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WHAT IS SOCIAL MEDICINE?

A Genetic Analysis of the Concept

GEORGE ROSEN

I.

Introduction

Disease is a biological process which is older than man. It is as old as life itself, for it is an attribute of life. A living organism is a labile entity in a world of flux and change, and health and disease are linked aspects of this all-pervading instability. Health and disease are expressions of changing relationships between the various components of the body, and between the body and the external environment in which it has its being. As a biological phenomenon, the causes of disease are sought in the realm of nature; but in man disease has still another dimension. Nowhere does human disease occur as "pure nature"; instead it is ever mediated and modified by social activity and the cultural environment which such activity creates.

These general conceptions are not new, and in earlier periods medical practitioners were aware of them in an empirical way. The practice of medicine has always been linked with the social and economic conditions of particular groups of people, but these relations were only rarely made the subject of theoretical discussion. Not until modern times does there appear a clear awareness that intimate bonds link social conditions and medical problems. The need for consideration of social viewpoints in dealing with problems of medicine and hygiene was recognized by various medical men during the eighteenth century. Probably best known in this connection are Bernardino Ramazzini and Johann Peter Frank. It was left for the nineteenth century, however, to develop the idea of medicine as a social science, and eventually to formulate with greater precision and clarity the concept of social medicine.

II.

Medicine—A Social Science. The Idea of 1848

In 1893, in an essay dealing with the etiological therapy of infectious diseases, Emil Behring noted as characteristic of the medical thought of the earlier nineteenth century the association in a causal relationship of social misery and disease.[1] For specific illustration of this point, he referred to Rudolf Virchow's report on the epidemic of typhus fever in 1847 in Upper Silesia. Virchow conceived of this outbreak as due to a complex of social and economic factors, and consequently expected little from any medicinal therapy. Instead, he proposed thoroughgoing social reform, which in most general terms comprised "complete and unrestricted democracy," education, freedom and prosperity. Behring passes over this with the condemnation of faint praise, remarking that while these views also had their merits, now, following the procedure of Robert Koch, the study of infectious diseases could be pursued unswervingly without being sidetracked by social considerations and reflections on social policy.[2]

What is the meaning of this profound cleavage that separates Behring and Virchow? For an answer to this question, an analysis of Virchow's conception of the nature of medicine offers a point of departure. Basic to such an analysis is the circumstance that his views originated and found explicit expression as an integral part of his activity during the revolutionary movement of 1848.[2a]

On May 1, 1848 in a letter to his father Virchow tried to explain

[1] E. Behring: *Gesammelte Abhandlungen zur ätiologischen Therapie von ansteckenden Krankheiten*, Leipzig, Georg Thieme, 1893, p. xvii (Der Beginn der socialen Aera aber macht sich in unserem Jahrhundert bemerkbar in der Zurückführung der Krankheiten auf das sociale Elend), and p. xix (Hier finden wir die Anschauungen in voller Schärfe, welche noch lange Zeit einer naturwissenschaftlichen Betrachtungsweise der Krankheitsätiologie entgegenstanden: die Zurückführung der epidemischen Krankheiten auf das *sociale Elend*).

[2] *Ibid.*, p. xix.

[2a] For an excellent analysis of the German medical reform movement of 1848 and of Virchow in relation to this movement consult the monograph of Erwin H. Ackerknecht: Beiträge zur Geschichte der Medizinalreform von 1848, *Sudhoff's Archiv für Geschichte der Medizin* 25: 61-109, 112-183.

his fundamental point of view. "I have often been deceived in people," he wrote, "but not yet in the age. As a result, I now have the advantage that I am no longer a partial man, but a whole one, and that my medical creed merges with my political and social creed." [3] That Virchow practiced what he preached is clear from his actions. The March Days in Berlin had followed hard on the heels of the victorious February Revolution in Paris. On March 18, the people of Berlin rose in revolt and threw up barricades. Among the defenders of the barricade that blocked the Friedrichstrasse from the Taubenstrasse was Rudolf Virchow.[4] Not quite four months later, on July 10, 1848 appeared the first number of the weekly, *Die medicinische Reform*, edited jointly by Virchow and R. Leubuscher. In the challenging programmatic editorial with which he launched the journal, Virchow showed that the change from the musket to the pen had in no way altered his fundamental position. He said:

> The "Medical Reform" comes into being at a time when the overthrow of our old political institutions is not yet completed, but when from all sides plans are being laid and steps taken toward a new political structure. What other task could then be more natural for it to undertake, than that of participation in clearing away the old ruins and in constructing new institutions? Severe and mighty political storms such as now roar over the thinking portion of Europe, shaking to the foundation all elements of the state, indicate radical changes in the prevailing conceptions of life. In this situation medicine cannot alone remain untouched; it too can no longer postpone a radical reform in its field.[5]

This awareness of the relations of medicine to social problems, Virchow formulated in the somewhat rhetorical but striking slogan: "Medicine is a social science, and politics nothing but medicine on a grand scale."

The idea of medicine as a social science did not originate with Virchow. Industrialization and its attendant social problems led various investigators to study the influence of such factors as poverty

[3] Rudolf Virchow: *Briefe an seine Eltern 1839 bis 1864*, herausgegeben von Marie Rabl geb. Virchow, Leipzig, Wilhelm Engelmann, 1907, pp. 144-145.

[4] *Ibid.*, p. 135.

[5] *Die medicinische Reform. Eine Wochenschrift, erschienen vom 10. Juli 1848 bis zum 29. Juni 1849*, Berlin, Druck und Verlag von G. Reimer, No. 1, p. 1.

and occupation on the state of health. This was particularly true in France where during the 'thirties and 'forties medical men such as Villermé, Benoiston de Chateauneuf, and Guépin, and social theorists like Constantin Pecqueur dealt with socio-medical questions. Arnold Ruge, a democratic German journalist, wrote in 1844 that "Every attempt to make science serviceable to the world, every association of science with politics is directly linked to France."[6] This judgment may be taken as applying also to ideas on the social relations of medicine. From Paris, the fountainhead of advanced thought, liberal ideas spread to Germany. The publication in 1842 of Lorenz Stein's book, *Der Socialismus und Kommunismus des heutigen Frankreich; Ein Beitrag zur Zeitgeschichte*, made a profound impression on the German public.[7] Virchow's contact with these intellectual currents is indicated by the quotation, in a letter of 1843 to his father, of a passage from Ruge's *Deutsche Jahrbücher*, which had been suppressed by the Prussian government.[8] Other German physicians shared Virchow's point of view, and during 1848 joined forces with him to secure long overdue medical reforms. Prominent in this group were Salomon Neumann and Leubuscher, Virchow's editorial associate. In his book, *Die öffentliche Gesundheitspflege und das Eigenthum*, published in 1847, Neumann had vigorously asserted the view that "medical science is intrinsically and essentially a *social* science, and as long as this is not recognized in practice we shall not be able to enjoy its benefits and shall have to be satisfied with an empty shell and a sham."[9] And in 1851, in a study of the medical statistics of the Prussian state, Neumann again stressed the importance of this idea.[10] The same point of view was

[6] Arnold Ruge: Plan der Deutsch-Französischen Jahrbücher, *Deutsch-Französische Jahrbücher*, herausgegeben von Arnold Ruge und Karl Marx, Paris, 1844, p. 6. [Reproduced in facsimile in the series *Neudrucke marxistischer Seltenheiten* (I) Verlag von Rudolf Liebing (L. Franz & Co.), Leipzig, 1925.]

[7] Lorenz von Stein: *Geschichte der sozialen Bewegung in Frankreich von 1789 bis auf unsere Tage* (3 vols.), München, Drei Masken Verlag, 1921, vol. I, pp. vii-viii.

[8] Virchow, *Briefe*, p. 52.

[9] S. Neumann: *Die öffentliche Gesundheitspflege und das Eigenthum. Kritisches und Positives mit Bezug auf die preussische Medizinalverfassungs-Frage*, Berlin, Adolph Riess, 1847, pp. 64-65.

[10] S. Neumann: Zur medizinischen Statistik des preussischen Staates nach den

expressed by Leubuscher in the statement that " medicine is a purely social science "; [11] but he went on to point out that the idea still lacked any practical content.[12]

Nevertheless, it is clear from contemporary discussions that the proponents of this idea were not dreaming of some medical Cloud-cuckooland, but employed it rather as a convenient formulation under which to sum up definite principles. The *first* of these is that *the health of the people is a matter of direct social concern.* Society has an obligation to protect and insure the health of its members. According to Neumann,

> It is the duty of society, i. e., of the state, as a fundamental condition for all enjoyment and activity, to protect, and when endangered to save, the lives and health of the citizens. If it is the duty of social man to combat and to help endure the dangers which develop precisely because of social life, then it is equally clear that the state is obliged to combat and where possible to destroy not only natural dangers, but as well those dangers to human life.[13]

Virchow derived the same point as a logical consequence of democratic principles.

> The democratic state [he declared] desires that all its citizens enjoy a state of well-being, for it recognizes that they all have equal rights. Since general equality of rights leads to self-government, the state also has the right to hope that everyone will know how through his own labor to achieve and to maintain a state of well-being within the limits of the laws set up by the people themselves. However, the conditions of well-being are health and education, so that it is the task of the state to provide on the broadest possible basis the means for maintaining and promoting health and education through public action. . . . Thus it is not enough for the state to guarantee every citizen the basic necessities for existence, and to assist everyone whose labor does not suffice for him to acquire these necessities; the state must do more, it must assist everyone so far that he will have the conditions necessary for a healthy existence.[14]

The *second* principle involved in the idea of medicine as a social science is that *social and economic conditions have an important effect*

Acten des statistischen Bureau's für das Jahr 1846, *Archiv für pathologische Anatomie und Physiologie und für klinische Medicin*, 3: 13-141, 1851 (see page 19).

[11] R. Leubuscher: Zur Reform der Sanitätspolizei, *Medicinische Reform*, p. 11.

[12] *Ibid.*, p. 11.

[13] Neumann: *Öffentliche Gesundheitspflege*, p. 64.

[14] Rudolf Virchow: Die öffentliche Gesundheitspflege, *Medicinische Reform*, No. 5. August 4, 1848, pp. 21-22.

on health and disease, and that these relations must be subjected to scientific investigation. For Neumann no proof was necessary to show that "the greatest number of diseases which either prevent the complete enjoyment of life or kill a considerable number of people prematurely are due not to natural causes, but rather to artificially produced social conditions." [15] He was convinced that poverty, hunger, and misery "if not identical with death, disease and chronic suffering were nevertheless, like their inseparable companions, prejudice, ignorance, and stupidity, the inexhaustible sources from which the former originate." [16]

Virchow's basic standpoint was very similar, but in expressing it his emphasis differed from that of Neumann. The investigation of the Silesian typhus epidemic of 1847 led Virchow to the conclusion that its causes were as much social, economic and political as they were biological and physical. This view he later generalized in a series of articles on *Public Health,* in which he discussed the relation of medical problems to social and political developments. "The very word 'Public Health,'" he declared, "shows those who were and still are of the opinion that medicine has nothing to do with politics the magnitude of their error." [17] Virchow conceived the scope of public health as broadly as possible, indicating that one of its major functions was to study the conditions under which various social groups lived, and to determine the effects of these conditions on their health. On the basis of this knowledge it would then be possible to take appropriate action. "For if medicine is really to accomplish its great task, it must intervene in political and social life. It must point out the hindrances that impede the normal functioning of vital processes, and effect their removal." [18]

As an extension of his views on the relations of medicine to society, Virchow developed a theory of epidemic disease as a manifestation of social and cultural maladjustment. Reasoning by analogy, he drew a parallel between the individual and the body

[15] Neumann: *Öffentliche Gesundheitspflege*, p. 64.

[16] Neumann: Zur medicinischen Statistik . . . p. 61 (see footnote 10).

[17] *Medicinische Reform*, p. 21.

[18] Rudolf Virchow: *Die Einheitsbestrebungen in der wissenschaftlichen Medicin*, Berlin, Druck und Verlag von G. Reimer, 1849, p. 48.

politic: "If disease is an expression of individual life under unfavorable conditions, then epidemics must be indicative of major disturbances of mass life."[19] These disturbances are social and economic in nature, e. g. business depressions, unemployment and the like. "Don't we see that epidemics everywhere point to deficiencies of society?" Virchow asked. "One may point to atmospheric conditions, general cosmic changes and the like, but in and of themselves these never cause epidemics. They always produce them only where, because of poor social circumstances people have lived for a long time under abnormal conditions."[20] Virchow differentiated *natural* and *artificial* epidemics, basing his distinction on the degree to which cultural factors interpose themselves between nature and man.

> Living conditions [he pointed out] are either natural or artificial depending on the spatial and temporal situation of the individual. The development of culture, by multiplying the relations of individuals to each other, also complicates living conditions. . . . Consequently epidemics are *natural* or *artificial* depending on whether the change in living conditions occurs of its own accord through natural events, or artificially, because of the mode of life.
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> Natural epidemics have always been present whenever changes of season, of weather, etc. altered living conditions, and the great mass did not protect itself by artificial means. They recur as often as external conditions require, and remain as long as these last. Fluxes, intermittent fevers, and pneumonias have occurred epidemically at all times.
>
> Artificial epidemics, however, are attributes of society, products of a false culture, or of a culture which is not available to all classes. These are indicative of defects produced by political and social organization, and therefore affect predominantly those classes that do not participate in the advantages of the culture. Here belong typhus, scurvy, the sweating sickness, and tuberculosis.[21]

Furthermore, these "artificial" epidemics occur not only as a result of social contradictions, but also as significant manifestations of the historical process. Such outbreaks of disease occur at nodal points in history, during periods of political and intellectual revolu-

[19] *Ibid.*, p. 46.

[20] Rudolf Virchow: Die Epidemien von 1848. (Gelesen in der Jahressitzung der Gesellschaft für wissenschaftliche Medicin am 27. Novb. 1848.), *Archiv für pathologische Anatomie und Physiologie und für klinische Medicin*, 3: 3-12, 1851 (see page 10).

