pamphlets on cholera could hardly have helped the poor directly, they may have influenced the middle and upper classes and may have encouraged them to take some local initiative to help the poor of their areas.

C. C. H. Marc was also the author of a popular book on vaccination, the first edition of which was published in 1809 and the second of which was published in 1836. The Minister of Commerce had asked the vaccine commission of the Royal Academy of Medicine to give its opinion on the utility of spreading Marc's work among the rural population. Noting that opposition to vaccine in the countryside was related to the degree of education of the inhabitants, the commission stated that Marc's work, which combatted popular prejudices against vaccine, should be distributed in rural areas to those involved with vaccination and to those who had some influence over the opinions of the inhabitants.

Marc's book, entitled La vaccine soumise aux simples lumières de la raison,²⁹ consists of several discussions among a village curé, a village doctor, and several villagers on the subject of vaccination. The villagers present all the usual prejudices against vaccination from both a religious and medical point of view; then the curé and the surgeon show them how their opinions are faulty. At the end of the book the villagers, having been convinced of the benefits of vaccination, decide to have their children vaccinated. The moral of the book is: God helps him who helps himself.³⁰

Other popular works dealt with such aspects of public health as occupational hygiene, gas lighting, and urban health problems. Constant Saucerotte's Conseils sur la santé ou hygiène des classes industrielles, published in 1827 (98 pp.), gave general advice on how to stay healthy as well as specific advice for people engaged in various occupations. Also included was a section on first-aid: how to deal with everyday accidents, as well as a section on female and infant hygiene. Two final sections dealt with quackery and fraudulent remedies, and the relationship between health and state of mind. Saucerotte's book was truly a popular work, simply written for the literate craftsman, and published in a convenient 3" x 5" popular size.

²⁹Ouvrage destiné aux pères et mères de famille des villes et des campagnes. 2nd ed. revised, corrected and enlarged. (Paris, 1836), 118 pp. The first edition appeared in 1809.

³⁰Aide-toi, le ciel t'aidera.

A book by Hippolyte Combes on gas lighting was intended for all classes of society and in particular the petit bourgeois and artisan as stated by the author. Even though specific in subject matter, dealing mainly with ventilation and the influence of gas lighting on health, Combes' book was simply written, published in handbook size (6" x 3"), and would rank as a popular work.³¹

Two popular pamphlets on urban health problems were written by Dutertre, one on Mans, the other on Paris.³² Both pamphlets were highly critical of the public health situation in the two cities and contained suggestions for ways of cleaning up and beautifying the cities. Dutertre's works are significant, for they suggest, that other people besides doctors, scientists, and administrators (public hygienists) were taking some interest in public health problems.

Four popular hygienic works dealing with both public and private health were those of Simon, Raspail, and Parent-Aubert (author of two works). F. V. Raspail's Manuel annuaire de la santé ou médecine et pharmacie domestique³³ was dedicated to the rich in the interest of the poor and to the happy in the interest of the suffering. The book contained general hygienic information, theories on causes

³¹ De l'éclairage au gaz étudié au point de vue économique et administratif, et spécialement de son action sur le corps de l'homme (Paris, 1845), 174 pp.

³² Considérations d'embellissement et de salubrité sur la ville de Mans (Mans, 1822); Considérations sanitaires sur la ville de Paris (Mans, 1822).

³³ Paris, 1845.

of diseases and preventive measures, information on home remedies, home treatments for common diseases and concluded with 17 basic rules of hygiene, or preventive medicine reduced to its simplest form. The book was for the educated, but was at the level of a popular work. It must have become one of the accepted hygienic handbooks, for a 77th edition of the work appeared in 1935.

Parent-Aubert, a doctor at the Paris Faculty, was the author of two popular health books: Nouvel almanach de santé ou véritable médecine sans médecin³⁴ and Nouveau dictionnaire de santé à l'usage de tout le monde . . .³⁵ The almanac was published in paperback in handy 3" x 5" pocket size; it was inexpensive and simply written, with scientific and technical terms avoided. The contents included descriptions of symptoms of diseases, causes of diseases, preventive measures, and suggested remedies. The author expressed his wish that every farmer and mother would have a copy. The dictionary included the same material as the almanac, plus a discussion of the different stages of life from womb to tomb. Essentially it was simply a revised edition of the almanac. The cost of the Dictionnaire was 1.50 fr., so probably the Almanach, published a year earlier, cost the same or less.

L. D. M. Simon's Resumé complet d'hygiène publique et de médecine légale, published in 1830, was published in pocketbook size

³⁴Paris, 1844.

³⁵indiquant les moyens de se conserver toujours en bonne santé, ou de se guérir facilement si l'on était malade (Paris, 1845).

(3" x 5") and was published as one volume of a popular series entitled Encyclopédie portative ou résumé universel des sciences, des lettres et des arts. A general work dealing with all major aspects of public and private hygiene, Simon's work was succinctly written, on the popular level, thereby differentiating it from other general hygienic treatises of the period. It was intended for the general literate public, and included a summary of the main precepts of public health up to 1830.

The popular health periodicals, pamphlets, and books discussed above are significant in that they demonstrate the interest of hygienists in educating the public in matters of health. However, the limits of such an undertaking must not be forgotten. First of all, probably 75% of the population was not literate enough to read and comprehend them. This meant that the appeal to the poor and working classes which some editors intended, was most naïve. Secondly, many of the suggestions made in the works would have been wasted on the poor and the workers, even if they could have read the material, for they simply were not capable of taking hygienic precautions and practicing regular habits of cleanliness as recommended by the hygienists. Thirdly, as cheap as some of the works were, they were probably too expensive to be afforded by most of the population. Could a worker afford to spend his day's salary for a health manual? Probably not. Libraries were not a viable alternative for these people, being little used, and in any case, reserved for the most part for scholars,

who could afford the books anyway.³⁶

It is not known how widespread the circulation of any of these works was, but it is a safe conjecture that they were little read outside the educated classes--the middle and upper class. There is no way to measure the influence that these works may have had on those who used them.

The Role of Health Publications in Increasing the Awareness of Public Health

The role of health publications in increasing the awareness of public health was very important. Publicity of public health was generated at both the professional and popular levels. The single most important periodical as far as increasing public health awareness at the professional level was the Annales d'hygiène publique et de médecine légale. The Annales, read by members of the public health movement, many of whom were editors and contributors, and other professionals in related areas generated awareness where it was most important. Indeed the Annales was the primary organ of the French public health movement.

Not only was the Annales responsible for spreading publicity of the movement at home, but also abroad. From letters and contributions in the Annales we know that it was read by public health advocates in other countries in Europe as well as in the United States.

³⁶Susan Dolamore, The Library System of France (Leeds, Eng., 1971), 14-15.

It was through the Annales more than any other publication that foreigners became aware of the French public health movement.

In France it was the Annales that gave a sense of cohesiveness and professionalism to the movement. It is important with regard to assessing the French public health movement to remember that as early as 1829 the French hygienists had their own journal devoted exclusively to public health and legal medicine. This point is significant for several reasons: (1) it shows that by this time the French public health movement was active enough to need a sounding board for its ideas; (2) it suggests that French hygienists viewed public health and legal medicine as separate disciplines worthy of their own journal, not just as aspects of medicine in general; (3) the level of the Annales suggests that the hygienists who made up the French public health movement were for the most part a highly articulate professional group, and lends strength to the Ackerknecht thesis that at the time the French movement was the world leader in public health.³⁷

The awareness of public health was also increased by health publications at the popular level, but the word popular must be carefully defined. It refers primarily to educated middle or upper class people, both urban and rural who were not actively involved in the movement or in related professions. The health manuals and the periodical literature on the popular level no doubt did to some extent

³⁷Ackerknecht, "Hygiene in France."

educate some people in matters of public health and did contribute to a growth of awareness at the popular level. But there is no way to measure just how great the influence of these publications was. We do know that the public health movement never became a "popular" movement, and thus it can be stated with some certainty that people were not stirred to group action by the publicity of public health. But how can we know how many people may have given more attention to personal cleanliness, to diet, to various sanitary and preventive measures against diseases as a result of publicity in these publications? One can only speculate that health publications may have had some influence at the popular level.