[21] Virchow: *Einheitsbestrebungen*, pp. 46-47.

tion. "History has shown more than once," Virchow declared in August, 1848, "how the fates of the greatest empires were decided by the health of their peoples or of their armies, and there is no longer any doubt that the history of epidemic diseases must form an inseparable part of the cultural history of mankind. Epidemics correspond to large signs of warning which tell the true statesman that a disturbance has occurred in the development of his people which even a policy of unconcern can no longer overlook." [22] And in 1849 Virchow carried this train of thought to its logical conclusion. "Epidemic diseases exhibiting an hitherto unknown character appear and disappear," he pointed out, "after new culture periods have begun often without leaving any trace. As cases in point take leprosy and the English sweat. The history of artificial epidemics is therefore the history of disturbances which the culture of mankind has experienced. Its changes show us with powerful strokes the turning points at which culture moves off in new directions. Every true cultural revolution is followed by epidemics, because a large part of the people only gradually enter into the new cultural movement and begin to enjoy its blessings." [23] Finally, attention must be drawn to the fact that in his socio-historical theory of epidemic disease, Virchow also included the so-called psychic epidemics, a field in which interest has again been aroused by the events of our own time.[24]

If society has an obligation to protect the health of its members, and it is recognized that social and economic conditions have an important effect on health and disease, then it follows logically that *steps must be taken to promote health and to combat disease, and that the measures involved in such action must be social as well as medical.* This is the *third* principle involved in the idea of medicine as a social science, and was recognized by Virchow, Neumann and the other

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[22] *Medicinische Reform*, p. 45.

[23] Virchow: *Einheitsbestrebungen*, p. 47.

[24] It is interesting to note that Temkin and Hirschfeld in 1929 called attention to Virchow's theory of epidemic disease and pointed out the astonishing proximity of his view to that expressed by Sigerist in 1928. See O. Temkin: Studien zum "Sinn"-begriff in der Medizin, *Kyklos* (1929), vol. 2, p. 103; E. Hirschfeld: Virchow, *Kyklos* (1929) vol. 2, pp. 110-111; H. E. Sigerist: Kultur und Krankheit, *Kyklos* (1928), vol. 1, pp. 60-63.

medical men who participated in the movement of 1848. The broad outlines of the program of action proposed as a result of the acceptance of this principle are probably represented best by a draft for a Public Health Law prepared by Neumann and submitted to the Berlin Society of Physicians and Surgeons on March 30, 1849.[25] According to this document: [26]

I. Public Health has as its objectives
   1. The healthy mental and physical development of the citizen;
   2. The prevention of all dangers to health;
   3. The control of disease.

II. Public Health must care for
   1. Society as a whole by considering the general physical and social conditions that may adversely affect health, such as soil, industry, food and housing.
   2. Each individual by considering those conditions which prevent him from caring for his health. These may be considered in two major categories:
      a. Conditions, such as poverty and infirmity, where the individual has the right to request assistance from the state;
      b. Conditions where the state has the right and the obligation to interfere with the personal liberty of the individual in the interest of health, e. g. in cases of transmissible disease and mental illness.

III. Public Health can fulfill these duties by
   1. Supplying well trained medical personnel in sufficient number;
   2. Adequate organization of the medical personnel;
   3. Establishing appropriate institutions for public health.

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[25] *Medicinische Reform*, p. 227 seq.

[26] Gertrud Kroeger: *The Concept of Social Medicine as presented by Physicians and other Writers in Germany, 1779-1932*, Chicago, Julius Rosenwald Fund, 1937, pp. 14-15.

Voices were raised for governmental action, and many specific measures were proposed, all of which fall within the broad program drafted by Neumann. A very important problem was the provision of medical care for the indigent, and proposals were put forth by Virchow and others for public medical services for the poor, including free choice of physicians.[27] It was realized, however, that provision of medical care was not enough, that it must go hand in hand with social prophylaxis. In consequence, we find Virchow proclaiming the *right of the citizen to work*, as a fundamental principle to be included in the constitution of a democratic state.[28] (Here Virchow was influenced by the action of the French Provisional Government of 1848 in recognizing the right to work, the doctrine of the *Droit au travail* that Louis Blanc had been preaching since 1839.)[29]

The problem of the industrial worker also demanded attention. Although industrialization in Germany began later than in England and France, and proceeded at a slower pace during the first half of the 19th century, by 1848 the existence of a wage-earning class, an industrial proletariat, could no longer be overlooked. As in England and France, industrialization was ushered in by a slaughter of the innocents. Those that survived the cradle were given over to the tender mercies of the factory and the mine. It was plain, said Virchow, that "the proletariat in ever increasing degree became the victim of disease and epidemics, its children either died prematurely or developed into cripples."[30] To deal with this problem Leubuscher proposed a program of industrial hygiene, with emphasis on the legislative regulation of working conditions.[31] Particularly important was the question of limiting the working day. Leubuscher advocated the prohibition of child labor before the age of fourteen, reduction of the working day in dangerous occupations, protection of pregnant women, the establishment of standards for ventilation

[27] *Medicinische Reform*, pp. 127, 185, 189, 190.

[28] *Ibid.*, p. 38.

[29] J. A. R. Marriott (editor): *The French Revolution of 1848 in its Economic Aspect. Vol. I, Louis Blanc's Organisation du Travail. . . .* Oxford, The Clarendon Press, 1913, pp. xxxvi-lxix.

[30] *Medicinische Reform*, pp. 126-127.

[31] P. Leubuscher: Zur Reform der Sanitätspolizei, *Medicinische Reform*, pp. 11-12, 47-49.

of work rooms, and the prevention of industrial poisoning through the use of non-toxic materials.

Demands were also made for uniform licensure of medical practitioners entitling them to practice in every German state; appointment of physicians to official positions on the basis of competitive examinations; and the establishment of a National Ministry of Health.[32]

Very important was the recognition that for investigation of the causal relations between social conditions and medical problems it was necessary to have reliable statistics. The significance attributed by Virchow to medical statistics is indicated by his statement that "Medical statistics will be our standard of measurement: we will weigh life for life and see where the dead lie thicker, among the workers or among the privileged."[33] It was Neumann, however, who was most active in agitating for the collection of accurate statistics. In 1847, he pointed out that without medical statistics there could not be an efficient organization of medical activity.[34] Several years later, Neumann made it clear that what he wanted was not medical statistics in any narrow sense; he called for "social statistics," that is statistical information on all elements of social life that in any way have a bearing on problems of health and disease.[35] Neumann carried on statistical investigations in line with these principles, and reference will be made to these studies in the following section.

An explanation of the cleavage between Behring and Virchow emerges from the preceding analysis of the idea of medicine as a social science. For Virchow who saw medicine in its organic relations to the rest of society, and recognized health and disease as enmeshed within the web of social activity, the strict bacteriological view could not but seem narrow and limited, if not a complete intellectual aberration. Virchow recognized the discoveries of the bacteriologists, but he could never accept an unqualified causal rela-

[32] *Medicinische Reform*, pp. 13-16 (especially page 14). See also Ackerknecht, *op. cit.*, pp. 113-130.

[33] *Medicinische Reform*, p. 182.

[34] Neumann: *Öffentliche Gesundheitspflege*, p. 84.

[35] Neumann: Zur medicinischen Statistik . . . pp. 86-89 (see footnote p. 274).

tionship between bacterium and disease. For him the tubercle bacillus was not identical with tuberculosis.

The views of Virchow and his collaborators did not mature in their own day, but the seed had been sown. With the defeat of the revolution of 1848, the medical reform movement came to a quick end. Virchow had to discontinue the publication of the *Medicinische Reform*, but in his last editorial, comparing the contemporary situation with that which faced Moses after bringing Israel out of Egypt, he wrote:

> We too must wander in the wilderness and fight. Our task is an educational one; we must train men capable of fighting the battles of humanism. We have nothing more to expect from the governments so that further publication of a periodical is useless. Among the doctors, those who are capable of further education need no continuous guidance, while the indolent dullards will never be affected by reason. We can therefore only accept the task of educating the people concerning problems of public health, and problems of earning their daily living, and of assisting them through the continuous provision of new teachers to achieve the broadest basis for the winning of the final victory. The medical reform that we had in mind was a reform of science and society. We developed its principles; even without the further existence of this organ they will advance. Every moment, however, will find us occupied in working for them and ready to fight for them. Our cause remains unchanged; it is only the field of activity that changes.[36]

III.

From Virchow to Grotjahn. England, Belgium, and Germany to 1900

Beliefs of men regarding social organization and social change, and their attitudes toward the society in which they live, may be viewed as variations on the themes of desire and expectation. While the middle class in Germany was fighting for political power, the English middle class had already attained its goal. This situational difference finds its reflection in varying social philosophies. In Germany, the democratic radicals put forth a charter of liberty for the people in which they proclaimed the preeminence of human rights and human dignity, and accepted the logical consequences of this

[36] *Medicinische Reform*, p. 274.

charter in relation to health and disease. In England, on the other hand, the same doctrine of liberalism, with its implications of human rights, human dignity, liberty and equality, had already woven itself into public consciousness, but had emerged with a different emphasis as the doctrine of economic liberalism. This philosophy with its acceptance of social atomism and the predetermined harmony of man and nature manifesting itself through inexorable economic laws carried with it a stubborn insistence on the absolute necessity of submission to the supposed laws of society. Even the protests against the effects of economic liberalism on the lives of men did not substantially alter the doctrine. Discrepancy between social fact and social theory was not generally recognized as affecting the hard central core of economic liberalism, and it was not until the latter part of the nineteenth century that the gradual and peripheral erosion which had been carried on in practice began to receive conceptual recognition.

Such an intellectual environment was hardly conducive to analyses of the social aspects of health and disease, and no thoroughgoing theoretical formulations like those of the German authors were developed. And yet, certain stubborn facts insisted upon intruding themselves into public consciousness. Questions of ill-health, poor housing, dangerous and injurious occupations, excessive morbidity and mortality could not be overlooked, and investigations of these social problems were undertaken, often by medical men, to find out how they had arisen.

From this point of view it is instructive to look at a study of *The Moral and Physical Condition of the Working Classes Employed in the Cotton Manufacture in Manchester* published in 1832 by James Philips Kay, M. D. Permeating this anatomy of social misery is the bleak gospel of contemporary economic orthodoxy. At the very outset, Kay emphasizes that the immutable laws of economics cannot be transgressed. "The evils here unreservedly exposed," he says, "so far from being the necessary consequences of the manufacturing system, have a remote or accidental origin, and might, *by judicious management*, be entirely removed. Nor do they flow from any single source: and, especially in the present state of trade, the hours of labour cannot be materially diminished, without

occasioning the most serious commercial embarrassment." [37] It must be kept in mind that this was the period when Richard Oastler was leading the campaign for a shorter working day.[38] In reply to this demand the employers argued that a cut in hours meant that wages would have to be cut in direct proportion. Furthermore, the interests of both workers and employers were complementary and were menaced by foreign competition. Injudicious agitation and legislation would therefore harm the workers more than it would help them. What was needed was not factory legislation, but free trade. In this spirit, Kay pointed out that

> The profits of trade will not allow a greater remuneration for labour, and competition even threatens to reduce its price. *Whatever time is substracted from the hours of labour must be accompanied with an equivalent deduction from its rewards,* and we fear that the condition of the working classes cannot be much improved, until the burdens and restrictions of the commercial system are abolished.
>
> Those political speculators who propose a serious reduction of the hours of labour, unpreceded by the relief of commercial burdens, and unaccompanied by the introduction of a *general system of education,* appear to us deluded by a theoretical chimera.[39]
>
> Believing that the natural tendency of unrestricted commerce, is to develop the energies of society, to increase the comforts and luxuries of life, and to *elevate the physical condition* of every member of the social body, we have exposed with a faithful, though a friendly hand, the condition of the lower orders connected with the manufactures of this town, because we conceive that the evils affecting them result *from foreign and accidental causes.* A system, which promotes the advance of civilization, and diffuses it over the world—which promises to maintain the peace of nations, by establishing a permanent international law, founded on the benefits of commercial association, cannot be inconsistent with the happiness of the *great mass of the people.*[40]

Nevertheless, the prevalence of disease among the poor could not be overlooked, and as Kay himself points out it was the high inci-

[37] J. P. Kay, *The Moral and Physical Condition of the Working Classes Employed in the Cotton Manufacture in Manchester,* London, James Ridgway, 1832, p. 1.

[38] Cecil Driver: *Tory Radical. The Life of Richard Oastler,* New York, Oxford University Press, 1946, pp. 118-190.

[39] Kay, *op. cit.,* pp. 59-60.

[40] *Ibid.,* p. 47.

dence of communicable disease that led to an investigation of the Manchester workers. It was found that vice, physical degradation, poverty and illness were intimately interlocked. For proof of the relation of ill health to other forms of social pathology, Kay cites the records of the medical charities of Manchester. After reviewing the statistical data, he is led to conclude for example, that more than half the inhabitants of Manchester are "either so destitute or so degraded, as to require the assistance of public charity, in bringing their offspring into the world."[41] Yet Kay can see no necessary relation between existing socio-economic organization and the various kinds of social maladjustment that he had observed. It is indeed an instructive study in the situational determination of ideas to analyze Kay's presentation, for he remains an acute observer throughout. In fact, in one respect he is much in advance of his own time. Discussing the Irish immigration and the consequent effect on conditions in Manchester, he indicates an awareness, as yet unclear and lacking precise conceptual formulation, that the dismal scenes in his portrayal are the product of a cultural cataclysm.[42] Anthropologists have recently recognized that the change that affected a large part of white society in the early days of capitalism is similar to the changes among various African peoples under the influence of contact with white civilization.[43]

Other physicians did recognize, however, that social and economic institutions, especially industrialism, had significant and necessary connections with the health problems of the factory workers. Outstanding in this respect was C. Turner Thackrah, whose pioneer treatise on occupational medicine, *The Effects of Arts, Trades, and Professions . . . on Health and Longevity . . .*, first appeared in 1831. This book became a bible among the factory reformers, and Thackrah actively supported the struggle to restrict child labor.[44]

> The employment of young children in *any* labour is wrong . . . [he said] No man of humanity can reflect without distress on the state of thousands

[41] *Ibid.*, pp. 40-42.

[42] *Ibid.*, pp. 6-7.

[43] R. C. Thurnwald: *Black and White in East Africa; The Fabric of a New Civilization*, 1935.

[44] The writer has in his possession a copy of the second edition (1832) of Thackrah's book with a presentation inscription by the author to Michael Thomas Sadler, parliamentary spokesman of factory reform.

of children, many from six to seven years of age, roused from their beds at an early hour, hurried to the mills, and kept there with the interval of only 40 minutes, till a late hour at night; kept, moreover, in an atmosphere impure, not only as the air of a town, not only as defective in ventilation, but as loaded also with noxious dust. Health! cleanliness! mental improvement! How are they regarded? Recreation is out of the question. There is scarcely time for meals. The very period of sleep, so necessary for the young, is too often abridged. Nay, children are sometimes worked even in the night.[45]

In 1831, at a meeting in Leeds in support of factory legislation, Thackrah was present on the platform with Richard Oastler and Michael Sadler. He made a forceful speech condemning the lack of regulation of working conditions, and citing the cases of some of his child patients in support of his position. Was it any wonder, he demanded, that the resistance to disease of the rising generation was being undermined by prevailing conditions? [46]

During the early 'thirties, however, the climate of opinion was still unfavorable to any basic change. Economic and religious doctrine encouraged acceptance of the status quo, and discouraged any attempts to change conditions. Economic success was evidence of divine favor, while failure implied the absence of religious sanctity, and was therefore indicative of moral inadequacy.[47] Any effort to alter existing conditions was consequently an impiety and dangerous to social welfare for it meant that one was interfering with the predestined law of God.

Peter Gaskell presented in 1833 a survey of the "manufacturing population of England" in which he showed how the introduction of steam power and the consequent industrial revolution had affected the workers and their families. He saw that the conditions under

[45] C. Turner Thackrah: *The Effects of Arts, Trades and Professions, and of Civic States and Habits of Living, on Health and Longevity*, Second Edition, Greatly Enlarged, London and Leeds, 1832, p. 80.

[46] Driver, *op. cit.*, pp. 135-136.

[47] For the background out of which these ideas developed and the process by which they came into being see Max Weber: *Gesammelte Aufsätze zur Religionssoziologie* (vol. I), Tübingen, 1922, pp. 17-206; Ernst Troeltsch: *Die Soziallehren der christlichen Kirchen und Gruppen*, in his *Gesammelte Schriften* (vol. I), Tübingen, 1923, pp. 710 ff.; R. H. Tawney: *Religion and the Rise of Capitalism*, New York, 1926; Erich Fromm: *Escape from Freedom*, New York, 1941.

which the factory hands lived and worked affected their health. "Life," he concluded, "though not necessarily shortened by manufacturing occupation, is stripped of a most material portion of that which can alone render it delightful—the possession of health, and those who are engaged in it may be said to live a protracted life in death." [48] Nevertheless, he points out that "the health and physical condition of the manufacturing population have their origin, and are dependent in a great degree upon the perversion of their moral and social habits." Therefore the first step "to be made is to improve the moral condition of the labouring population—without this nothing can avail it." [49] Furthermore, in discussing child labor he says:

> The employment of children in manufactories ought not to be looked upon as an evil, till the present moral and domestic habits of the population are completely re-organised. . . . There can be no question but that very considerable practical difficulties lie in the way of any extensive change as to the hours of labour. . . . It is doubtful if any legislative interference can be effective; but on the other hand, whether it may not most materially injure the future prospects of the labourers, and accelerate a fate already too rapidly approaching them. Still some modifications might be made to satisfy the claims of nature and humanity, contradistinguishing these from fanaticism and bigoted ignorance.[50]

As the decade of the 'thirties passed, however, and the decade of the 'forties came to occupy the scene, a gradual but definite shift in thought on the social aspects of health and disease became evident. The reports to the Poor Law Commission culminating in 1842 in Chadwick's classic *Inquiry into the Sanitary Condition of the Labouring Population of Great Britain*, and in 1844 in the report of the Health of Towns Commission provided a factual base for this ideological maneuver. Indicative of the change are the comments of Arthur Helps in 1845. "However true it may be," he wrote, "that moral remedies are the most wanted, we must not forget that such remedies can only be worked out by living men"; and while "a

[48] P. Gaskell: *The manufacturing Population of England, its Moral, Social and Physical Conditions, and the changes which have arisen from the use of Steam Machinery. . . .* London, Baldwin and Cradock, 1833, p. 239.

[49] *Ibid.*, pp. 215-216.

[50] *Ibid.*, pp. 209-210.

primâ facie reluctance to all interference is most reasonable . . . , nevertheless, interference must often be resorted to " in the interests of social improvement.[51]

Recognition of the causal relations existing between social problems and medical conditions went hand in hand with programs for remedial action. Most of this activity was empirical, and hardly any effort was made to develop a theoretical foundation for such programs. On this account alone considerable credit would be due to Henry W. Rumsey for his attempt to formulate a theory of public health and medical care within the framework of social organization and social action. Yet Rumsey deserves still higher praise; not only did he undertake to formulate a social policy for medicine, but he clearly visualized and set up goals which still remain unattained. In 1856, he published a volume entitled *Essays on State Medicine*, in which among other subjects he dealt with the provision of medical care to the poor. Rumsey's position is characterized by his statement that

> upon the right ordering of a State Provision for the medical care of the poorer classes in their own dwellings, depends the stability and efficiency of the whole superstructure of Medical Police.
>
> And I say *Care* of the poor, because it is now pretty generally acknowledged that any such provision, to be permanently useful, must not be limited to mere routine attendance on cases of actual illness and accident, to a perfunctory supply of pills and potions, with a bald return of names, diseases, visits, etc., from uneasy officers to incompetent Boards.[52]

He went on to show that the promotion of health and the prevention of disease were matters of social concern and required governmental action.

> Sanative care, as well as instruction [he contended] are beyond the means of half the population. Both are imperatively necessary for the safety of the Commonwealth—for the health and happiness of the people. Both may be bestowed gratuitously, from a right source, without causing pauperism. Nay,

[51] [Arthur Helps]: *The Claims of Labour. An Essay on the Duties of the Employers to the Employed. The Second Edition. To which is added, an Essay on the Means of Improving the Health and Increasing the Comfort of the Labouring Classes*, London, William Pickering, 1845, pp. 195, 245.

[52] Henry W. Rumsey: *Essays on State Medicine*, London, John Churchill, 1856, p. 239.

they are the best means of preventing it, by promoting health and longevity, and by enabling the sick and the ignorant to work usefully and profitably. Both therefore should be brought home to every working man's family; and both need to be directed and administered by specially qualified authorities.[53]

Finally, Rumsey described the medical personnel whom he visualized as carrying on such a program. The functions of a "district medical officer" should be preventive in nature. In detail, his description of the duties of such an officer comprises much of the modern public health program. Rumsey insisted that the health officer would become

the sanitary adviser of the poor in their dwellings. Many removable causes of sickness within their own control would be pointed out during his beneficent visits. The miserable effects of alcoholic stimulation might be impressed on the minds of sufferers from intemperance, at times when no warnings or counsel save those of a medical visitor would be listened to.

The state of the apartments of the poor, their clothing and bedding, the choice and preparation of their food, the physical management of their children, their nursing in sickness,—would all come occasionally under his cognizance. He would often be the first to detect unwholesome occupations or trades in the neighborhoods by their effects on those under his charge. In the execution of his ordinary duties, he might often be led to suspect the adulteration or impurity or decay of some article of food, or the deleterious qualities of some pretended medicine or falsified drug taken by the poor. . . . [In short], he would be, in a peculiar sense, the Missionary of Health in his own parish or district—instructing the working classes in personal and domestic hygiene—and practically proving to the helpless and the debased, the disheartened and disaffected, that the State cares for them,—a fact, of which, until of late, they have seen but little evidence.[54]

At the time when Rumsey expressed these views the health officer was still a novelty. The first Medical Officer of Health in England was Dr. W. H. Duncan, who in 1847 was appointed to this office at Liverpool. In 1848, the Corporation of the City of London appointed John Simon to a similar post.[55] Chadwick had suggested in 1842 that a "district Medical Officer" should be appointed locally, and the Public Health Act of 1848 contained power for the appoint-

[53] *Ibid.*, p. 248.

[54] *Ibid.*, pp. 280-282.

[55] John Simon: *English Sanitary Institutions*, London, John Murray, 1897, pp. 246-248.

ment of medical officers of health in England, with the exception of London. In 1855, the Metropolis Management Act provided for the appointment of such officers in London (outside the City).[56]

The appointment of health officers for various London districts, as well as for many provincial towns, and the fact that the subject of public health had attracted considerable attention led the authorities of St. Thomas's Hospital in 1856 to establish a course of lectures on public health, the first of its kind in England.[57] Dr. Edward Headlam Greenhow was appointed to this lectureship. In preparing his first course of lectures, he realized that a good deal of the information upon which the health agitation of the preceding twenty years had been based was vague and inadequate. When he wanted to consider the preventable causes of disease, Greenhow found that statistical information on this score was defective. He determined to supply this deficiency and worked on his project for about a year. At the request of John Simon, this study appeared in 1858 as a parliamentary report of the General Board of Health.[58]

In his conclusion, Greenhow pointed out that the causes which produce the prevalent diseases of unhealthy places

> are multifarious; and that, whilst an impure atmosphere, whether the impurity arise from the defective removal of refuse and excrete matters, from the overcrowding of dwellings, or from manufacturing processes, is among the most powerful, there are many other causes of disease to which attention has hitherto been too little directed. Insufficient or unsuitable food, sedentary habits, the absence of the physical and mental stimulus afforded by variety of scene, and especially by rural prospects, the weariness caused by the monotonous character or many occupations, and, not least, the cares and anxieties of life are all of them causes which help to swell the catalogue of

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[56] George Newman: *The Building of a Nation's Health*, London, Macmillan and Co., Ltd., 1939, p. 15.

[57] John Simon relates that the "arrangements at St. Thomas's Hospital were in adoption of proposals which I, as member of the School, had made there" (*English Sanitary Institutions*, p. 266 footnote).

[58] General Board of Health. *Papers Relating to the Sanitary State of the People of England: Being the Results of an Inquiry into the different Proportions of Death produced by certain Diseases in different Districts in England; communicated to the General Board of Health by Edward Headlam Greenhow, M.D. . . . with An Introductory Report by the Medical Officer of the Board, on the Preventability of certain Kinds of Premature Death*, London, Eyre and Spottiswoode, 1858.

ROSEN, GEORGE, ***What Is Social Medicine? A Genetic Analysis of the Concept***, Bulletin of the History of Medicine, 21 (1947) p.674

illness, and to add to the register of deaths in great cities. Some of these causes of preventable sickness and premature death arise necessarily from the circumstances of our social system, and are but little, if at all, under the control of the executive government. Notwithstanding their exclusion from the catalogue of removable causes of unhealthfulness, there would yet remain ample scope for the employment of hygienic measures. . . . One of the most evident facts brought to light by the present investigation is the influence of occupation on health. This influence is either direct . . . ; or it is indirect, as where the employment of women in factories seems to aggravate the infantile mortality, and particularly that produced by the nervous diseases of childhood. It is probable that a careful examination into the nature of these employments, and the manner in which their hurtful results are produced, would show that such results are not the inevitable consequences of the several industrial occupations. . . .

It may be more difficult to deal with the other branch of this question. The withdrawal of children from their mother's care, and the consequent substitution of artificial feeding for the natural diet of infancy, which is probably one at least among the causes of a large infantile mortality in places where the female population are largely engaged in factory labor, is possibly an evil inherent in the modern factory system. Whether it can be met without an undue interference with the rights of labour is a question the consideration of which forms no part of my present duty.[59]

In his introduction to Greenhow's report, John Simon concurred in the findings of his colleague and went on to emphasize the necessity for considering,

whether the advantages of our social progress must have with them such evils as I have described; whether the higher civilization of urban life cannot be attained without a corresponding development of diseases, which depend on the non-removal of excrement, and the non-ventilation of dwellings; whether the manufacturing greatness of England be not compatible with better sanitary care for the lives of the employed, and with less enormous entail of infantine [sic] disease. . . .

Nor probably will such questions appear unimportant to the public economist. For the physical strength of a nation is no mean part of its prosperity. And with us, perhaps, that raw material may have risen in value, while eastern war and westward emigration have been draining into their respective channels so much of our English manhood.