But even if these publications had no influence at the popular level at all, the fact that such manuals and periodicals were published is significant in itself as an aspect of the French public health movement. It shows that there was an attempt by public health advocates, both hygienists and others, to popularize the movement by trying to reach the literate population. Primarily the interest of hygienists was to influence the populace in areas where their participation could bring about positive results: vaccination, cholera prevention, personal hygiene (infant hygiene, maternal hygiene, etc.). It was in areas such as these that the growth of awareness was important on the popular level between 1815 and 1848.

The influence of health publications in increasing awareness of public health was greatest at the professional level: among hygienists involved in the public health movement and other doctors,

administrators, and professionals in related areas. The growth of awareness among these groups was probably greatest in the cities, and especially in Paris, the center of the French public health movement.

It is likely that the great mass of the French population remained totally untouched by either the publication of health manuals or the periodical health press in this period. But the significant point is that some awareness was generated at the professional level, where it was likely to achieve results. Ideally the public health movement might have tried to increase awareness of public health at the really popular level, but practically most of the achievements of the public health movement of the first half of the nineteenth century, especially sanitary reform, were accomplished without either popular participation or even popular awareness. It was the growth of awareness at the professional level that really mattered and it was at this level that the public health movement met with some success.

CHAPTER IX

CONCLUSION: ASSESSMENT OF THE FRENCH PUBLIC HEALTH MOVEMENT, 1815-1848

The French public health movement was a movement by a group of French doctors (physicians, surgeons, and veterinarians), scientists (chemists and pharmacists), and administrators to bring about public health reform in France, and more specifically in the cities of France, in order to lower the mortality rates and to improve the quality of life. The movement was not an organized one: it had no name; it did not hold meetings. Yet there were many regular participants in the movement whose activities included membership in the Paris health council (and other health councils as well), participation in the Royal Academy of Medicine, which had public health goals, and membership in the Academy of Sciences and the Academy of Political and Moral Sciences, organizations which from time to time concerned themselves with various aspects of public health. In addition, some of the most active members of the movement served as editors of the Annales d'hygiène publique et de médecine légale, the organ of the movement and sounding board for new ideas, were regular contributors to the Annales, and wrote public health treatises in order to publicize public health reform.

The participants in the French public health movement did not share the same political and economic beliefs, nor were they of one

social background. They did not always agree on what measures should be taken and how they were to be implemented. They did not have an organized program of public health reform on which all could agree. The type of reform they envisioned varied considerably, some hygienists being satisfied with stop-gap measures to improve the public health, others wanting a complete overhaul of various institutions.

The French public health movement was not a popular movement, but rather a professional movement, closely tied to the French government at both the national and municipal levels. The role of the French government in the public health movement was an important one, for the government was actively involved in the movement. For one thing, the organizations through which the movement worked, with the exception of the Annales, which was independent, were all government sponsored: the Royal Academy of Medicine, the Academy of Sciences, and the Academy of Political and Moral Sciences came under the immediate jurisdiction of the national government. Some of the most important treatises and investigations done by participants in the movement were prize-winning essays in contests sponsored by these academies. From time to time these academies sponsored official inquiries into various social and medical questions. One example of a prize-winning essay on an aspect of public health is J. B. Bousquet's essay on vaccination, which won first prize in a contest sponsored by the Academy of Sciences. Another example is L. R. Villermé's Tableau de l'état physique et moral des ouvriers, done as a result of an official inquiry sponsored

by the Academy of Political and Moral Sciences.¹

In addition, the health councils were appointed by and were under the direct supervision of the prefects (in Paris the prefect of police), who were in turn appointed by and immediately responsible to the Minister of the Interior. Thus both the national academies and the local public health organizations, the health councils, were instruments of the government, functioning at the discretion of the government.

Furthermore, many of the hygienists in the movement held government positions, or positions dependent on the good will of the "authority"--those working at the hospitals, in the prison system, on vaccine commissions, at the medical faculties and professional schools, those appointed to participate in various commissions, etc. Some of the participants in the movement served in an official capacity as administrators in the municipal government.

Examples of the government involvement of several of the most active hygienists are offered by C. C. H. Marc, Etienne Pariset, and L. R. Villermé. C. C. H. Marc, a member of the Paris health council, a member of the Royal Academy of Medicine, and one of the founders of the Annales, was the personal physician of Louis-Philippe. Etienne Pariset, permanent secretary of the Royal Academy of Medicine, a member of the Paris health council, contributor to the Annales, was on government pension after the early 1820's when he had taken the government's

¹Many local academies and societies sponsored contests as well, the prize-winning essays being published as pamphlets and treatises.

position supporting the contagion of yellow fever. L. R. Villermé, one of the leaders of the public health movement, a founder along with Marc of the Annales, member of the Paris health council, member of the Royal Academy of Medicine and the Academy of Political and Moral Sciences, was appointed along with Pariset as one of the two doctors in the Royal Society for the Improvement of Prisons, and undertook what is regarded as his major work, the Tableau, at the instigation of the government acting through the Academy of Political and Moral Sciences. So while the French public health movement was not an official movement, nevertheless many of the hygienists active in the movement functioned in an official capacity.

The leaders of the French public health movement, insofar as it had leaders, were A. J. B. Parent-Duchâtelet and L. R. Villermé, both of whom were originally trained as physicians. Both were founders of the Annales d'hygiène publique et de médecine légale, to which they were also frequent contributors; both were members of the Royal Academy of Medicine; and both served on the Paris health council. Other major participants in the movement (cited because of their membership in the various public health organizations and their service as editors of and/or contributors to the Annales, as well as their research in the field) were the physicians E. Esquirol, C. C. H. Marc, A. Guérard, and E. Pariset; the veterinarians J. B. Huzard senior and J. B. Huzard junior; the statistician and former military surgeon L. F. Benoiston de Chateauneuf; the head of the sanitary office at the prefecture of police, A. Trébuchet; and the scientists (chemists and

pharmacists) J. P. Barruel, Jean D'Arcet, A. Chevallier, H. Gaultier de Claubry, Ch.-Louis Cadet-Gassicourt (elder and younger), Joseph Pelletier, and A. G. Labarraque. Other active participants in the public health movement were F. E. Fodéré, J. N. Hallé, Frédéric Bérard, Nicolas Chervin, F. Mêlier, Etienne Sainte-Marie, J. B. Monfalcon, and A. P. I. de Polinière (these last three were Lyonnais and active on the Lyon health council), J. B. Bousquet, P. A. Piorry, and Th. Roussel.

In addition might also be included the authors of the major hygiene manuals of the period: L. L. Rostan, Philippe Buchez and Ulysse Trélat, L. Deslandes, L. Simon, J. J. Virey, F. V. Raspail, L. C. A. Motard, Michel Lévy, and F. Foy. Of course there were many other hygienists involved in the movement. In addition, the prefects of police and the prefects of the Seine, as well as the various engineers employed by the city of Paris were in their own way active participants in the public health movement.²

The aims of the public health movement were administrative and legislative reform in order to improve the public health. Public hygienists active in the movement were interested in bringing about administrative and legislative reform in two main areas: the area of sanitary reform, which was essentially administrative; and the area of social reform, which was essentially legislative, but which could be administrative as well. The movement was especially concerned with

²See Appendix 11 for more information on participants.

urban health problems and health problems related to industrialization. Hygienists sought administrative reforms on the local level to implement important public health measures, such as housing regulations, improving sewage disposal, water supply, factory regulations, etc. They also sought legislative reform--the passage of a national law on public health, a national law on the regulation of prostitution, and a law regulating child labor. They desired some sort of general admission by the national government that public health was the duty of the state. They believed that with administrative and legislative reform, the mortality rates could be lowered, the quality of life improved, and that some of the social problems related to health and poverty might be solved.

In order to increase awareness of the importance of public health reform and thereby to motivate those in positions of authority to action, those active in the public health movement attempted to popularize their ideas mainly at the professional and governmental, rather than at the popular level. The movement was in no sense a popular movement, nor was there interest in making it one. The public hygienists were convinced that effective public health reform had to come from the top. Therefore they were more interested in influencing the organs of government and their own colleagues than the public. Popular awareness was deemed important in a few areas, such as vaccination, infant hygiene, personal hygiene, and cholera prevention, but for the most part the audience aimed at was professional and official.