But if the subject may justly claim to be considered by the government and the legislature of this country, it is on higher grounds than those. The sacredness of human life against unjust aggression is the principle above all others

[59] *Ibid.*, pp. 131-133.

by which society subsists. To have realized this principle in law and government is the first indication of a social state. . . .[60]

This document showed the necessity of constituting some machinery by which the British government might institute methodical inquiries wherever there appeared to be an excess of disease. That this argument was accepted by Parliament may be inferred from the Public Health Act of 1858, which authorized the Privy Council to institute from time to time such inquiries concerning matters of the public health as they might see fit. John Simon became Medical Officer to the Privy Council and undertook various studies on its behalf. During the period 1862-1865, Simon was particularly concerned with the investigation of "*food-supply*, of *house accommodation* and the *physical surroundings*, and of *industrial circumstances*. . . ."[61]

In the Sixth Report to the Privy Council (1863), Simon presented the results of an inquiry into the dietaries of the poor carried out by Dr. Edward Smith. Malnutrition was prevalent, Simon reported, and

> from such degrees of it as Dr. Smith found existing among the lowest fed of the examined classes, there must, I feel assured, be much direct causation of ill-health, and the associated causes of disease must be greatly strengthened by it in their hurtfulness. These are painful reflections, especially when it is remembered that the poverty to which they advert is not the deserved poverty of idleness. In all cases it is the poverty of working populations. Indeed, as regards the in-door operatives, the work which obtains the scanty pittance of food is for the most part excessively prolonged. Yet evidently, it is only in a qualified sense that the work can be deemed self-supporting. All disease of such populations, and whatever destitution results from it, must be treated at public expense. . . .
>
> How far (if at all) the described circumstances of our poorest labouring population tend to better themselves, and how far (if at all) they may be bettered by interference from without, are questions which cannot be discussed without reference to parts of political economy on which I am incompetent to speak. Indirectly, indeed, those questions are of the vastest sanitary importance, for the "public health" of a country means the health of its masses, and the masses can scarcely be healthy unless, to their very base, they be at least moderately prosperous. And although the satisfactory solu-

[60] *Ibid.*, pp. xlvi-xlvii.
[61] Simon, *op. cit.*, p. 293.

tion of those questions is a task for other sciences than the science of medicine to fulfil, yet assuredly, if that solution can be given, the ultimate result will be among the foremost gains which a department of public health can have to record.[62]

Clearly, by the decade of the 'sixties, considerable advance had been made in Britain toward a socially oriented view of health and disease. Although this position was not as sharply defined as the German idea of medicine as a social science, various medical writers and administrators had recognized that social and economic conditions were intimately related to the greater or lesser prevalence of disease, and that these relations should be made the subject of exact scientific investigation, utilizing in considerable measure statistical materials and methods. Somewhat slower to develop was an overt recognition that the health of the people was a matter of direct social concern, and that social as well as medical measures were necessary for the prevention of disease and the promotion of health. Economic liberalism was evidently still the dominant social philosophy, but in practice it was gradually being recognized as ultimately untenable for an industrial society. For example, the establishment of a system of free medical advice to all the wage-earners in England and Wales was seriously under consideration in 1870 by the Poor Law Board. "The economical and social advantages of free medicine to the poorer classes generally," said a member of the board, "as distinguished from actual paupers, and perfect accessibility to medical advice at all times under thorough organization, may be considered as so important in themselves as to render it necessary to weigh with the greatest care all the reasons which may be adduced in their favour." [63] It was in the decade of the 'eighties however, that the interplay of long term trends and particular events came to focus in a new formulation of social problems and values.[64] Out of this rephrasing of social goals and ideologies there would in time develop a theory of social medicine.

[62] John Simon: *Public Health Reports* (2 vols.), London, J. and A. Churchill, 1887, vol. II, pp. 97-98.

[63] Sidney and Beatrice Webb: *The State and the Doctor*, London, Longmans, Green and Co., 1910, p. 7.

[64] Helen Merrell Lynd: *England in the Eighteen-Eighties*, New York, Oxford University Press, 1945, pp. 3-19 and 61-112.

But while British developments were still in the future, a Belgian doctor had already presented a well-developed system of social medicine. This was the achievement of Dr. Meynne, an army doctor, whose book, *Topographie Médicale de la Belgique*, appeared in 1865. (It is interesting to note that while on the titlepage, the subtitle read: *Études de géologie, de climatologie, de statistique et d'hygiène publique*, on the wrapper this is covered by a superimposed square of paper bearing the subtitle: *Études d'hygiène publique et médecine sociale, de statistique, de climatologie et de géologie médicales.*)

Under the influence of the Industrial Revolution in England, and the urgent necessities of the Napoleonic Imperium, Belgium had early achieved a high degree of industrialization. As Clapham remarks, Belgium was the one country in Europe "which kept pace industrially with England, in the first half of the nineteenth century." [65] But as in England, industrialization was followed by grave social problems, not the least of which was wide prevalence of disease, especially in the industrial population. Studies and inquiries into the social, economic and medical status of the Belgian people had been carried out at various times during the thirty years preceding the publication of Meynne's work. As a result he had at his disposal a considerable mass of data, and this is reflected in the scope and comprehensive character of his *Topographie Médicale.*

Meynne originally undertook this treatise to provide a medical topography (or in other words, a local medical geography) of Belgium.[66] But the book can only partly be called a medical topography, for Meynne went beyond a study of the distribution of prevalent diseases in relation to causative factors. In the last analysis, he presented a treatise on the social pathology and social hygiene of Belgium. Deeply imbued with the basic importance of preventive medicine Meynne wrote:

> Curative medicine, which saves from death one person who is seriously ill here, and another elsewhere, undoubtedly accomplishes a meritorious task, but hygiene, which prevents thousands of cases of illness will always be

[65] Quoted in Knight, M. M., Barnes, H. E., and Flugel, F.: *Economic History of Europe in Modern Times*, Boston, Houghton Mifflin Company, 1928, p. 674.

[66] Meynne: *Topographie Médicale de la Belgique*, Bruxelles, H. Manceaux, 1865, pp. i-iii. For a discussion of medical topography and medical geography see Arne Barkhuus: Medical Geographies, *Ciba Symposia*, 6: 1997-2016, 1944-45.

superior to the former in terms of the social results achieved. The latter is medicine on a grand scale, medicine applied to the nations. . . .

Hygiene, which is based on a knowledge of morbid causes, will one day constitute the basis of all social science, because the public health will always be the primary wealth of a people, and because the national economy would soon find itself in a position of inferiority in relation to foreign countries if the physical strength of the working classes is going to be seriously affected. Hygiene will one day become the guide of the administrator, as well as of the legislator; and political economy instead of devoting itself too exclusively to investigation of national wealth will then take the sanitary status of populations as the point of departure for its doctrines.[67]

The *Topographie Médicale* is divided into four parts. The first deals with the geography, geology and climatology of Belgium; the second with the morbidity and mortality of the Belgian population, including a discussion of the causes of the most prevalent or most serious diseases; the third with the relations of the diseases to soil, climate, poverty, nutrition, housing, and alcoholism; and finally, the fourth section is concerned with a discussion of various preventive measures designed to alleviate or remove the conditions previously described. Meynne makes full use of statistical materials; for he recognized that statistics provided a formidable instrument for the study of the problems in which he was interested.

As a result of his studies, Meynne concluded that poverty was the most potent disease breeder of all, surpassing by far other alleged causes such as soil, climate, and contagion.

As a cause of the majority of serious diseases [he said] poverty surpasses all other influences, even those of soil and climate. In general, it may be said that *deaths and the diseases that lead to degeneration of the species are to be found in diverse social strata in proportion to the degree of poverty that they experience.*

We arrived at this remarkable contrast between the well-to-do classes and the laboring classes without any preconceived idea. In each chapter the results of statistics and of observation became more striking, the problem became clearer and more precise. At the end we found ourselves face to face with an important social fact: the excessive inferiority which afflicts the sanitary and physical state of the proletarian classes. Their life is very much shorter; they age prematurely; their progeny is less viable; they have twice as much chance of being attacked by tuberculosis and dyscrasic dis-

[67] Meynne, *op. cit.*, pp. iii-iv.

eases; they are much more exposed to all epidemic diseases; and they are almost alone subject to accidents and violent death. Let us note also that poverty is the primary cause in most cases of their ignorance, their lack of orderliness, and even of their debauchery and intemperance. In short, one may say that physical and moral decadence attacks fatally a large number of those who have the misfortune to be born in poverty.[68]

But, he went on, having studied the causes of disease it was now necessary to call attention to the means of preventing or controlling the majority of serious diseases. However, for one who thinks in terms of *prevention*,

the horizon expands far beyond the domain of medical prescriptions. In fact, it becomes a matter of nothing less than the suppression of prejudice, error and ignorance, the encouragement of salutary labor, the development of a sense of dignity on the one hand and the conquest of cupidity, and injustice on the other. For this immense program, it is necessary to have the collaboration of all men of good will, and above all the assistance and unified direction of the state and of the scientists.

Since we believe that the doctor is by right a member of this great scientific council, we have, as the conclusion of this study, boldly advanced our opinion regarding the most urgent capital reforms and economic remedies—at the risk of seeing some one object on the ground of our incompetence. . . . Certainly, no one can pretend to know everything, but we refuse to acknowledge the scholastic limits of each special science. All the sciences are sisters; they ought to join hands so that one day they will form a whole: the great social science.[69]

Meynne was convinced that the future belonged to public health, or, as he also termed it, preventive medicine. His conception of the field was impressively broad. It was to concern itself with the sanitation of soil and water; the hygiene of unhealthy and dangerous industries; the location, construction and operation of hospitals, prisons, schools and barracks; the supervision of food to prevent fraud and adulteration; child guidance and education; vocational guidance; premarital and family counselling—in short, it would come to play a part in education, public administration and political economy. In part, this far-sighted program has been realized in our time, but much still remains to be done.

More specifically, Meynne proposed that attention be given to

[68] *Ibid.*, pp. viii-ix.

[69] *Ibid.*, p. xii.

rendering the worker more independent, and to protecting him from exploitation. He advocated higher wages, better housing, better nutrition, and amelioration of various social evils such as alcoholism. Recognizing the outstanding importance of nutrition, he proposed that special retail outlets for workers be set up where they could purchase food at cost price. Such establishments could likewise sell clothes and household furnishings. Meynne also asked for limitation of the working day, the raising of the age for apprenticeship, and improved working conditions in factories and shops with particular regard to occupational hygiene.[70] Note should also be taken of his proposal to set up a system of rural hospitals to serve the agricultural population. This idea was not new, for the problem of providing medical care and hospital service in rural areas had received considerable attention in France and Beligum.[71] What is new is the inclusion of this question in a system of social medicine. Finally, attention must be called to chapter VI of Meynne's treatise. Here he takes up the diseases of greatest importance, analyzes each in terms of its causation, and calls attention to the social factors involved. Among the diseases considered are pulmonary phthisis, scrophula, pneumonia, bronchitis, emphysema and asthma, cardiac diseases, rheumatism, arthritis, gout, neuralgia, gastro-intestinal maladies, typhoid fever, dysentery, scurvy, anthrax, cancer, smallpox, scarlatina, mental disease, epilepsy, chorea, deaf-mutism and epidemic diseases (cholera, typhus fever, diphtheria, whooping cough). This section is unique, for not until Grotjahn's *Soziale Pathologie* do we again find this kind of analysis.[72]

During the latter half of the nineteenth century, the idea of social medicine was kept alive in Germany and in some cases developed further by a few far-seeing and socially-minded men. In some instances their ideas were derived from the thought of 1848. The leaders of 1848, Virchow and Neumann, remained active in politics and loyal to their principles. Virchow was called back to Berlin in

[70] *Ibid.*, pp. 519-547.

[71] See the articles "Hygiène Rurale" and "Médecins Cantonaux" in *Dictionnaire d'Hygiène Publique . . .* edited by Ambroise Tardieu, Paris, J.-B. Baillière, 1854 (II), pp. 216; 465.

[72] Meynne, *op. cit.*, pp. 123-235.

1856, and in 1861 he became a member of the Berlin municipal council. In 1862 he was elected to the Prussian Landtag, and from 1880 to 1893 he served as a member of the Reichstag. Throughout this period, Virchow remained firm in the conviction that matters of health and disease were social as well as medical questions. In 1860, at the meeting of the German scientists and physicians, Virchow forcefully urged the need for combating and preventing the effects of illness and infirmity.

> When statistics show [he asserted], that in some localities one-third of all deaths is due to pulmonary diseases, and when phthisis in the narrower sense of the term produces 15 to 18 percent, and even more, of the deaths, it shows that disturbances exist in the development of our populations, disturbances which arise from political and social institutions, and are therefore preventable.[73]

Neumann likewise continued to study disease from a social viewpoint. Many of his investigations were statistical in nature. Between 1856 and 1866, he carried out and published three studies on morbidity and mortality in the laboring population of Berlin. When the Gesellschaft für soziale Medizin, Hygiene und Medizinalstatistik was organized at Berlin in 1905, Neumann was elected an honorary member; and at the time of his death in 1908, Alfred Grotjahn had already developed his concept of social hygiene.

During the three decades that followed 1848, the program of medical reform was transformed into a more limited program of sanitary reform, which was practically attainable. Nevertheless, the causal relationships between general social conditions and the health of individuals could not be overlooked. In 1867, Lorenz von Stein, jurist and administrator, in a treatise on public administration dealt with the administrative aspects of public health.[74] Stein pointed out that the health of individuals becomes a matter of public concern to the extent that individuals are subjected to noxious conditions over which they have no control, and to the extent that such persons become a burden on society. In these circumstances, he insisted, it is the duty of government to establish and to maintain conditions

[73] Karl Sudhoff: *Rudolf Virchow und die Deutsche Naturforscherversammlungen*, Leipzig, Akademische Verlagsgesellschaft, 1922, p. 14.

[74] For Stein see above, p. 677 and footnote 7.

that would protect the individual from any dangers arising out of social activity, and to re-establish and to promote in a positive manner the health of the affected individual.[75] Stein was considerably influenced by English health legislation, and cited the English experience in support of his thesis.

Contemporary with von Stein were a number of medical men who in varying degree recognized the importance of the influence of social conditions on health, and discussed this subject from varying points of view. One of the most interesting of these, and yet one of the least known is Eduard Reich (1836-1919), an eccentric and peripatetic medical scholar. He lived and taught in Jena, Göttingen, Bern, Strassburg, Gotha, Kiel, Würzburg, Erlangen, Koburg, and Sondershausen. In the course of his wanderings, Reich found the time to write a large number of books, the last of which appeared in 1910.[76] Most important of these is his *System der Hygieine* which appeared in 1870-71 in two volumes. In this treatise Reich offers a well-rounded presentation of what he conceived to be the field of hygiene. This work is the product of far-ranging scholarship and profound erudition. The wide reading upon which it is based may be inferred from some of the authors cited by Reich. Among these are Brillat-Savarin, P. J. G. Cabanis, Henry C. Carey, Girolamo Cardano, August Hirsch, Liebig, Paola Mantegazza, Malthus, Moleschott, Quetelet, the *Regimen Salernitanum*, Ramazzini, the economist J. B. Say, Virchow, Villermé, and J. G. Zimmermann.

The organization of Reich's *System* proceeds from his definition of hygiene. To the question " What is hygiene? " he said:

> I understand hygiene to be the totality of those principles, the application of which is intended to maintain individual and social health and morality, to destroy the causes of disease, and to ennoble man physically and morally. The concept of hygiene thus comprises far more than was formerly comprehended under dietetics and medical police. Hygiene deals with man as a whole, as an individual and as he manifests himself in the family and in

[75] Lorenz von Stein: *Die Verwaltungslehre*, III. Teil. Erstes Hauptgebiet. II. Teil, Stuttgart, J. G. Cotta, 1867, pp. 1 ff. See also Kroeger, *op. cit.*, pp. 18-19 (footnote 26 above).

[76] Alfons Fischer: *Geschichte des deutschen Gesundheitswesens*, Bd. II, Berlin, Kommissionsverlag F. A. Herbig, 1933, pp. 362-365.

society; it deals with man in all his conditions and relations. Consequently, hygiene comprises the entire physical and moral world, and collaborates with all the sciences whose subject is the study of man and his environment.[77]

Hygiene, or the theory of health and welfare, is the philosophy, science and art of healthy living for the individual, the family, society and the state. Its stream derives from three tributaries: the first arises from practical philosophy, the second from medicine, and the third from social science. Moral hygiene is an application of practical philosophy, social hygiene an application of social science, and dietetic (as well as climatic) and police hygiene are applied medicine.[78]

On this basis, Reich set up four branches of hygiene: moral hygiene, social hygiene, dietetic hygiene, and police hygiene. Within these categories, he undertook to explore human experience, both personal and social, as it bore on health. What Reich regarded as falling under each of these headings is evident from the table of contents of the *System*. It contains the following subjects:

1. *Moral Hygiene*
   - Moral acts
   - The passions
   - Intellectual life
   - Education
   - Religion and morality
2. *Social Hygiene*
   - Introduction
   - Population
   - Marriage
   - Labor and poverty
     - Labor
     - Poverty
     - Sources of poverty
     - Effects of poverty
     - Forms of poverty
     - Charity
     - Cooperative action
     - Conclusion
3. *Dietetic Hygiene*
   - Nutrition
   - Care of the Skin
     - Clothing
     - Cleanliness
     - Cosmetics
   - Gymnastics
   - Travel
   - The senses. Sleep. Reproduction
   - Habitation
   - Climate
4. *Police Hygiene*
   - The health office
   - The health law
   - Health control of food and stimulants
   - Health control of dwellings
   - Control of epidemics

From this outline it appears that while Reich's categories are not entirely congruent with those in use at present, his police hygiene

[77] Eduard Reich: *System der Hygieine* (2 vols. in one), Leipzig, Friedrich Fleischer Verlag, 1870-71, vol. I, p. xvi.

[78] *Ibid.*, p. xii.

may be regarded as equivalent to public health administration, dietetic hygiene as coinciding with personal hygiene, social hygiene as representing an early form of social medicine and social work, and moral hygiene as a combination of social psychology, sociology and health education. Of the greatest interest here is Reich's concept of social hygiene.

> Social hygiene [he asserted], is concerned with the welfare of society. On the basis of statistics it follows the phenomena of social life, surveys the population in its various states, observes marriage, studies labor, and descends into the slough of despond which is poverty, but not to bring some empty consolation, but rather to help and to save, to strengthen the weary and to awaken them to new life, and to support by means of charity those who cannot care for themselves.[79]
>
> It is the task of social hygiene to prevent diseases of society and to maintain the well-being of the civil community. In order to achieve this aim, social hygiene must examine critically the manifestations of social life, trace its currents to their source, and there undertake its regulatory and ameliorative work.
>
> There are two things which influence social life most powerfully, and give it a characteristic stamp and color. We refer to the total constitution of the individual, and to the property relationship. These two elements interact reciprocally. . . .
>
> Because social life depends, on the one hand, on the physical and moral constitution of individuals, and, on the other, on property, the measures taken by social hygiene can be effective only if they aim to improve the constitution, and at the same time make possible a natural development of the property relationship. Above all else social hygiene must wipe out poverty, for as long as this exists there can be no question either of improving the constitution, or of a normal development of economic relations. . . .[80]

To achieve his goal, Reich advocated self-help and cooperative action, measures which were widely advocated at the time, and which seem to be a reflection in some degree of Proudhonist social philosophy. In addition, he was an ardent advocate of health education for all age groups and social classes.

The ideas of Eduard Reich remained almost unknown, but similar views were expressed by his better-known contemporary, Max von Pettenkofer, and reached a wide audience.[81] On March 26 and 29,

[79] *Ibid.*, p. xxii.

[80] *Ibid.*, p. 267.

[81] Pettenkofer is too well known to require an account of his life in this paper. For those readers who wish to consult biographical details, see E. E. Hume: *Max*

1873, Pettenkofer addressed the *Verein für Volksbildung* in Munich on the value of health to a city. The purpose of these lectures was to urge the need for thoroughgoing sanitary reform in order to improve health conditions in the city. It was Pettenkofer who made hygiene and experimental laboratory science, but he was fully aware that man's health is influenced not only by his physical environment but also by the social world in which he lives. After calling the attention of his audience to the need for sanitary reform, he warned his listeners not to expect a panacea. Health was a resultant of the combined action of a number of factors, and all of these would have to be taken into account.

At present [he said], it has become the fashion to think that the health conditions of a city are determined exclusively by good sewerage, abundant water supply and good toilets, and particularly by the introduction of water-closets. . . . [In applying these measures] we solve not even one-third of our problems, as foreign experience has shown. And so we must look around for other factors, in many other directions.

Our health is also determined, to a large extent, by nutrition; not only by the quality of food but also by its quantity. What we consume may not only be good or bad, but also too much or too little. . . .[82]

It is, therefore, necessary that we apply ourselves to this task which is becoming more urgent every day, since the prices of all foodstuffs are rising continuously. So long as man finds himself in circumstances that permit him to have all the food he wishes, and to select it freely, he usually finds instinctively what is good for him; but when he has to contend with poverty or when the food he receives depends on the will of another, then we need standards in order to know what kind of food is necessary and what the minimum quantity is. . . .[83]

Housing conditions are also extremely important. Housing exerts a great influence on our health in two ways, in that it must, first, allow us to get the fresh air we need, and, second, protect us against heat and cold. . . .

Customs and habits exert no small amount of influence on general health conditions. . . . Customs and habits include in my opinion, the amount that an individual generally spends from his earnings or income for food, drink, housing, clothing and other items, and also for luxuries. . . .

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von Pettenkofer, New York, Paul B. Hoeber, 1927; H. E. Sigerist: *Grosse Aerzte*, München, J. F. Lehmanns Verlag, 1932, pp. 288-292.

[82] Max von Pettenkofer: "The Value of Health to a City, Two Lectures, Delivered in 1873," Translated from the German, with an Introduction by Henry E. Sigerist, *Bull. Hist. Med.* 10:597; 602, 1941.

[83] *Ibid.*, p. 604.

Political and social conditions are also influential upon the health and mortality of a population. All over the world the rich generally enjoy better health and live longer than the poor. Every epidemic, whether intermittent fever, typhoid or cholera, takes a larger toll from the poorer classes, sometimes and in many places to such an extent, that particularly cholera was a few years ago still called a disease of the proletariat. The poor, of course, do not suffer more from disease than the rich because they have less cash in their pockets but only insofar as they are deprived of the necessities of life. . . .[84]

Pettenkofer went on to point out that the public health is a matter of community concern, and that any measures that may be taken to help those in need react to the benefit of all.

In every large community [he said], there are always many people who have not the means to procure for themselves the things that are absolutely necessary to a healthy life. Those who have more than they need must contribute to supply these wants in their own interest. . . . Whenever causes of disease cannot be removed or kept away from the individual, the citizens must stand together and accept taxation according to their ability. When a city provides good sewerage, good water supplies, good and clean streets, good institutions for food control, slaughter houses and other indispensable and vital necessities, it creates institutions from which all benefit, both rich and poor. The rich have to pay the bill and the poor cannot contribute anything; yet the rich draw considerable advantages from the fact that such institutions benefit the poor also. A city must consider itself a family, so to say. Care must be taken of everybody in the house, also of those who do not or cannot contribute toward its support.[85]

In view of this standpoint, it is not at all surprising to find Pettenkofer, in 1882, employing the term social medicine for hygiene.[86]

The significant influence that social institutions and conditions exert upon health was also pointed out by Nikolaus Alois Geigel (1829-1887). As a student, he had participated in the movement of 1848, and its ideology left a permanent impression on his thinking. In 1870, Geigel became professor of hygiene at Würzburg, and in 1874 published a monograph on public health in Pettenkofer's *Handbuch der öffentlichen Gesundheitspflege und der Gewerbekrankheiten.* The introduction to this monograph discussed the relation

[84] *Ibid.*, pp. 605, 607-608. [85] *Ibid.*, p. 609.

[86] Hynek Pelc: La Médecine sociale et son développement en Tchécoslovaquie, *Bruxelles médical* (No. 26), April 26, 1936.

of changing social and economic conditions to health and disease. Geigel dealt with the effects of the rise of capitalism, the growth of an industrial proletariat, increasing urbanisation and the unhygienic conditions under which workers were compelled to live, the dangerous materialism of the upper classes, and the influence exerted by the church, which he regarded as pernicious and reactionary. Like many of his predecessors and contemporaries, Geigel insisted on the need for accurate statistics that would throw light on social phenomena. Thus, he felt that fluctuations of food prices, or an increase or decrease in the consumption of agricultural and industrial products could be just as important (in fact even decisive) for the prevalence of disease as climatic changes, an increase or decrease in the size of the proletariat, or of the national wealth.

These ideas were not without influence. When the *Reichsgesundheitsamt* was set up in 1876, Dr. Struck, the first director of the organization, issued a programmatic memoir in which he set forth its objectives.[87] In this program medical statistics were given an exceedingly prominent position.

> The relations of people to each other [wrote Struck], the conditions under which they are born, develop, and work, their age, environment, their territorial distribution, the soil on which they live, the water that they drink, their economic status, their nutrition and so forth, all these shall be brought into relation with the diseases that occur among them, with the span of their lives and their mortality, in order to determine the causes which lead to illness and premature death.

The significance of such information was not lost on the leaders of the industrial workers. Commenting on Struck's program, August Bebel, the Social Democratic leader, said of this passage:

> Should such statistics show, for instance, that the housing, places of work, and nutrition of large groups of the population are absolutely inadequate, it follows necessarily that steps must be taken to improve them. The discussion of social questions is thus placed in the foreground, and based on official figures and conclusions that cannot be denied, the demands and practical proposals for changing conditions will attain an irresistible power, because

[87] *Denkschrift über die Aufgaben und Ziele, die sich das Kaiserliche Gesundheitsamt gestellt hat*, verfasst von Struck, Berlin 1878, cited by Fischer, *op. cit.*, (II), p. 307.

thousands and hundreds of thousands of people from all classes of the population will support them.[88]

The relation of health and hygiene to economics was pointed out in the same year by Heinrich Rohlfs, in an article advocating that Germany adopt an economic policy based on the national protectionism of Friedrich List. In the course of his discussion, Rohlfs quoted with approval Pettenkofer's remarks of 1875 that he conceived of "hygiene as the economics of health, just as economic science regards the production and distribution of goods. Just as it is not simply the fear of loss, but even more the striving for great gain which is the driving force in economic science, so this must also become the point of view of hygiene as the science of health. It is for hygiene to investigate and to evaluate all the influences in the natural and artificial environment of the organism, so as to be able by means of this knowledge to increase its well-being." [89] Rohlfs also pointed out that the establishment of the Reichsgesundheitsamt was a great advance and would have a considerable influence on the development of hygiene.

Nevertheless, despite an awareness of the social relations of health and disease, the last three decades of the nineteenth century in Germany were characterized by a social and cultural environment which was unfavorable for the development of this awareness to a clearer concept which would admit of practical medical application. To most Germans after 1871, the movement of 1848 was something from a strange past. The national aspect of the movement was still recognized, but the social ideals had been abandoned. The German intellectuals and the middle class accepted the policy of Bismarck, and for the most part gave up their progressive program. At the same time the extraordinary rapidity with which the natural sciences developed gave them an enormous prestige in medicine. To this was added the appearance of bacteriology with what seemed to

[88] August Bebel: *Das Reichsgesundheitsamt und sein Programm vom socialistischen Standpunkt beleuchtet*, Berlin, Verlag der Allgemeinen deutschen Associations Buchdruckerei, 1878, p. 9.

[89] Heinrich Rohlfs: Ueber das Wechselverhältniss der Nationalökonomie zur Hygiene in seiner historischen Ausbildung, *Deutsches Archiv für Geschichte der Medicin und Medicinische Geographie* 1: 70-106, 1878 (see p. 85).

be the answer to the problem of disease causation. Under these conditions, it was not difficult to overlook the patient and his environment and to equate germs and disease in the relationship of cause and effect. Not the patient but the disease became the prime concern of the physician. This was the position so sharply expressed by Emil Behring in 1893.

Yet at the very peak of the bacteriological triumph, interest in the significance of social conditions in the causation of disease led various physicians to react against the exaggerated bacteriological standpoint. Hüppe summed up this point of view in 1899 with the statement: "Hygiene is a social art which has developed in response to social need; consequently it must and will always be social hygiene, or it will not exist at all." [90] Only a few years later Alfred Grotjahn put forth his concept of social hygiene, which initiated the theoretical development of social medicine during the first half of the twentieth century.

IV.

Alfred Grotjahn and After

At the very time when Behring was ardently proclaiming bacteriology as the ultimate medical truth and Koch as its prophet, a young German medical student in search of a subject for a doctoral dissertation conceived the idea of systematically investigating medical problems in the light of social science, so as "to arrive finally at a theory of social pathology and social hygiene, which with its own methods . . . would be used to investigate and to determine how life and health, particularly of the poorer classes, are dependent on social conditions and the environment." [91] The student was Alfred Grotjahn, and throughout his life he pursued this aim, as he later characterized it, with "paranoid stubbornness." As a result he developed a systematic theory of social medicine, and profoundly influenced the development of this field of medical activity.

[90] Hueppe: *Handbuch der Hygiene*, Berlin 1899, p. 11, cited by Alfons Fischer: *Grundriss der sozialen Hygiene*, Berlin, Julius Springer Verlag, 1913, p. 23.