If the goals of the hygienists were publicity and reform, how successful was the movement in achieving these goals? The achievements of the French public health movement were many, the first and most obvious being the creation of the administrative machinery through which reform might be implemented: the creation and proliferation of health councils at the municipal and departmental levels, the setting up of the Royal Academy of Medicine, with public health goals, and the re-establishment of the Academy of Political and Moral Sciences, which considered some questions of public health. Without a favorable climate of opinion and the belief of the importance of public health by some legislators and administrators, these institutions would doubtless either not have been set up or would not have considered public health problems.

It is at least partially to the credit of the French public health movement that the Royal Academy of Medicine, which was founded in 1820 with public health goals, achieved international fame and prestige during the period. The fact that Paris was the world center for the study of clinical medicine is the usual explanation for the international position of the Royal Academy of Medicine, but the contributions of the public hygienists who participated in the activities of the Academy should not be overlooked. It was through the support of the Royal Academy of Medicine that the public health movement witnessed one of its most notable successes, the reform of the French quarantine system, based on the doctrine of anticontagionism. Even though the tide turned later in the century, before 1848 the public

health movement and the Royal Academy of Medicine achieved prominence for their stand on the contagion question.

To the credit of the movement is also the founding and continued publication of the first journal devoted exclusively to public health and legal medicine, the Annales d'hygiène publique et de médecine légale, which was founded in 1829 by a group of the most active hygienists as well as doctors of legal medicine.³ The Annales served not only as a sounding board for ideas among the participants of the French movement, but was read abroad and quickly acquired international fame.

Another notable achievement of the public health movement, usually attributed more specifically to L. R. Villermé, was the passage of the only major piece of social legislation during the period, the 1841 child labor law, which, even though unenforceable, nevertheless can be considered a tangible achievement of some of the aims of the public health movement. At the very least the problem had been recognized and dealt with, even if it had not been solved.

³Flinn is not definite on the point. He says of the Annales, "what must have been the first journal in the field of public health." M. W. Flinn, "Introduction," to Chadwick, The Sanitary Condition of the Labouring Population, 52. Ackerknecht does not say if the Annales was the first public health journal or not, "Hygiene in France," 129-30. George Rosen in A History of Public Health does not mention the existence of any German public health journals. But in the prospectus to the first volume of the Annales the editors stated that the Germans already had periodicals dealing with public health and legal medicine; "Prospectus," Annales, I (1829), v; Marc in his introduction to the first volume of the Annales named a German journal entitled Annales de médecine politique. See Marc, "Introduction," Annales, I (1829), xxxvi. Marc on this page also noted the existence of a German journal of public health and legal medicine dating from 1782.

Sanitary reforms and improvements in Paris were another achievement of the French public health movement which was to a great extent a Parisian movement. Even though many of these reforms were stop-gap measures and did not adequately solve the public health problems confronting the city, Paris stood far ahead of other cities in public health. Indeed Paris was imitated in other departments and cities of France as well as in foreign cities for its public health programs. For example, although the Parisian sanitary program to control prostitution fell into disfavor later in the century, at the time and for several decades thereafter, other cities imitated the Paris program as being the best available.⁴

If the Paris of 1848 was still a dirty, medieval city by modern standards, most other cities of its size and even smaller ones like New York were just as dirty or even dirtier. At least in Paris there was a vocal group of doctors, scientists and administrators who were concerned about public health and who were seeking to bring about reforms to improve the health situation of the city. Awareness of the serious public health problems confronting the city was present in early nineteenth century Paris, at least at the professional and administrative levels. Just because the later, more successful and

⁴The city of St. Louis, for example, tried to put the Paris sanitary program for prostitutes into effect. It was advocated for New York City as well. See John C. Burnham, "Medical Inspection of Prostitution in America in the Nineteenth Century: The St. Louis Experiment and Its Sequel," BHM, 45 (1971), 203-18.

spectacular reforms of Haussmann overshadowed the earlier stop-gap measures of Chabrol, Rambuteau, and Pelessert does not mean that the achievements before 1848 were not noteworthy and did not to some small extent tend to improve the public health of the city.

Another area in which the public health movement achieved a notable, if not complete, success was in the area of propagation of vaccination. In fact, smallpox was the only disease for which a specific preventive was available in the early nineteenth century. The French government at both the national and local levels encouraged the publicity of vaccination in articles and pamphlets. Strongly supported by the hygienists, and operating through the Royal Academy of Medicine, the health councils, and the vaccine commissions, the government sought to distribute vaccine throughout the nation. As vaccination was not compulsory, local initiative and the level of education of the inhabitants of a given area doubtless explain the varying success of the vaccination program from place to place. In some departments close to 100% of the populace was vaccinated; in others the percentage of those vaccinated was much lower. Nevertheless the public hygienists were untiring in their efforts to try to convince the populace of the advantages of vaccination and to make vaccination easily available to all.

Finally, the French public health movement was also at least partially successful in dealing with the major epidemic disease of the period, cholera. The role of the movement was two-fold: investigation of the nature of the disease and attempts to find the cause of

the disease so that adequate preventive measures could be taken, and the publishing of instructions on preventive measures as well as the actual taking of preventive measures where possible. The investigative aspect included the participation of some hygienists in government commissions sent out to places where cholera was present in order to determine causes and make recommendations for administrative measures.

The second aspect of the movement's role concerned action taken at the local level by doctors and health councils to publicize instructions to the public on the disease, to clean up the locale, and to set up administrative machinery to deal with the sick in the event the preventive measures failed. The most well known example of this is, of course, Paris, and the Paris health council must be credited with the cholera program that was put into effect in that city. Of course, the success was partial, for the causes of the disease remaining unknown, the disease could not really be prevented.

The French public health movement, however, failed to achieve its aims in several important areas. First of all, the movement did not convince the monied classes, who controlled both the national and municipal governments, of the importance of public health so that their programs might have adequate financial backing. Much has been made of the selfish interests of the nineteenth century bourgeoisie. Certainly in Paris hygienists found that many of their public health improvements were never tried for lack of money. It might be said that the public health measures advocated by the hygienists were intended to benefit the whole community, but that the poor and working

classes stood to benefit more than the middle and upper classes. Given some of the prevalent attitudes of the bourgeoisie toward poverty and the working classes, it is not surprising that many comfortable and wealthy people had little or no interest in public health reform. Not only did they believe they did not stand to gain from such reform, but in some cases they had much to lose, as for example, in the case of industrial restrictions to protect the public health, or in the case of regulations placed on landlords with regard to the upkeep of their dwellings.

Another area of failure was in the enforcement of ordinances and laws designed to regulate the public health. While enforcement was up to the police, it is certain that if public health had been considered as important as hunting out subversives, then public health regulations would have been better enforced. The fact that public health ordinances and laws were only sporadically enforced and that in the case of the national child labor law, unenforceable, meant that the success of the movement in getting the ordinances and laws passed was a hollow victory.

This points up the situation in which the hygienists in the movement found themselves--involved with the government at many levels, some of the hygienists actually civil servants or holding their jobs at the discretion of the government, and yet powerless to enforce their public health decisions because of the nature of French authority. While they could exert a certain amount of pressure through the Royal Academy of Medicine, the health councils, etc., and while the government

was often willing to take their recommendations, these institutions had no separate and distinct power and the hygienists could not see their programs through by enforcing public health laws and ordinances.

The French public health movement did not meet with much success in the area of legislative and social reform. While notable progress was made in the area of sanitary reform before 1848, especially in Paris, little progress was made in the area of legislative and social reform, with the exception of the unenforceable child labor law of 1841. Public hygienists were unable to bring about effective social reform to improve the public health, primarily because the legislators at the national level were not favorable to passing effective national laws dealing with the public health. There are several explanations for this: they were not favorable to any major reform, first of all; they believed that social legislation in the case of factory legislation constituted interference with the economy and the family; they also favored limiting the involvement of the government to more traditional public health areas, such as quarantine. They were also too preoccupied with political considerations, foreign affairs, and economic problems to devote much attention to the question of social reform, of which public health reform was one aspect.

As far as the hygienists were concerned, one of the major disappointments of the public health movement was their inability to get passed before 1848 a national law regulating the public health. The 1822 law dealt only with contagious diseases and in any case was opposed by many of the hygienists on principle. What some of them

wanted was recognition by the national government that health was a natural right of French citizens to be protected by the government as were liberty and property, at least in theory. In addition to a national public health law, other hygienists desired a national health council and a Ministry of Public Health, neither of which was instituted before 1848.