[91] Alfred Grotjahn: *Erlebtes und Erstrebtes. Erinnerungen eines sozialistischen Arztes*, Berlin, Kommissions-Verlag F. A. Herbig G. M. b. H., 1932, p. 72.

Grotjahn's thinking was deeply affected by two currents of thought. While yet a medical student he became a member of the Social Democratic Party, and occupied himself with the literature of socialism and social problems. Later he rejected Marxian socialism, and took his stand on the basis of social reformism. A more lasting influence was exerted by the economist and historian Gustav Schmoller, whose seminar Grotjahn attended during the winter of 1901-1902. Here he learned the methodology of the social sciences, and applied this knowledge in the preparation of a paper for the seminar. This paper dealt with the changes in food consumption of workers that had occurred in Germany and other countries as a part of the process of industrialization. This study was published by Schmoller in 1902, but the views expressed by Grotjahn aroused the antagonism of Max Rubner, then professor of hygiene at the University of Berlin. Grotjahn warned against judging diets too exclusively on the basis of caloric adequacy, and Rubner who had become world famous for his studies on the caloric aspects of nutrition took umbrage at these heretical, non-experimental opinions. This was the beginning of an extended conflict which divided the world of German medicine and hygiene until after the First World War. Rubner was successful for a while in preventing Grotjahn from obtaining an academic post. In 1912, he received a minor position under Carl Flügge, and eventually in 1920 he was appointed to the first chair of social hygiene established at the University of Berlin (the full story is to be found in Grotjahn's absorbing autobiography, *Erlebtes und Erstrebtes*).

As early as 1898 Grotjahn had already published a study of alcoholism from the viewpoint of social hygiene.[92] In 1902 in collaboration with his friend F. Kriegel, Grotjahn began the publication of his annual review and bibliography of social hygiene, demography, and medical statistics.[93] The scope of the subject as envisaged by

[92] Alfred Grotjahn: *Der Alkoholismus nach Wesen, Wirkung und Verbreitung*, Leipzig, 1898.

[93] A. Grotjahn and F. Kriegel: *Jahresbericht über soziale Hygiene, Demographie und Medizinalstatistik, sowie alle Zweige des sozialen Versicherungswesen*, published by Gustav Fischer Verlag, Jena, from 1902 to 1915, and by Richard Schoetz Verlag, Berlin, from 1916 to 1923. In 1925 the bibliographical section was continued in the *Archiv für Soziale Hygiene und Demographie*.

Grotjahn at this time may be inferred from the subject headings of the bibliography: 1. Methodology and history of social hygiene; 2. Population statistics and mortality; 3. Morbidity, prophylaxis and medical care; 4. Social hygiene of labor; 5. Social hygiene of nutrition; 6. Social hygiene of housing and clothing; 7. Social hygiene of childhood, and youth; 8. Public health; 9. Theory of degeneration, constitutional pathology, and sex hygiene.

On March 1, 1904, Grotjahn presented before the German Society for Public Health a paper on the nature and purpose of social hygiene.[94] In it he sketched the scope of social hygiene, gave a preliminary definition of the subject, and indicated the lines of probable future development. At the very outset, Grotjahn indicated that he preferred not to use the term social medicine, which he regarded as being too limited in its connotation. Since the establishment of the sickness insurance system by Bismarck in 1883, it had been used to refer to insurance medicine, and Grotjahn felt that it would lead to confusion if this term were applied to the broader field that he envisaged.

Up to that time, he pointed out, hygiene both in theory and practice had occupied itself with the noxious natural factors that threaten the human organism and with the means of combating and controlling these factors. This was essentially physical-biological hygiene. In applying the results of physics, chemistry and biology, it related man to his natural environment. But, Grotjahn insisted, as a science, hygiene cannot restrict itself to this aspect. Man has yet another dimension; he is a social being, and this cannot be overlooked.

> Man has learned to make himself independent of the direct influence of nature [Grotjahn asserted.] Between man and nature there is culture, which is linked to the social structures within which alone, man can be truly man. It is bound up with the horde, tribe, family, clan, community, state, nation and race, and with their economic forms that vary so widely historically and

[94] A. Grotjahn: Was ist und wozu treiben wir Soziale Hygiene? *Hygienische Rundschau* (No. 20), 1904 (As this paper was available to me only in the form of a reprint which Dr. Bruno Gebhard, of the Cleveland Health Museum very kindly put at my disposal, I am unable to give the page references. It appeared under the Verhandlungen der Deutschen Gesellschaft für öffentliche Gesundheitspflege zu Berlin, Session of March 1, 1904).

geographically. . . . Hygiene must therefore also study intensively the effects of these social conditions in which men are born, live, work, enjoy themselves, procreate and die. It thus becomes *social* hygiene, which takes its place beside physical-biological hygiene as a necessary supplement.

Grotjahn indicated that one of the major problems of social hygiene would be that of physical and social degeneration. With this in mind he emphasized the importance of a program of eugenics.

After these preliminary considerations Grotjahn went on to define his concept of social hygiene. He regarded social hygiene as having two aspects: one, descriptive, the other, normative.

Social hygiene as a *descriptive* science is concerned with the *conditions* that affect the spread of hygienic culture among groups of individuals, and their descendants, living under the same spatial, temporal and social conditions.

Social hygiene as a *normative* science is concerned with the *measures* which are intended to spread hygienic culture among groups of individuals, and their descendants, living under the same spatial, temporal and social conditions.

To elucidate this definition, Grotjahn remarked:

If it is the task of social hygiene as a descriptive science to picture the general existing state of hygienic culture, then as a normative science it is its conscious purpose to spread the hygienic measures, which at first always benefit a preferred minority, to the entire population and thus carry on a progressive improvement of existing conditions.

If social hygiene as a descriptive science has already shifted away from the natural sciences and has recourse to such ancillary sciences as statistics, economics, and so forth, as a normative science it is completely independent of the methods of natural science, and utilizes those of the social sciences. Cultural-historical, psychological, economic and political elements all enter into the calculus of social hygiene. Naturally, the goal as ever is to prevent as far as possible any damage to the health of the greatest number, or even of the entire community.

Finally, Grotjahn went on to discuss some of the ancillary sciences upon which social hygiene would have to rely. These were medical statistics, demography, anthropology (in particular anthropometry), economics and sociology.

This paper on the nature and purpose of social hygiene was also

published in a somewhat revised form as a preface to the third volume of the *Jahresbericht*.[95]

The sketch first presented in 1904 was later expanded by Grotjahn in the best known of his many publications, the classic *Soziale Pathologie*, which first appeared in 1911 and went through several editions. The book consists of two major parts, the first dealing with eighteen groups of diseases where the social relations of each group are discussed, the second with the general aspects of social medicine. In the first section, Grotjahn does on a larger scale what Meynne had attempted more than forty years earlier. A list of the subjects treated by Grotjahn is instructive. These are: acute communicable diseases, chronic communicable diseases, venereal diseases, skin diseases, cardiovascular diseases, diseases of the respiratory organs, gastrointestinal and metabolic diseases, occupational intoxications, rheumatism, dental diseases, gynecological and obstetrical conditions, diseases of infancy and childhood, nervous and mental diseases, surgical conditions, cancer, ophthalmic diseases, and diseases of the ear and the throat. In the general section, Grotjahn considered the following topics: the social evaluation of individual groups of diseases, the social value of medical activity in relation to social medicine, the social causation of disease, degeneration as the central problem of studies in social pathology, qualitative planning of human reproduction in relation to eugenics, quantitative planning of human reproduction in relation to decline of population, and the social value of hygienic activity in relation to social hygiene.

Preceding the two major sections of *Soziale Pathologie* is an introduction which contains a number of fundamental principles that help to round out our presentation of Grotjahn's ideas. After a brief review of the history and the definition of social hygiene (or social medicine), he sets forth six points that are important for systematic study of human disease from a social viewpoint.[96]

[95] A. Grotjahn and F. Kriegel: *Jahresbericht über die Fortschritte und Leistungen auf dem Gebiete der Sozialen Hygiene und Demographie. Dritter Band: Bericht über das Jahr 1903*, Gustav Fischer, 1904, pp. i-xv.

[96] Alfred Grotjahn: *Soziale Pathologie. Versuch einer Lehre von den sozialen Beziehungen der menschlichen Krankheiten als Grundlage der sozialen Medizin und der sozialen Hygiene.* Zweite neubearbeitete Auflage, Berlin, August Hirschwald Verlag, 1915, pp. 9-18.

1. The significance of a disease from a social point of view is determined in the first place by the *frequency* with which it occurs. Medical statistics are therefore the basis for any investigation of social pathology.

2. A disease becomes socially significant not only through the frequency of its occurrence. It is necessary to know also the *form* in which the particular disease occurs most frequently. As a rule the characteristic textbook form is not the one in which the disease occurs most frequently, nor is it generally the form which is most affected by social conditions or in turn affects them. Consequently, it is necessary to determine the socio-pathological typical form.

3. The most important relations between the diseases and social conditions are naturally in the realm of causation. The etiology of disease is biological and social. So far only the biological etiology has been studied extensively. The same must be done for the social etiology of disease. The social basis of disease may be considered under the following heads: Social conditions (a) may create or favor a predisposition for a disease; (b) may themselves cause disease directly (c) may transmit the causes of disease; and (d) may influence the course of a disease.

4. Not only are the origin and course of diseases determined by social factors, but these diseases may in turn exert an influence on social conditions. This influence is exerted particularly through the outcome of the disease. This may manifest itself in death, recovery, chronic infirmity, predisposition for other illness, and finally, in degeneration.

5. In the case of a disease which is important from a social viewpoint, it must be established whether medical treatment can exert an appreciable influence on its prevalence, and whether such therapeutic success as may be achieved is important from a social point of view.

6. How can we prevent diseases or influence their course by social measures? This requires attention to the social and economic environment of the patient.

Grotjahn realized that many diseases of social importance were chronic in character. He recognized, however, that a large number

of these were preventable, and that health education could be an extremely important factor in this connection. He also accepted the fact that the voluntary health agency had a significant rôle to play in solving questions of social hygiene. Similarly, he was of the opinion that the physician should use his position to promote developments in medicine and social hygiene so that social hygienic measures could be applied to all the people. For the physician to understand these responsibilities, Grotjahn saw that the teaching of social hygiene would have to become a part of the medical curriculum. He himself taught at the University of Berlin, and academic instruction was also given at other German and Austrian medical schools.

Grotjahn was not an isolated phenomenon. He was only the outstanding figure of a group of men who during the first two decades of the twentieth century developed the concept of social medicine so that it could be used in medical education and medical practice. An important initial impulse toward the development of the field had derived from Bismarck's social insurance program. Many of the physicians realized, however, that to restrict the concept of social medicine to the medical aspects of social insurance was to take too restricted a view of the matter. Consequently, we find many of the men who wrote on social medicine attempting to define the field so as to broaden it and yet keep it within practical bounds.

The literature on social medicine that appeared during the period from 1900 to 1920 is extensive, and we can do no more in this survey than to select several authors who in some respect contributed to the development of the concept of social medicine.

At the opening of a course on social medicine in 1909 in Vienna, Ludwig Teleky discussed the tasks and the aims of social medicine.[97] "The task of social medicine," he said, "is to investigate the relations between the health status of a population group and its living conditions which are determined by its social position, as well as the relations between the noxious factors that act in a particular form or with special intensity in a social group and the health condi-

[97] Ludwig Teleky: Die Aufgaben und Ziele der sozialen Medizin, *Wiener klinische Wochenschrift*, 1909.

tions of this social group or class." With this definition, Teleky added an important element for an understanding of the nature of social medicine. By making use of the concept of social class, and calling attention to its significant rôle in the study of health differentials, he introduced an important methodological tool. In this sense he emphasized that the origin of social medicine and practical activity in this field derived from the existence of separate classes that are differentiated from each other not only through their social functions, but also by the different standards of life that characterize the members of these classes.

If this be the task of social medicine, for what purpose are these investigations to be carried out? To this Teleky's reply is that the goal of social medicine, on the basis of the knowledge obtained in special studies, is to contribute to the elimination of all elements that exert a deleterious influence on health and to the elevation of the general state of health. In order to accomplish this, it becomes necessary to go one step further and analyze the vague concept "social condition" (*soziale Lage*) into its component elements. When the sources of the malady have been uncovered, ways and means must be found to control these.[98]

Finally, Teleky summed up the matter in the following statement.

> Social medicine [he said] is the borderland between the medical and the social sciences. It determines the effect of given social and occupational conditions on health, and indicates how, by means of sanitary or social measures, such noxious influences can be prevented, or their effects eliminated or ameliorated. It is also the task of social medicine to indicate how the achievements of individual hygiene and clinical medicine can be made available to those who are unable individually and on the basis of their own means to take advantage of these achievements. Social medicine must provide physicians with the scientific tools that they need in order to be active in the fields of social insurance and social welfare. Finally, it must study the changes in the position of the medical profession, as well as the developmental trends that become apparent.

A survey of social medicine as it had developed in Germany prior to the First World War is contained in the collaborative volume,

[98] Teleky also points out that the effects of social conditions on health can be determined by 1) direct observation, and 2) with the help of statistics.

Krankheit und Soziale Lage edited by M. Mosse and G. Tugendreich which was published in 1913.[99] This book consists of three parts. The first is a general section dealing with history and statistics. The second section is devoted to the social etiology of disease, and the third to the social therapy of disease. In each section the chapters are contributed by individual authors who deal with some specific factor, such as housing, nutrition, occupation, or with a particular group of diseases—infectious diseases, venereal diseases, tuberculosis, nervous and mental diseases, neoplasms, dental diseases, alcoholism. Under social therapy the contributors discuss the influence of social legislation on the prevention, diagnosis and course of disease, the respective tasks of governmental and private agencies, and the control by the state of the social causes of disease.

On the whole, Mosse and Tugendreich follow the ideas of Grotjahn. But where the latter believed that social hygienic measures should culminate in eugenic action, the former regarded the equalization of life expectancy for all socio-economic classes as the goal of social medicine. They likewise designate statistical methods and materials as of the highest importance for the investigation and practice of social medicine, and devote a separate chapter to this topic.