In retrospect, another failure of the public health movement was the failure to popularize the movement at least among the educated classes. There was some attempt by a few hygienists to do this, especially in areas like vaccination and personal hygiene, but most hygienists were content to direct their efforts to the professional and administrative levels. Yet ultimately the success of a public health program depended as much on health education in matters of personal hygiene as on adequate sanitary reform. Yet the hygienists were probably right in directing their efforts to the professional and governmental circles, for given the governmental structure in France they believed that basic public health measures would have to be carried out by the government, and that reform would have to come from the top first.

A final area of failure concerns the stop-gap nature of many of the public health programs conceived by the hygienists and carried out especially by the Parisian administration. Yet given the fact that the municipal council of Paris, for example, was stingy with money, it is hard to see how major overhauls of, for example, the sewer or water systems would ever have been carried out. Accustomed

to dealing with pennypinching rulers, in most cases the hygienists did not have the vision to advocate major reform programs. Surely the reforms of Haussmann could never have been accomplished under Louis Philippe and the Paris municipal council of the time. In a sense, as David Pinkney has suggested, only a despotic government such as that of Napoleon III was in a position to undertake a major rebuilding of Paris, which in the final analysis was the only way really to solve the public health problems confronting the city. Even then, many of the problems persisted. Had the programs of the hygienists continued to be implemented--stop-gap measures and piecemeal reform--it is likely that the public health of the city of Paris would not have significantly improved for decades.

Yet the achievements of the French public health movement, 1815-1848, outweigh the failures, especially when the French movement's achievements and the state of public health in France are compared with the achievements of public health movements in other countries, such as Britain, the German states, and the United States. As the British movement has generally been regarded as the most successful of the pre-1848 movements, probably because it has been so well chronicled, it is instructive to compare the French and British movements to see if the British movement really was the more successful, or whether perhaps the statement of Ackerknecht that France was the world leader in hygiene during the period, might be valid. Or maybe there were enough similarities between the movements to suggest that similar currents were at work in both places and that similar

progress was being made in both countries.

At first glance the similarities between the British and French movements are more striking than the differences. The leaders of the British movement were doctors (except for Chadwick, who was a lawyer) and held public office, so that a ~~similar~~ relationship between the public health movement and the government existed in Great Britain as in France. British hygienists wrote numerous treatises, collected statistical information, and conducted sanitary surveys as did the French hygienists. They reached conclusions similar to those reached by the French especially with regard to anticontagionism and the need for sanitary reform and the relation of poverty and disease and high mortality rates and the consequent need for public health and social reform. There was indeed a fair amount of cross-fertilization of ideas between the two movements. Chadwick, for example, was influenced by Villermé and Parent-Duchâtelet, being familiar with the hygienic work they had done in France, and Villermé, on the other hand, was familiar with British hygienic and statistical literature and conducted several important studies on Britain.

Yet the British movement differed in one important way from the French movement: it also had its voluntary (unofficial) side with organizations of citizens such as the Health of Towns Association and the Metropolitan Working Classes Association for the Improvement of Public Health. Furthermore, the goal of the British movement, led by Chadwick, Kay-Shuttleworth, Arnett, and Southwood Smith, was primarily legislative, that is, the goal was the passage of a national public

health law and the setting up of a national board of health. Because such a law was finally passed in 1848 as a result of popular agitation as well as professional lobbying, the British movement has been considered a practical success.⁵

But in comparing the two movements the relative success and failure must be considered by taking into account the different types of government and traditions of the two countries. True, the French movement was not popular and did not have voluntary associations pressing for public health reform. Popular agitation had nothing to do with the success or failure of the French public health movement. But given the nature of the French government it seems that the French hygienists' attitude toward reform from the top and their stress on administrative as well as legislative reform was quite understandable. The French parliament was in no way popularly elected; the suffrage was much narrower than that of Great Britain, where by this time the bulk of the middle classes had been admitted to the vote; and the encouragement of popular participation, given the rather paranoid nature of the French government in the 1830's and 1840's, might have seriously harmed the movement, had the movement become associated with elements regarded by the government as subversive. In many ways it was important to the success of the French movement that most of

⁵M. W. Flinn, "Introduction"; Ackerknecht, "Hygiene in France," 137; a most interesting and instructive article on the British public health movement was published in the Annales. See Antoine Ostrowski, "Etudes d'hygiène publique sur l'Angleterre," Annales, 37 (1847), 5-43.

the most active participants of the movement were linked with the "Establishment." All these things considered, it is understandable that the French movement remained strictly professional in nature.

Furthermore, while most historians are aware of the passage of the British public health law in 1848, they are not aware of the passage of a similar French law of that same year by the Revolutionary government. Indeed it might be asserted that historians of France have been so involved with revolutionary history that they have not taken the time to examine the French movement at all, especially the public health events of 1848. Yet 1848 was a very important year for the French public health movement, in many ways a culmination, if only symbolic, of the goals, attitudes, successes, and failures of the early nineteenth century movement.

One idea which had been popular among some hygienists and doctors in the period 1815-1848 was that of social medicine or social hygiene. Public health theorists had stressed the social nature of both medicine and public health, and had emphasized the interrelatedness of medicine, public health, and social reform. Social medicine was a term much discussed in 1848. The hygienist Michel Lévy, author of a widely read hygiene manual, and at the time director of the Val-de-Grâce hospital, in a famous speech said:

A government which lives by universal suffrage is forced to ask our profession to do all the good it can; history shows us the social value of medicine increasing with the price of

human life, and this price is very simply the measure of civilization.⁶

Jules Guérin, editor of the Gazette médicale de Paris since 1830, came forth as the champion of "social medicine," defined by him as medicine in the service of society, and including sanitary police, public health, and legal medicine.

Another idea which a few hygienists had elaborated on, but which did not receive its fullest expression until 1850 in a work by F. Menessier, was that the doctor was so important to society and so well acquainted with the needs and problems of society, that he should participate in the political process. F. E. Fodéré, for example, had expressed ideas such as these. These ideas were put into practice in 1848. Campaigning to get elected to the Constituent Assembly were the hygienists Buchez, Aubert-Roche, Rostan, and Piorry. About 90 doctors ran for office and out of 876 deputies elected to the Constituent Assembly, 36, or 4% were doctors. Philippe Buchez, an active participant in the public health movement during the 1830's, became president of the National Assembly.

In 1848 while all sorts of reforms were taking place, hygienists called for public health reform and for a national law on public health. The Medical Society of Strasbourg even went so far as to ask for the

⁶"Un gouvernement qui vit du suffrage de tous est forcé de demander à notre profession tout le bien qu'elle peut faire; l'histoire nous montre la valeur sociale de la médecine s'élevant avec le prix de la vie humaine et ce prix est tout simplement la mesure de la civilisation." In Pierre Astruc, "1848 et la médecine," Le Progrès médical, no. 12 (24 June 1946), 375.

creation of a separate Ministry of Public Health. While no such ministry came into existence in France until 1919, 1848 did witness the passage of a national public health law reforming the health councils and instituting a national health council to replace the old and defunct superior health council, which was formally suppressed.

The old superior health council was replaced by a national public health committee, Le Comité consultatif d'hygiène publique, to which were appointed Magendie, Aubert-Roche, Royer-Collard, Mélier, and Villermé. The new committee had broader functions than the old superior health council, which had been instituted as a result of the 1822 sanitary law, and which was mainly concerned with the importation of supposedly contagious diseases. The new public health committee was charged with the institution and organization of health councils throughout the nation. A specific function of the committee was to indicate to the Minister of Agriculture and Commerce (to whom the committee was responsible) questions to be submitted for consideration to the National Academy of Medicine (the Royal Academy of Medicine became the National Academy of Medicine).⁷

Another law of 18 December, 1848 dealt with the organization of health councils and the institution of such councils in each arrondissement and department. In addition, health commissions were set up at the cantonal level. The name of the health councils was changed from Conseils de salubrité to Conseils d'hygiène publique et

⁷Recueil des textes officiels concernant la protection de la santé publique, vol. 2, 230.

de salubrité. The councils were organized on the Paris model and were to have the same duties as the Paris council. They remained strictly advisory in nature, acquiring no separate and distinct power, such as the boards of health in Great Britain had. The significance of the law is primarily that it was a culmination of efforts made by various Ministers of Commerce, the Royal Academy of Medicine, and of many hygienists, to establish health councils throughout the nation. It seemed in 1848 that one of the goals of the public health movement had been achieved with the passage of this law.⁸

The British public health law of 1848 also instituted local health councils (called boards of health) throughout the country, and set up a national board to direct public health for the nation. But the differences are telling: the British boards were to have their own power, while the French were merely advisory in nature. In addition, the British law began a program of public health reform in Britain which continued through the century and into the twentieth century. Herein lies the great significance of the British law--it was a beginning of real public health reform, while the French law was the culmination of a great era of public health activity. The French law, however, did not lead to the practical reforms in the second half of the century as did the British. As Flinn has pointed out, even though the national board in Britain was short-lived (it ceased to

⁸Ibid., 231-32; most of the material about 1848 comes from Pierre Astruc, "1848 et la médecine," no. 12 (June 24, 1946), 269-82, and no. 13 (July 10, 1946), 297-302.

exist in 1854), this did not bring to an end local activity or central control in public health. Furthermore, the 1848 Act laid down the principle of state responsibility in the area of public health. Ackerknecht has stated,

With the British public health law of 1848, leadership in practical hygiene clearly passed into the hands of the British. France had her first national health law, too, in 1848 (Dec. 18, 1848), but its practical results were unsatisfactory, partly because of the political unrest of the following years.⁹

Flinn has stated that "Public health in the early nineteenth century was largely a matter of the sanitary state of working class dwellings."¹⁰ This statement partially explains why public health movements of the first half of the nineteenth century were limited to advanced industrializing countries: primarily Britain and France, but also Belgium, the United States, and some of the German states. The French public health movement, 1815-1848, was characteristic of the major public health movements of the period. One might really speak of a sort of international public health movement in the sense that in Britain, France, and the United States doctors and other reformers were doing and writing about similar sorts of things in their attempts to bring about public health reform.

The professionals most active in the various public health movements were the doctors, although as we have seen, many scientists participated in the French movement, for example, and then Chadwick

⁹Ackerknecht, "Hygiene in France," 137-38.

¹⁰M. W. Flinn, "Introduction," 3.

was a lawyer and Lemuel Shattuck a bookseller and publisher. The public health theorists in these countries relied upon the use of statistical analysis to buttress their beliefs and to help explain various aspects of health. Ackerknecht has termed this the "statistics movement"; Rosen has labelled it "an era of statistical enthusiasm."¹¹ Another current that was common to all the public health movements was that of anticontagionism, which provided the theoretical basis for the most important aspect of the early nineteenth century public health movements, the movement for sanitary reform. The basis of the sanitary reform movements in Britain, France and the United States was the attempt by hygienists to control communicable disease by control of the environment.

Another characteristic of the French public health movement shared by the British, German and American movements was that at this time many public hygienists in all these countries considered public health reform as an aspect of social reform. Hygienists related social problems to disease and bad health; the role of poverty in disease causation was emphasized by public health advocates, such as Chadwick, Virchow, and Villermé.

Furthermore, not only in France, but also in Great Britain, the United States, and some of the German states, the scope of public health was extremely broad. Everything that in any way affected health

¹¹Ackerknecht, "Villermé and Quetelet," 324; Rosen, A History of Public Health, 259.

was considered an appropriate area of investigation. At the time only one specific preventive was available, vaccination; in the case of other diseases both causes and preventives were unknown. This led hygienists to examine all possible causes, including social, climatic, biological, and chemical causes. Especially were social causes emphasized during the early nineteenth century. In the second half of the century with the discoveries of the bacteriological era, public health would become narrower in scope, concentrating on specific preventives for specific diseases. The thrust of the public health movement would change from the control of the environment (sanitary reform) and improvement of the social situation to the prevention and control of specific diseases. Public health would become at once more effective, but also less social and humanitarian in outlook.¹² Social workers would take over those aspects of public health which hygienists earlier in the century had considered part of the realm of public health reformers.

While the public health movements had much in common, there were some aspects of the French movement which distinguished it from the other movements and which may have made France the leader in public health during this period (this is Ackerknecht's assertion). The French movement was first of all characterized by its breadth of research; French hygienists concerned themselves with virtually every aspect of public health and published numerous articles and books on

¹²Iago Galdston, "Humanism and Public Health."

public health. This was facilitated by the existence of a scholarly journal devoted to public health, the Annales d'hygiène publique et de médecine légale, which the other movements did not have during this time.¹³

Another aspect of the French movement which differentiated it from the other movements is that from the beginning of the period under discussion in France, some administrative machinery already existed through which reform could be implemented: the Paris health council, primarily, but also the Royal Academy of Medicine (after 1820). While these organizations did not have separate and distinct powers, they did offer a forum for research and debate and did exert considerable enough influence upon the authorities to bring about some public health reforms.

Another distinguishing characteristic of the French movement, paralleled to some extent by the British movement, was the fact that it was a quasi-official movement, that is, at many levels closely related to both the national and municipal governments. This is explained primarily by the centralized and bureaucratic nature of the French government. For the French public health movement all indeed

¹³The British movement had from 1847 to 1849 the Journal of Public Health and Monthly Record of Sanitary Improvements, issued under the auspices of the Metropolitan Health of Towns Commission. Robert Paterson suggests that publication ceased in 1849 because the Health of Towns Association believed its work had been completed. See Robert G. Paterson, "The Health of Towns Association in Great Britain 1844-1849," BHM, 22 (1948), 381, 397.

did end up in bureaucracy.¹⁴ Thus the French movement differed from the American and German movements, which were not national, but rather local in scope. It differed from the British movement, because the British movement, while partly official, was also partly voluntary.

One other feature that set the French movement apart from the other public health movements was that while 1848 in many ways marked the beginning of an era of effective public health reform and administration in Britain, some areas of the United States, and some of the German states, with institutions and programs becoming more effective as the century progressed, in France 1848 was in a sense the culmination of the movement, the end, rather than the beginning.¹⁵ After 1848 little change was made in public health institutions and programs until the twentieth century. The great French public health achievements in the second half of the century were in the areas of bacteriology and scientific research. But as far as the practical application of public health measures and public health administration, France was not in the forefront after 1848.¹⁶

¹⁴This is what F. V. Raspail said of France in general and of reform in particular, "Tout se termine ainsi en bureaucratie. . . ." In Raspail, Réforme pénitentiaire. Lettres sur les prisons de Paris (2 vols.; Paris, 1839), II, XLIII^e lettre, 259.

¹⁵Since little material is available on public health institutions and programs in France after 1848, my ideas on the period are somewhat speculative, and based on very few sources. This would be a fruitful area of investigation.

¹⁶Rosen, A History of Public Health, 253.

It is impossible to state definitely that France was the leader in public health from 1815 to 1848. Yet the extent and type of hygienic literature, the activities of the public hygienists, the public health institutions, the scholarly journal of the movement, all these things lend support to such a thesis. Certainly France was more advanced than the United States and the German states, whose main activity came in the second half of the century, and France probably rivalled Britain for leadership. Major public hygienists in these countries, such as Virchow in Germany, Chadwick in Britain, and Shattuck in the United States, all turned to the French movement for information and examples.¹⁷ There is no question but that contemporaries recognized the vitality and contributions of the French movement.

If this is the case, why then has the French public health movement been so neglected by historians of France and medical historians, with a few exceptions? Medical historians have probably neglected it for three reasons: (1) because they have tended to concentrate on Paris as the center for the study of clinical medicine during the period, to the neglect of public health; (2) because the French achievements in bacteriology came to overshadow the earlier French attempts at sanitary and social reform; and (3) because the

¹⁷For influence of French hygienists and French public health movement on Chadwick, see above, note 37, page 92 ; for influence of French hygienic developments on Virchow, see Erwin Ackerknecht, Rudolf Virchow, 46, 128, 138; for influence of French hygienic literature on Shattuck, see Wilson G. Smillie, Public Health, Its Promise for the Future (New York, 1955), 248-49.

British movement achieved more practical success after 1848.¹⁸ Historians of France have ignored the French public health movement, because they have tended until recently to ignore social history and medical history in general; they have traditionally been more interested in revolutions and in socialist thought for the period under discussion. Furthermore, there has not been a great interest in the historical period itself, historians tending to prefer on the one hand the eras preceding the one under discussion, that is, the Revolutionary and Napoleonic Eras, and on the other, the periods succeeding our period, the 1848 Revolution and the Second Empire. Because of this, major gaps exist in French history for the period 1815-1848, one of these being the French public health movement.