The advance made in the theory and practice of social medicine in Germany up to the outbreak of the First World War is summed up in the statement of Adolf Gottstein: "Social etiology can now be regarded as accepted."[100] This opinion is strengthened by the fact that a number of significant books on social medicine appeared at this time. Some of these have been discussed above. Others were: Walter Ewald: *Soziale Medizin* (1911); A. Grotjahn and J. Kaup: *Handwörterbuch der Sozialen Hygiene* (1912); Adolf Gottstein: *Einführung in das Studium der Sozialen Medizin* (1913); L. Teleky: *Vorlesungen über Soziale Medizin* (1914).

Characteristic of all these authors, and of the fact that they were dealing with a relatively new field is the circumstance that the subject of research methods receives little attention. All agree on the

[99] M. Mosse und G. Tugendreich (editors): *Krankheit und Soziale Lage*, München, J. F. Lehmanns Verlag, 1913 (880 pp.).

[100] *Ibid.*, p. 722.

preeminent significance of statistical materials and methods. Fischer devotes a section to methods. Most of his discussion is concerned with statistics, but he goes on to mention that for specific problems the investigator may use methods taken from various social and other sciences. Among these are anthropometry, epidemiology, genealogy, sociology, economics, occupational technology, legal study, and in general health education and community organization.[101]

The period following the First World War did not add much to the theory of social medicine. Manuals and handbooks for medical administrators, students of social medicine, and practising physicians were published, but for the most part these did not concern themselves extensively with theory. The publication in 1932 of the *Grundriss der Sozialen Medizin* by Franz Ickert and Johannes Weicksel is noteworthy, for the first section of this work deals at length with the concept of social medicine.[102] This section was written by Ickert, and in defining the field of social medicine he divides it into four parts: social physiology and pathology, social diagnosis, social therapy, and social prophylaxis.

The meaning of these divisions is clarified by the subjects discussed under each. Under social physiology and pathology come the various aspects of income, nutrition, housing, and occupation. By social diagnosis Ickert comprehends a " case-work " type of approach in relation to health. Of interest is his reference to Mary Richmond's concept of social diagnosis which had been introduced into Germany by Alice Salomon. From this flow social therapy and social prophylaxis. The former comprises measures intended to make possible the achievement of medical therapeutic aims. These may be financial or social, and may be classified under the general headings of social welfare, social insurance, and attention to special groups such as the physically handicapped. Social prophylaxis includes legislative action in relation to housing and labor (labor legislation, safety measures, accident prevention), health education, physical education, and eugenics. Ickert was impressed by the

[101] Fischer, *op. cit.*, pp. 7-13 (see footnote 90).

[102] Franz Ickert and Johannes Weicksel: *Grundriss der Sozialen Medizin*, Leipzig, Johann Ambrosius Barth, 1932, p. 1 ff.

emphasis on health education in the United States, and urged the importance of action in this field.

In discussing the social relations between individual diseases and the environment, Ickert follows the six-point outline that Grotjahn had set up. As a fundamental basis for any work in social medicine he insists on a knowledge of statistics, and emphasizes the importance of statistical data for dealing with populations in terms of age, sex, morbidity, mortality and migration.

The concepts of social medicine developed in Germany, in particular the ideas of Grotjahn, had a wide influence on the theoretical development of this field in other countries, notably in Central and Eastern Europe. Noteworthy is the development of social medicine in Czechoslovakia.

The concept of social medicine as understood in Czechoslovakia may be illustrated by the definition given by Pelc in 1936.

> Medicine in its broadest sense [he said] is the science which studies the factors on which the health of man is based, as well as the means of maintaining, improving and promoting health. We consider social medicine as a discipline which permits us to recognize the physical and mental maladies of human groups, and to determine the means—almost always of a general nature—which enable us to treat and to control these diseases, and to improve the health status of human groups. In social medicine two fundamental aspects may be distinguished, one descriptive, the other normative.[103]

The scope of social medicine as envisaged by Pelc may be seen from the description of the course that he gave at the University of Prague.[104] This course was given over a period of two semesters at the Institute of Social Medicine in Prague. Two hours a week were devoted to theoretical lectures and three hours to practical demonstrations. The first semester covered social pathology and social hygiene, and dealt with the following topics: methods of statistical demography and their application in evaluating the physi-

[103] Pelc, *op. cit.* See above footnote 86.

[104] Hynek Pelc: Les méthodes d'enseignement de la médecine sociale à l'Université Charles à Prague, Reprint from *Bruxelles Médical* (no. 11), January 10, 1937. See also Hynek Pelc: Le problème de la création de l'Institut de médecine sociale près la Faculté de l'Université de Prague, Reprint from *Revue d'Hygiène et de Médecine sociale*, October 1936.

cal and sanitary condition of a population; health education; nutrition; housing; maternal and child health, and school hygiene; handicapped children; mental hygiene; control of tuberculosis and venereal disease; alcoholism and chronic illness; occupational hygiene. The second semester dealt with the organization of public health and curative medicine in Czechoslovakia under the following divisions: the hygienic and social organization of the country; hospital organization and administration; organization of the medical profession (including medical ethics); and social insurance.

Social medicine has also been extensively developed in the Scandinavian countries, the Soviet Union, Italy, France, Switzerland, Holland, Belgium and Yugoslavia. Thinking on social medicine in the Soviet Union was considerably influenced by the ideas of Grotjahn.[105] In general, developments in specific countries may be regarded as exhibiting specific characteristics due to conditions in the particular country.[106] Italians, for instance, have tended to emphasize the physiology and pathology of occupation; in France and Belgium attention has been focussed on the social hygiene of childhood, control of tuberculosis and venereal disease, and medical problems of labor. In Yugoslavia, under Andrija Stampar, the emphasis was on the problems of a rural population.

Social medicine in Belgium has an outstanding representative in René Sand, and it is of interest to present his concept of social medicine before turning to recent developments in Great Britain and the United States. In his book, *L'Économie humaine par la médecine sociale,* which appeared in 1934, Sand defines social medicine as "the preventive and curative art considered, both in its scientific foundations as well as in its individual and collective applications, from the point of view of the reciprocal relations which link the health of man to his environment."[107] He divides social medicine into the following subdivisions:[108]

1. *Social anthropology* is concerned with the study of physical and mental inequalities in different social classes.

[105] Grotjahn: *Erlebtes und Erstrebtes,* p. 270.

[106] René Sand: *L'Économie humaine par la médecine sociale,* Paris, Les Editions Rieder, 1934, pp. 11-13.

[107] *Ibid.,* p. 14.

[108] *Ibid.,* pp. 15-17.

2. *Social pathology* studies in the same classes variations in the incidence, course and outcome of disease, or in other words social inequalities of disease and death.

3. *Social etiology* seeks the causes of these differences in heredity and environment.

4. *Social hygiene*, which includes both social therapy and social prophylaxis, deals with the application of palliative, curative and preventive measures to diseases of social origin. In this, social insurance and occupational medicine play important parts.

Sand's concept of social medicine is broad, and it is important to note also the central rôle that the concept of social class plays in his view.

Interest in social medicine has developed slowly in Great Britain and the United States, and only recently has an awareness arisen of the need for formulation of a concept of social medicine. The social relations of health and disease had been recognized by physicians and laymen, but owing to a number of causes no concerted effort had been made to organize such knowledge on a coherent basis and thus make it available for practical application. In part this was due to the dominant rôle that laboratory sciences and techniques had come to play in medicine, in part to the concurrent rise and expansion of medical specialism, and in part to the limited view of public health that has been current in both countries. Furthermore, the bias created by these factors was reinforced by powerful social ideologies still rooted in the nineteenth century version of natural law.

During the past two decades, however, influences within medicine itself and in society as a whole have acted to overcome these obstacles. The development of psychiatry, of medical social work, and of various branches of medicine such as endocrinology and nutrition, tended to break down the compartmental thinking of the physician, and to bring back into mental focus the sick person, the patient. Moreover, within society as a whole the ideology of complacent individualism was wearing thin and consciousness of social problems, including those involving health, became exceedingly acute. The concept of the welfare state achieved articulate prominence

during the threatening 'thirties and culminated during the next decade in the famous Beveridge Report.

In Britain, various studies on social aspects of health and disease appeared during the 'thirties. Among these may be mentioned G. C. M. M'Gonigle and J. Kirby: *Poverty and Public Health* (1936); J. B. Orr: *Food, Health and Income* (1936); and R. M. Titmuss: *Poverty and Population* (1938). The subtitle of the last book—*A Factual Study of Contemporary Social Waste*—with its reference to the wastage of human lives, characterizes the point of view of most of these writers.

Another significant undertaking was the work of the Peckham Health Centre in London, which was started in 1926 by G. Scott Williamson and Innes H. Pearse.[109] At this institution the attempt was made to develop health as a positive social value on the basis of a fundamental social unit, the family. These workers defined health as the product of "a progressive mutual synthesis participated in by both organism and environment." Thus health is not a something that is passively acted upon by social conditions, but is the product of a functional dynamic process which is an integral part of a healthy social life.

By 1943, these ideas had advanced so far in Great Britain that an Institute of Social Medicine was set up at Oxford with John A. Ryle as the first Professor of Social Medicine. (The working life of this Institute began in the spring of 1944.) Some two years later F. A. E. Crew was appointed to a chair of social medicine at Edinburgh. It is therefore of considerable interest to see what concepts of social medicine have been put forth by Ryle and Crew.

In 1943, Ryle defined social medicine as embodying

> the idea of medicine applied to the service of man as *socius*, . . . with a view to a better understanding and more durable assistance of all his main and contributory troubles which are inimical to active health and not merely to removing or alleviating a present pathology. It also embodies the idea of

[109] For the story of the Peckham Health Centre and its work see I. H. Pearse and G. S. Williamson: *The Case for Action*, London, Faber and Faber, 1931; *Biologists in Search of Material. An Interim Report on the Work of the Pioneer Health Centre Peckham*, London, Faber and Faber, 1938; I. H. Pearse and Lucy H. Crocker: *The Peckham Experiment. A Study in the Living Structure of Society*, London, George Allen and Unwin, Ltd., 1943.

medicine applied in the service of *societas*, or the community of men, with a view to lowering the incidence of all preventable disease and raising the general level of human fitness.[110]

The *Annual Report* of the Institute of Social Medicine, published in 1945, contains a statement of the purposes of the Institute which may be regarded as representing Ryle's view of the scope of social medicine. This purpose is

> (a) To investigate the influence of social, genetic, environmental and domestic factors on the incidence of human disease and disability. (b) To seek and promote measures other than those usually employed in the practice of remedial medicine, for the protection of the individual and of the community against such forces as interfere with the full development and maintenance of man's mental and physical capacity.
>
> [In summary, then], Social medicine is a comprehensive term. It may, in fact, be held to include the whole of the public and industrial health services, the social services and the remedial services of a community. But just as clinical medicine may be considered not only in terms of "medical practice," but also as an "academic discipline," so too may social medicine be considered. Its observations and researches are in connection with groups or populations rather than with individuals. It requires different methods and collaborations. . . . Social pathology is the related science of social medicine. . . . The problems of social pathology must be sought in the field.

As methods to be used for expanding the knowledge of social medicine, Ryle lists: 1. statistical studies of morbidity and mortality; 2. the socio-medical survey; and 3. the social experiment (this refers to studies such as that of M'Gonigle and Kirby (1936) mentioned above.

Recently (March 7, 1947), at the centennial celebration of the New York Academy of Medicine, Ryle spoke on "Social Pathology and the New Era in Medicine."[111] In this address he characterized social medicine, in contradistinction to public health, as "deriving its inspiration more from the field of clinical experience and seeking always to assist the discovery of a common purpose for the remedial and preventive services, places the emphasis on man, and endeavors to study him in and in relation to his environment."

[110] John A. Ryle: Social Medicine: Its Meaning and its Scope, *British Medical Journal*, Nov. 20, 1943, vol. II, p. 633.

[111] "City Seen as Heart of Medical World," *New York Times*, March 7, 1947.

In social medicine the environment is extended to include

> the whole of the economic, nutritional, occupational, educational, and psychological opportunity of experience of the individual or of the community. . . .
>
> Social medicine is concerned with all diseases of prevalence, including peptic ulcer and chronic rheumatic diseases, cardiovascular disease, cancer, the psychoneuroses and accidental injuries—all of which have their epidemiologies and their correlations with social and occupational conditions and must ultimately be considered to be in greater or less degree preventable.
>
> [Finally, social medicine] properly takes within its ambit the whole of the work of a modern social service department. This includes social diagnosis and social therapeutics—the investigation of conditions, the organization of after-care and the readjustment of the lives of individuals and families disturbed or broken by illness. The almoner or medical social worker also has an important part to play in teaching and in the follow-up activities of a clinical research unit.

The remarks on social medicine published by Crew in 1944 add nothing to the views set forth by Ryle.[112] In January, 1947, there appeared the first issue of the *British Journal of Social Medicine*, edited by F. A. E. Crew and Lancelot Hogben. The editors define social medicine as

> that branch of science which is concerned with: (a) biological needs, interactions, disabilities, and potentialities of human beings living in social aggregates; (b) numerical, structural, and functional changes of human populations in their biological and medical aspects. To a large extent its methods must necessarily be statistical, involving the use of numerical data obtained either from official sources or from special field investigations, and interpreted in the light of established findings of the laboratory and of the clinic. Social medicine takes within its province the study of all environmental agencies, living and non-living, relevant to health and efficiency, also fertility and population genetics, norms and ranges of variation with respect to individual differences and, finally, investigations directed to the assessment of a regimen of positive health.[113]

While these British developments are no doubt of great interest and hold considerable promise for the future, the conceptual ap-

[112] F. A. E. Crew: Social Medicine. An Academic Discipline and an Instrument of Social Policy, *Lancet*, November 11, 1944, p. 6.

[113] *British Journal of Social Medicine*, Vol. 1, no. 1., January 1947. The definition quoted is to be found in the "Notice to Contributors" on the back of the cover.