The significance of the French public health movement, 1815-1848, is that it exemplified the sort of advanced social thinking and interest in social reform in general characteristic of the period. As Ackerknecht pointed out, it is no accident that France was the world leader in hygiene at a time when France was a center for much advanced social thought, as well as the world center for the study of clinical medicine.

What is puzzling is the fact that the French hygienists, most of whom worked for the government in some capacity, tended to favor

¹⁸(1) and (2) are explanations offered by Ackerknecht in "Hygiene in France," 144-45. Ackerknecht also suggested that their anticontagionist beliefs, their religiosity, and the fact that the movement lacked real heroes might explain the lack of interest in the hygienists and the public health movement.

social reform and to view public health reform as an aspect of social reform, and yet the French government was always reluctant to undertake any such reform. Another point of interest is this: if social theorists and assorted socialists abounded in the France of this era, why were no more of them attracted to the public health movement, as it had much to offer to the poor and the workers? Why did the movement remain primarily restricted to doctors, scientists, and bureaucrats?

Even though the French public health movement was a quasi-official movement, even though most of the public hygienists active in the movement were in a sense functionaries, the French government, both national and municipal (Paris) was reluctant to undertake public health reform for a couple of reasons. First of all the French government of the Restoration and July Monarchy was reluctant to undertake any reform, not just social reform, not only because of certain political and economic beliefs they held, but primarily because their own interests were threatened by reform. While hygienists were often employed in a sort of official capacity, they were not legislators, but functionaries. Thus the hygienists were not usually in positions of power, but rather owed their jobs to those in powerful positions. There was apt to be a wide gulf between civil servants and that small minority who governed France. In addition, not only did the rulers of France oppose reform because of their own precarious positions, but also because they did not want to spend money. They were tightfisted. An intransigent lot, these men who ran France could generally only be moved by revolution.

As to why other reformers were not attracted to the public health movement, and why the movement remained restricted to a limited professional group, there are two explanations. First of all, social reformers of the era tended to emphasize political reform and revolution, for they felt that these had to take precedence over other reforms, assuming that if the political system were changed, then social and economic reforms would follow. Most of the public hygienists, however, were not primarily concerned about political reform. In their ranks were socialists, liberals, royalists, and no doubt Bonapartists. They tended to think that any type of government was capable of undertaking public health reform if it was to some extent enlightened. So probably other reformers who might have been attracted to the movement if it had been more politically oriented, were not interested.¹⁹

Secondly, even though the public hygienists expressed theories of social reform and attacked established interests in order to bring about sanitary reform, all in all they were for the most part members of the "Establishment" and too closely involved with the authority to attract those of a more revolutionary or even reformist stripe.

The French public health movement, 1815-1848, is significant not only because it was an example of the reforming tendencies

¹⁹F. V. Raspail spoke of the process of reform as too slow; in speaking of the health council and public health administration he said all ended up in bureaucracy; he criticized the Paris health council as being too inactive and too closely attached to the authority. He called for a voluntary, cooperative public health organization and for revolution instead of reform. Réforme pénitentiaire, 259-90.

prevalent at the time, but also because it contributed to the growth of awareness of the importance of public health measures, both in France and abroad. It is probable, for example, that Napoleon III and Baron Haussmann were influenced by and familiar with the work of the French public health movement, and that the rebuilding of Paris was in part a response to all the publicity that had been generated by the movement about health conditions in Paris.

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APPENDICES

APPENDIX 1

EXTENT OF INDUSTRIALIZATION: WORKING CLASS POPULATION

In 1827 the Paris health council suggested that one of the ways to measure industrialization was in terms of the number of steam engines in use and their rate of proliferation (R. G. . . . 1827, 7). According to Roger Price in the French Second Republic: A Social History (Ithaca, N. Y., 1972), p. 16, in 1832 there were 525 steam engines in all of France; by 1847 the number had increased to 4,853, an increase of more than 900%. By 1870 the number of steam engines was 27,958, an increase since 1847 of 575%. Thus the proliferation of steam engines was more rapid between 1832 and 1847 than between 1847 and 1870.

In 1835 the Géographie industrielle et commerciale de la France (cited in Dr. Thouvenin, "De l'influence que l'industrie exerce sur la santé des populations dans les grands centres manufacturiers," Annales, 36 (1846), 20) stated that in all France there were 1,448 steam engines. Of these, 1,105 were concentrated in ten departments.

Nord	297	Aisne	49
Seine	197	Haut-Rhin	48
Loire	175	Saône et Loire	45
Seine-Inférieure	160	Marne	34
Rhône	60	Gard	25

The Paris health council supplied some interesting information on the increase in requests for authorization of steam engines in Paris in this same period (R. G. . . . 1837, 54; 1838, 200; 1839, 244).

1835	33
1836	39
1837	49
1838	66
1839	82

Information on the French working class population is furnished by Thouvenin ("l'influence de l'industrie, 20). He put the French working class population in 1846 at 11 million, or roughly 1/3 of the population, but this figure included agricultural laborers. He estimated industrial workers (including handcraft and domestic industries) at 5 million. Out of this 5 million, about 1 million were employed in

the cotton industry, 500,000 in the wool industry, 300,000 in the silk industry, and 25-30,000 in the linen industry. That means that out of 5 million industrial workers, approximately 1,925,000 were employed in the textile industry. Thouvenin estimated that out of this number of textile workers, 400,000 were weavers (Thouvenin, "l'influence de l'industrie," 20, 25, 35-36, 29, 38, 43-45, 283).

Examples of rapid growth of some industrial towns in the period were Roubaix, whose population increased from 8,000 at the turn of the century to 25,000 by 1846 and Mulhouse, whose population more than doubled from 1832 to 1840 ("Rapport de M. Villermé sur l'ouvrage intitulé 'Recherches statistiques sur Mulhouse par M. Achille Penot (1843),' in Séances et trav. de l'Acad. des Sci. Mor. et Pol., 4 (1843), 116). In Mulhouse, a textile center, this rapid population growth is explained by an increase in the number of spindles from 500,000 in 1828 to 1,150,000 in 1847, or 1/3 of all the spindles in France (J. H. Clapham, The Economic Development of France and Germany, 1815-1914 (4th ed., Cambridge, Eng., 1968), 53).

Cities with large working class populations were mainly Paris and Lyon. Paris, for example, had a working class population of more than 400,000 (Paul Gagnon, France Since 1789 (New York, 1964), 134). Other cities with sizeable working class populations were Ste.-Marie-aux-Mines in Alsace with 20,000 workers, Rouen with 23,000 workers, Amiens with 40,000 workers, and Lille with 50,000 workers, or about 1/2 the total population of the city (Thouvenin, "l'influence de l'industrie," 278, 285-87, 290; Villermé, Tableau, I, 283).

APPENDIX 2

DEBUNKERS OF OLD MYTHS

The debunking idea was first expressed by Parent-Duchâtelet and D'Arcet in an 1829 article on the tobacco industry. See "Mémoire sur les véritables influences que le tabac peut avoir sur la santé des ouvriers occupés aux différents préparations qu'on lui fait subir," HP, II, 559-606; also in Annales, 1 (1829), 169-227. See in HP, 559-563 and 606, general considerations relative to the manner in which occupations ought to be studied. Parent had intended to study all occupations in the same way he studied the tobacco industry, hemp-retting, sewer workers, and others, but he died in 1836 long before he had a chance to complete his work on industrial hygiene. Benoiston de Chateauneuf voiced opinions similar to those of Parent-Duchâtelet. In an examination of the relation of phthisis to occupations he suggested that a higher correlation might be found by studying the relation of affluence and poverty to phthisis than of occupation. See "De l'influence de certaines professions sur le développement de la phthisie pulmonaire," Annales, 6 (1831), 5-45. H. C. Lombard of Geneva related the influence of various professions to longevity, and found that the relative degree of affluence or poverty as a result of the profession was the main determining factor. See "De l'influence des professions sur la durée de la vie," Annales, 14 (1835), 88-131. In 1835 M. A. Chevallier presented a sort of manifesto of the debunkers. He urged doctors, hygienists and others to abandon their libraries and go into the workshops to find out if diseases which had traditionally been considered dangerous and unhealthy really were. He showed, for example, that most printers' diseases, were not primarily occupation-related, in "De la nécessité de faire de nouvelles recherches sur les maladies qui affligent les ouvriers et observations sur celles qui se font remarquer chez les imprimeurs," Annales, 13 (1835), 304-44.