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paratus of the authors quoted above does not yet seem to be as well developed as that of the German writers previously discussed. Although the word "social" is used repeatedly, there is no effort to define precisely what is meant by "social." Thus in one statement social medicine is "to investigate the influence of social, genetic, environmental and domestic factors on the incidence of human disease and disability," while another statement defines environment to include "the whole of the economic, nutritional, occupational, educational and psychological opportunity of experience of the individual or of the community." Clearly if the environment is defined as broadly as it is here it will also include social and domestic factors. And if it does not include them then social and domestic factors must be clearly defined. By comparison, however, with the definition advanced by the editors of the *British Journal of Social Medicine*, the concepts of Ryle are models of clarity. The former is a catch-all, apparently intended to accommodate all sorts of studies that have something to do with mass aspects of health and disease.

Furthermore, despite the frequent use of the word social, the statement by Crew that "social medicine is rooted both in medicine *and in sociology*" [italics mine, G. R.], and that "it includes the application to problems of health and disease of sociological concepts and methods," the bias of such studies as have been published seems still to be clinical and statistical. It still remains to be seen to what extent the British workers will actually utilize sociological concepts and methods for the exploration of specific problems; and whether they will endeavor to see how the available knowledge of the social sciences can be put to use to improve health. For the present it is significant, however, that in 1945 the Institute of Social Medicine at Oxford had a medical social worker on its staff, but no social scientist (sociologist, anthropologist or economist).

The trend toward the development of a concept of social medicine in the United States, as in Great Britain, is a recent phenomenon. Physicians had long been aware in a general way of the social relations of medicine. Daniel Drake in his *Discourses* pointed out that: "Medicine is a physical science, but a social profession. What skeletons are to the comparative anatomist, and plants to the botanist, people in health and disease are to the physician. Both his elemen-

tary studies and his after duties are prosecuted in their midst and can be pursued nowhere else." At the same time some laymen were aware that public necessity could well require state action to provide social services. Abraham Lincoln, for instance, in 1854 quoted with approval Jefferson's statement that a legitimate object of government is "to do for the people what needs to be done, but which they cannot by individual effort, do at all, or do so well, for themselves."

The roots of social medicine in the United States are to be found in organized social work which emerged out of organized charity during the 'nineties of the last century.[114] It was here that medicine and social science found a common ground for action—in the prevention of tuberculosis, securing decent working conditions in factories, better housing, and the like. It was also as a part of this trend that Richard Cabot in 1905 introduced medical social service. (The term "medical sociology" was first used in 1902 by Leartus Connor in America, and by Elizabeth Blackwell in England.)

Out of this background Francis Lee Dunham in 1925 tried to develop a concept of social medicine.[115]

> Whether as a separate field or as an adjunct to other fields [Dunham wrote], Social Medicine has a clearly defined function—social here referring to the problem's public character, and medicine to the knowledge and practice of welfare. Defined, its purpose is to further the application of scientific methods, of organization to man's social habits in order to determine their usual biological characteristics, to discover the sources, causes and effects of instability and to establish a sympathetic equilibrium between the organism's innate and acquired tendencies.[116]

Basic to the origin of this concept, according to Dunham, was the need in welfare work "for a field of preventive medicine to which social science, psychology, psychiatry and various other de-

[114] See Edward T. Devine: *When Social Work was Young*, New York, Macmillan Company, 1939; Alice Hamilton: *Exploring the Dangerous Trades*, Boston, Little, Brown and Company, 1943, pp. 53-117.

[115] Dunham, a psychiatrist, was Lecturer on Social Medicine at the Johns Hopkins University. He gave a course to students of social economics in the clinical study of the personality.

[116] Francis Lee Dunham: *An Approach to Social Medicine*, Baltimore, Williams and Wilkins Company, 1925, p. 30.

partments shall contribute but upon none of which shall the entire burden of responsibility fall. Such a field functions more naturally as an attitude, a point of view, rather than as a specific department. It may be called *Social Medicine* and its technic *An Approach to the Field of Social Medicine*." Furthermore, " destitution and sickness are old companions and since the former is so often the result of the latter the continued administrative separation of the two problems of poverty and sickness . . . is inconsistent with official responsibility." [117]

In defining the scope and function of social medicine, Dunham put the emphasis on social and personal adjustment. Social medicine, he said, helps to harmonize human behavior and to organize conduct.

> [It] attempts to bring about a harmonious organization between personal tendencies and their surroundings. Definite departments of Social Medicine include various agencies dealing with the family as a neighborhood unit, with the interests of infancy, childhood, and youth; with educational and industrial hygiene in its relation to conduct, with the administration of justice through courts of law; with punitive and corrective institutions and with other social phenomena. General and Preventive Medicine are more strictly analytical fields from whose data Social Medicine seeks to synthesize or construct an adequate social adjustment.[118]

The approach of Dunham is markedly influenced by the biological and social thought of the period. The eugenic approach is clearly evident, and the shadow of William Graham Sumner still falls on this pioneer American attempt to formulate a concept of social medicine.

Similar ideas were expressed by a few other physicians at this time. Lewellys F. Barker commented in 1926 in this sense on broadening conceptions of the task of the practising physician.[119] Yet these attempts remained stillborn. It may well be that the almost exclusive concentration of the economic aspects of medical care, which began with the work of the Committee on the Costs of Medical Care militated against the development of a theory of social medicine.

[117] *Ibid.*, pp. 14-15. [118] *Ibid.*, p. 20.

[119] Lewellys F. Barker: Comments on Health and Life, and on Broadening Conceptions of the Tasks of Practising Physicians, *Annals of Clinical Medicine* IV: 525-534, 1926.

One might expect that the advent of the depression with its profound effect on the health of the unemployed and their families might have turned the minds of some in this direction. Nevertheless, with one outstanding exception this was not the case. The exception was Edgar Sydenstricker, who, in 1933, brought out his study on *Health and Environment.* In this monograph, he carried out a masterly analysis of the idea of environment into its component aspects, and then showed the relation of each of these to health problems. Sydenstricker thus laid the basis for a theory of social medicine, but unfortunately he never went on to develop such a theory.

Sporadic references to social medicine during the 'thirties are to be found. In 1937, Gertrud Kroeger presented a survey of the development of the concept of social medicine in Germany.[120] Michael M. Davis in 1938 called the attention of sociologists to social medicine as a field for research.[121] In 1940 Joseph Hirsh and Elizabeth G. Pritchard reporting on a survey of the teaching of social medicine in liberal arts colleges and universities gave the following definition of social medicine.[122]

> Since current public health and medical problems have their roots in the evolutionary changes which have occurred in many and diverse fields of thought and action, the term " social medicine " has been adopted to designate a total concept of the social, economic, and psychological problems which affect the health of man . . . " social medicine " refers to the economic, social, and psychological problems of public health and medical care, including collective attempts to solve them through public health legislation, tax-supported medical care, voluntary and compulsory health insurance; medical institutions and organizations; and the history of public health and medicine in relation to society.

The importance of a concept of social medicine has been repeatedly emphasized by Henry E. Sigerist. In his proposed plan for a new medical school, published in 1941, the place of social medicine in the curriculum was recognized. In 1945, Sigerist again called atten-

[120] See footnote 26.

[121] Michael M. Davis: Social Medicine as a Field for Social Research, *American Journal of Sociology,* XLIV: 274-279, 1938.

[122] Joseph Hirsh and Elizabeth G. Pritchard: Teaching of Social Medicine in Liberal Arts Colleges and Universities, *Public Health Reports* 55: 2041-2060, 1940.

tion to the important rôle that the social sciences have to play in the medical school, and pointed out that "Social medicine is not so much a technique as rather an attitude and approach to the problems of medicine," which no doubt "will some day permeate the entire curriculum." [123]

The need for a conceptual formulation, a theory, of social medicine is gaining recognition in the United States at present. In support of this contention one may cite the publication of such studies as Henry B. Richardson's *Patients Have Families* (1945), the three-day Institute on Social Medicine (March 19-21) held as part of the centennial celebration of the New York Academy of Medicine, and the recent article of Winslow Carlton on the problem of social medicine.[124] According to Carlton,

> The restoration of medicine as a social institution to a state of equilibrium within itself is a job crying for the participation of the most highly qualified physicians. Thus far, leaders in the profession of medicine have taken an active part in only a few communities; leaders in the business of medicine have taken rather too great a part. Why is this not a subject for the medical schools? It is as much a matter of concern to medicine as foreign policy is to government. Statesmanship is needed, and where else should one look than to the medical schools?
>
> What is required is the creation of a new discipline within medicine—it might properly be called "social medicine," which would concern itself with the relation of the medical arts and sciences to society. It is not a subject to be handled as an extracurricular activity at occasional institutes and conferences; it demands the same kind of concentrated attention and experts as any major field of investigation and practice. Training in medical administration will not answer, useful though administrators would be, for something worth administering is necessary. Nothing less than an organized staff of men and women working in the community, observing medical conditions with painstaking care, consulting the experience of representative people, examining the results of local medical plans and interpreting their findings as scientists will produce sound answers to the fundamental questions at issue.

From these specimen definitions, it is evident that American

[123] Henry E. Sigerist: *The University at the Crossroads*, New York, Henry Schuman, 1946, p. 130; see also pp. 106-126.

[124] Winslow Carlton: The Problem of Social Medicine, *New England Journal of Medicine* 236: 496, 1947.

thought on social medicine is in a fluid condition. Much of the thinking is still too vague and fuzzy to be of practical value. Goethe said, *Die Geschichte der Wissenschaft is die Wissenschaft selbst*, and if he was right the genetic analysis of the concept of social medicine that we have attempted can contribute to a better understanding of the complex problems of this field by providing a point of departure for further exploration.

V.

What is Social Medicine?

Historically, the appearance of a concept of social medicine has occurred in response to problems of disease created by industrialism. To a very considerable extent the history of social medicine is also the history of social policy (welfare). Concerned at first primarily with the new class of industrial workers and their problems, social medicine can today be conceived in a broader sense to include various social groups.

Based on the twin pillars of medicine and social science, the concept of social medicine could become more precise only with the advance of medicine and the development of social science. One cannot emphasize sufficiently that social medicine rests equally upon the social *and* the medical sciences. Anthropology, social psychology, sociology and economics are as important for this field as the various branches of medicine.

Fundamental to a concept of social medicine is its concern with what is true of the health of man by virtue of the fact that he leads a group life. In the light of this concern social medicine has two broad aspects: 1) descriptive and 2) normative. As a descriptive science it investigates the social and medical conditions of specific groups, and establishes such causal connections as exist between these conditions; as a normative science it sets up standards for the various groups that are being studied, and indicates measures that might be taken to relieve conditions and to achieve the standards that have been advanced.

The scope of social medicine may also be delimited in terms of

three significant sociological aspects: 1) health in relation to the community, 2) health as a social value, and 3) health and social policy.

In terms of the community, social medicine is concerned with the relation of health and disease to community institutions, to population movements within large communities (that is, the invasion and succession of different population groups in specific areas), to the racial and ethnic patterns of communities, to standards of living, and to the social and economic status of different groups.

In considering health as a social value, the point of interest would be to know how this value has been defined by various social groups, the nature of the desires and expectations of different groups in respect to health, and the extent to which these ends are achieved or frustrated. Naturally, this involves an understanding of the hierarchy of values in our society, and of the place which health as a value occupies in different social classes. It will be immediately apparent that knowledge of this type has fundamental implications for such fields as medical care, nutrition, and health education.

Research which will contribute to the formation of social policy is the third major aspect of social medicine. To begin with, attention might be turned to the problem of how far legislation keeps pace with increasing knowledge of the relations between health and other aspects of social life. It is known that standards and measures once accepted tend to acquire vested interests and may become obstacles to further progress. The investigations of such lags would be of considerable interest for it would undoubtedly throw light on the power relationships between pressure groups, and the influence which they exert in legislative bodies in matters of health and welfare. Furthermore, the development of concepts of public responsibility in relation to matters of health for various socio-economic groups also falls under this head.

The concept of the social group, or more specifically of the social class, is basic to social medicine. It is therefore concerned not with the individual *per se*, but with the individual as a member of a group, of a certain economic group, or more broadly as a member of a social group, who because of this membership is exposed to various external influences deleterious to his health, influences and factors

that occur exclusively, predominantly, with special intensity, or in peculiar form in his social group and are closely linked to the economic status of this group. Consequently, it is the purpose of social medicine to study all the factors that make up the social condition of a particular group, and that affect the health status of any members of this group; and on the basis of this knowledge to propose such measures of a medical, sanitary or social nature as are necessary to improve health and to make available to the people in the greatest possible degree the achievements of science in the prevention and treatment of disease.

The further development of social medicine requires also that those concerned with this subject devote attention to the achievement of greater conceptual precision. There is a definite need for more precise definition of terms, and for some agreement on the way in which certain terms will be used. There should be some understanding of what is meant by the adjective "social." It must be made clear that social does not mean environmental. Environment is a much broader term, of which the social is only one aspect.[125] The concepts of social science—for instance, social structure, institution, social organization and disorganization—must be examined to determine how useful they can be in dealing with problems of health and disease. In general, Adolf Meyer's pattern of inquiry based on critical common sense will probably be most useful: "What is the fact? The conditions under which it occurs and shows? What are the factors entering and at work? How do they work? With what results? With what modifiability?" [126]

On methods of research and application not very much need be said. Statistical methods and materials will of course play an important part, but social medicine as a synthetic science will make use of any methods that may be necessary or appropriate to the problem in hand.

Finally, important aspects will be the determination of ways and

[125] R. M. MacIver: *Society. A Textbook of Sociology*, Farrar and Rinehart, 1937, p. 102.

[126] Adolf Meyer: Spontaneity, in *A Contribution of Mental Hygiene to Education*, Program of the Mental Hygiene Division of the Illinois Conference on Public Welfare, Chicago, 1933.

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means of teaching the subject to medical students and of making the knowledge acquired available to medical practitioners. In this connection it will be important to determine the rôle of the practitioner in social medicine.

We live today in a world of complex social, economic and political organization. To deal most efficiently with problems of health and disease in this world, the development of social medicine will be a necessary condition. It is as a modest contribution toward that end that this survey is presented.