The most active of the debunkers was Parent-Duchâtelet, who Bricheteau, speaking to the Royal Academy of Medicine, called the initiator of a salutary reaction in the area of industrial hygiene (in F. Mêlier, De la santé des ouvriers employés dans les manufactures de tabac (Paris, 1845), 56). For examples of industries examined by Parent-Duchâtelet, see "Mémoire sur les débardeurs de la ville de Paris, ou recherches sur l'influence que peut avoir sur la santé l'immersion longtemps prolongée des extrémités inférieures, dans l'eau froide," HP, II, 607-643; "Essai sur les cloaques ou égouts de la ville de Paris," HP, I, 156-307; "Recherches et considérations sur la rivière de la Bièvre," HP, I, 98-155; "Des chantiers d'équarrissage de la ville de Paris," HP, II, 123-256; "Le rouissage de

chanvre considéré sous le rapport de l'hygiène publique," HP, II, 495-504; "Influence du tabac sur la santé des ouvriers." It should be noted that as Parent died in 1836, his work was done before the period of major industrialization of French industry. Therefore his works on industrial hygiene deal primarily with more traditional industries and occupations. Other hygienists like Giraudet and Mèlier confirmed some of the findings of Parent-Duchâtelet. See Dr. Alexandre Giraudet, "Recherches sur l'influence que peut avoir sur la santé publique l'opération du rouissage du chanvre," Annales, 7 (1832), 337-61; F. Mèlier, De la santé des ouvriers employés dans les manufactures de tabac. Mèlier stated that in the case of tobacco workers, salary was the big hygienic question--most tobacco workers were in good health because they had a rather high salary. Mèlier also pointed out some of the shortcomings of Parent-Duchâtelet's debunking, saying that because Parent-Duchâtelet was afraid to attribute to an industry inconveniences that did not exist, he ended up by ignoring some that did exist. See for example, Parent-Duchâtelet, "De l'influence que peuvent avoir sur la santé publique les émanations provenant de la fonte et des préparations diverses qu'on a fait subir au bitume asphaltique," HP, II, 408-485, in which Parent-Duchâtelet asserted that while asphaltic emanations were disagreeable they were not dangerous. He was exaggerating.

APPENDIX 3

COMMISSION CENTRALE SANITAIRE AND CONSEIL SUPERIEUR DE SANTE

Members of the Commission Centrale Sanitaire of 1820

Councilors of State:

Gérando
Hély d'Oissel
Forestier

Physicians:

Desgenettes
Kéraudren
Duméril
Pariset
Bally
Devèze

Intendants of the Marseille Health Intendancy:

Majestre
Rostan

Moreau de Jonnès, a naval officer

Laffon de Ladébat, head of the Administration des hospices of the
Ministry of the Interior

Two Parisian businessmen and two legal scholars.^a

^aThis list is in Sussman, 35-36. The existence of the commission is mentioned in Moreau de Jonnès, Rapport au Conseil supérieur de santé sur le choléra-morbus pestilentiel (Paris, 1831), 157, but no list of members is given. The creation of the commission was not reported in the Moniteur.

Members of the Conseil supérieur de santé, 1822

Councilors of State:

Baron Capelle
Gérando
Hély d'Oissel
Saint-Cricq

Physicians:

Bally
Kéraudren
Pariset

André, a banker
 Moreau de Jonnès, a former military officer.^a

^aLe Moniteur universel, 3 sept. 1822, 1829 and 1894.

Members of the Conseil supérieur de santé, 1835

Gérando
 André
 Bally^a
 Kéraudren^a
 Moreau de Jonnès
 Pariset
 B. de Montfort
 Odier
 Fleuriau de Bellevue
 David
 Dubois^a
 Lefebvre
 Vernes
 Pellet-Will
 Pouyer
 Jacqueminot
 Marc^a
 Gay-Lussac
 Virey^a
 Ferrus^a
 Sollicoffre
 Desurgies
 Reynard

^aPhysicians. This information in Almanach Royal, 1835. By 1835 the superior health council was under the Service sanitaire, attached to the Ministry of Commerce.

APPENDIX 4

MEMBERS OF THE ROYAL SOCIETY FOR THE IMPROVEMENT OF
PRISONS WHO FORMED THE GENERAL COUNCIL
OF PRISONS

Le duc de la Rochefoucauld^a
Le maréchal duc d'Albuféra^a
Le duc de Broglie^a
Le baron Benjamin Delessert
Le marquis de Marbois^a
Le marquis d'Aligre^a
Le marquis de Catelan^a
Le vicomte de Montmorency^a
Le comte Chaptal^a
Le baron Pasquier
Le comte Daru^a
Le comte Moléon^a
Le comte de St.-Aulaire
Le comte Bigot de Préamenu
M. Roy
Le baron Delaitre
L'abbé Desjardins
Guizot
Alexandre de la Borde
Cottu
Pariset^b

^aPeer of France.

^bMoniteur, le 10 avril, 1819, 424.

Members of the Special Council of Administration for the Prisons of Paris

Duc de la Rochefoucauld
Duc de Broglie
Duc d'Albuféra
Marquis d'Aligre
Vicomte de Montmorency
Comte Chaptal
Comte Daru
Baron Pasquier
Roy

Baron Delessert
Comte Bigot de Préamenu
Cottu
Le préfet de police
Le préfet de la Seine
Le premier président et le procureur-général près le tribunal
du 1^{er} instance de la Seine^a

^aMoniteur, le 10 avril, 1819, 424.

APPENDIX 5

MEMBERS OF THE MEDICAL SECTION OF THE ROYAL ACADEMY OF MEDICINE IN 1828

Titular Members

Adelon^{a,b}
Alibert^e
Bally^{c,d}
Broussais
Coutanceau
Desgenettes
Double
Esquirol^{a,b}
Girard^a
Hyzard^a
Keraudren^{b,c}
Leroux
Lucas
Magendie^e
Marc^{a,b,c}
Moreau de la Sarthe
Orfila^{a,b}
Pariset^{a,c,d}
Portal

^aMember of the Paris health council.

^bEditor of the Annales d'hygiène publique et de médecine légale.

^cMember of the Conseil supérieur de santé.

^dParticipant in government commissions sent to observe yellow fever.

^eParticipant in government commissions sent to observe cholera.

Free Associates (Associés libres). From related sciences and living in Paris, 1828

Chabrol de Volvic, Prefect of the Seine
Chaptal

D'Arcet^{a,b}
 Gay-Lussac

^aMember of the Paris health council.

^bEditor of the Annales.

There were 80 ordinary associates, 20 of whom were from Paris--they were well known doctors, pharmacists, and surgeons. There was also an undetermined number of adjunct members--those people who had sent observations and essays to the Academy. Some of the hygienists and well known doctors who were adjunct members in 1828 were:

Andral fils^{a,b}
 Bourdon
 Bricheteau
 Londe^c
 Louis
 Olliviers d'Angers^a
 Parent-Duchâtelet^{a,b}
 Patissier
 Piorry
 Roche
 Rochoux
 Rostan
 Villermé^{a,b}

^aMember of the Paris health council.

^bEditor of the Annales.

^cParticipant in government commissions sent to observe cholera.

1845 Members of Section No. 8, Public Health, Legal Medicine, and

Medical Police, Mémoires, 11 (1845)

Adelon^{a,b}
 Chevallier^{a,b}
 Eméry^a
 Forestier
 Gerardin^c
 Kéraudren^b
 Labarraque^a
 Lecanu^a
 Londe^c
 Nacquart

Renauldin
Royer-Collard^a
Villermé^{a, b}

^aMember of the Paris health council.

^bEditor of the Annales.

^cParticipant in 1831 government commissions sent to observe cholera.

APPENDIX 6

PREFECTS OF POLICE, 1815-1848

Julien Anglès	September 1815-December 1821
Guy Delaveau	December 1821-January 1828
Louis Debelleye	January 1828-August 1829
Jean Mangin	August 1829-July 1830
Jacques Bavoux	July 1830
Louis Girod de l'Ain	August 1830-November 1830
Achille Treilhard	November 1830-December 1830
Jean Baude	December 1830-February 1831
Alexandre Vivien	February 1831-September 1831
Sébastien Saulnier	September 1831-October 1831
Henri Gisquet	October 1831-September 1836
Gabriel Delessert	September 1836-February 1848 ^a

^aJohn Phillip Stead, The Police of Paris (London, 1957), 210.

APPENDIX 7

ORGANIZATION OF THE PREFECTURE OF POLICE: THE ADMINISTRATION OF THE PUBLIC HEALTH--

YEAR 1846

1st Division: Police of order and public safety; judicial affairs;
prisons and hospices

2nd Bureau: Interrogations; dispensary

2nd Section: Prostitution and the dispensary

3rd Bureau: Prisons

5th Bureau: Hospices, foundlings, the insane

2nd Division: Administrative police; provisions; commerce; navigation;
public works; health

1st Bureau: Provisions, navigation, commerce

1st Section: Police of markets and food establishments

2nd Section: Upkeep and cleaning of rivers, first-aid to
the drowned, morgue, destruction of falsi-
fied drinks

2nd Bureau: Public works (petite voirie), railroads

1st Section: Dwellings, hindrances to circulation,
surveillance of public buildings, water
supply, construction of sewers, sidewalks,
cleaning of cesspits, city-dump, movable
cesspits, public urinals

3rd Bureau: Vehicles, fires, cleaning and watering down of
streets, public lighting

1st Section: Water carriers, fountains

2nd Section: Street cleaning and lighting, sewers,
aqueducts, wells, reservoirs

4th Bureau: Unhealthy establishments, sanitary police

1st Section: Dangerous, unhealthy, incommodious establishments; flaying and cutting up of horses, epizootics, fireworks, falsified foods, all related to the public health; health council, laws regulating medicine and pharmacy, secret remedies, dissection rooms, inspection of mineral waters, epidemics, vaccine, cemeteries, mortality statistics

2nd Section: Execution of law relative to child labor^a

^aAPP, D^a79, Budget des dépenses de la Préfecture de police pour l'exercice 1846.

APPENDIX 8

COMPARISON OF BUDGETS OF PREFECTURE OF POLICE FOR THE YEARS 1831 AND 1847 AND MONEY SPENT FOR VARIOUS ASPECTS OF PUBLIC HEALTH ADMINISTRATION

<u>1831</u>		<u>1847</u>
7,240,646	Total budget	10,720,072
118,750	Directors' salaries for street cleaning and inspection for lighting	122,400
885,665	Public lighting	1,622,220
1,080,003	Street cleaning	1,086,750
3,000	Morgue	5,345
75,934	Dispensary	35,627 ^a

^aAPP, D^a69, Personnel. Budget de 1831. APP, D^a79, Ville de Paris. Compte, au 16 mai 1848, des Dépenses de la Préfecture de Police pour l'exercice 1847. Certain expenditures cannot be easily compared as the offices were organized differently in 1831 and 1847, and in some cases expenditures were classified differently.

APPENDIX 9

A DESCRIPTION OF THE PARISIAN ABATTOIRS IN 1828-29

We afterwards gratified our curiosity to inspect the celebrated Abattoirs of Paris, which are objects well worth the examination of strangers. They are the slaughter-houses where all the butchers' meat of the markets is prepared, and more complete establishments for the purpose cannot be imagined. The killing and skinning of the animals, the dressing and arranging of the meats, is wonderfully conducted. Every eatable part is so nicely prepared and nothing lost, the blood being carried off in trenches and sand; in short, all are turned to account, and great quantities of water are used to keep the place clean. The buildings wherein these things are carried on are upon a large scale that admits of the best management. The inspectors are very strict, and I must say I have enjoyed the eating in Paris much more since I saw the Abattoirs than I did before. There are a number of these slaughterhouses around the city, and no animal can be killed and brought to market except through them. This, I am told, is one of the benefits introduced by the Emperor. I wonder the example is not followed by their neighbours, the English, who continue the old slovenly practice of butchering.¹

¹An American Lady in Paris, 1828-1829: the Diary of Mrs. John Mayo (New York, 1827), 127-28.

APPENDIX 10

STANDARDS OF LITERACY

According to Carlo Cipolla a literate person is a person who can read a printed or written text. I have used the word to mean, in addition, a person who can understand the text. Those who can read but do not comprehend can be called semi-literate. Cipolla gives the rate of adult illiteracy in France in 1851 as 40-45%. Thus for most of the period under discussion we can assume that an even higher illiteracy rate prevailed. Given that the literacy rate from 1815 to 1848 was approximately 50%, Cipolla suggests that if out of 100 adults, 50 could not read, probably an additional 25 could read only very little or were semi-literate.

Some other statistical examples from France in the period shed light on the literacy and attempts at increasing it. Among those in French jails in the 1830's, 55% of the offenders were totally illiterate, that is, could neither read nor write. Among army recruits, in 1832, 53% could not write; in 1848, 40% could not write. If one considers that these recruits were young, able-bodied men, the statistics are even more startling, for the poor specimens, often from the working classes, had already been rejected.

In 1850 of 6.4 million children between the ages of 5 and 14, approximately 3.5 million were in elementary school. While an elementary education would probably equip the reader to understand some of the health manuals and simple periodicals, it would not suffice for the more sophisticated ones.

This information is from Carlo M. Cipolla, Literacy and Development in the West (London, 1969), 11, 15, 71, 77, 88-89, 91, 114-115, 117.

APPENDIX 11

TABLE 1

MOST ACTIVE PARTICIPANTS IN PUBLIC HEALTH MOVEMENT

Name	Profession	ANN.	RAM	RAS	HC	APMS
Parent-Duchâtelet, A. J. B.	Phys.	X(1829)	X		X	
Villermé, L. R.	Phys.	X(1829, '47)	X		X	X
Esquirol, E.	Phys.	X(1829)			X	
Marc, C. C. H.	Phys.	X(1829)	X		X	
Guérard, Alph.	Phys.	X(1847)			X	
Pariset, Etienne	Phys.		X	X	X	
Hallé, J. N.	Phys.		X	X	X	
Barruel, J. P.	Chem.-Pharm.	X(1829)			X	
D'Arcet, Jean	Chem.-Pharm.	X(1829)		X	X	
Chevallier, A.	Chem.-Pharm.	X(1847)	X		X	
Gaultier de Claubry, H.	Chem.-Pharm.	X(1847)			X	
Cadet-Gassicourt, Ch.-Louis	Pharm.		X		X	
Pelletier, Joseph	Chem.-Pharm.		X	X	X	
Labarraque, A. G.	Pharm.		X		X	
Huzard père, J. B.	Vet.		X	X	X	
Huzard fils, J. B.	Vet.		X		X	
Benoiston de Chateauneuf, L. F.	Surg. and Stat.		X		X	
Trébuchet, A.	Administrator	X(1847)				X

Abbreviations

Prof.--Profession	Vet.--Veterinarian	RAM--Royal Academy of Medicine
Phys.--Physician	Surg.--Surgeon	RAS--Royal Academy of Sciences
Chem.--Chemist	Stat.--Statistician	HC--Paris health council
Pharm.--Pharmacist	ANN.--Editor of <u>Annales</u> -- lists for 1829 and 1847	APMS--Academy of Political and Moral Sciences

VITA

Ann Elizabeth Fowler La Berge was born in Jacksonville, Florida, June 2, 1944. She attended public school in Jacksonville, graduating from Landon High School in 1961.

From 1961 to 1965 she attended Middlebury College, Middlebury, Vermont, receiving an A. B. in French in 1965. The following year she pursued an M. A. T. in history at Vanderbilt University, Nashville, Tennessee, receiving the degree in 1966. During the 1966-67 academic year she was an instructor of French and history at Columbia State Community College, Columbia, Tennessee. She also began working on an M. A. thesis, and received the M. A. in history from Vanderbilt in 1969.

Ms. La Berge came to The University of Tennessee, Knoxville, in 1967, where she served as a teaching assistant for four years while pursuing the Ph. D. in French history. She was fortunate enough to receive a University of Tennessee Non-Service Fellowship, which enabled her to spend the academic year 1971-72 in Europe doing research for the dissertation. She received the Ph. D. in history in March 1974.

She is married to Bernard La Berge, who received his Ph. D. in history from The University of Tennessee in August 1972, and who is presently working as a foreign student advisor at The University of Tennessee.