

# Time and space perspectives in medical teaching in Oslo

Øivind Larsen

University of Oslo, Institute for health and society, Oslo, Norway

E-mail: oivind.larsen@medisin.uio.no

This is an open access article distributed under the Creative Commons Attribution Licence, which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

## TWO HUNDRED YEARS OF TEACHING IN OSLO – THE SHORT VERSION

In medicine every patient is unique and requires professional attention on the personal level by the responsible doctor. However, to the physician the individual patient is a number in the row. Each patient adds knowledge to the professional experience of the doctor and to the understanding that just this case, with its relation to time and place, constitutes an important background for the handling of this type of medical problems in general.

In addition, a wide-angle approach to ailments and to different types of risk factors may be a key to the understanding of the nature of the disease and to the work against it on a group level. Hence, teaching about patterns of disease and living conditions in time and space is hailed as a logical part of any medical curriculum for doctors in the making. But has it worked?

In the history of medical teaching, the weight laid on quantitative thinking and epidemiological insight into the society has varied. At the time when the medical faculty in Norway started up in Christiania in 1814 (1), the tasks ahead were at least threefold: To educate doctors able to take care of and treat the sick and wounded, to recruit civil servants for the emerging health services, and to build up a national medical science.

The first of these objectives related to an individualistic patient-care perspective. The two others, however, required a time-and- place perspective, as the health officials should handle health problems on a population level, and because scientific understanding of the ravaging diseases of the time also called for quantitative data. The balance between these approaches shifted with time. The disease-in-patients orientation competed with a disease-in-society view.

Public health work had a high standing in Norway in the 19<sup>th</sup> century and up to after the second world war, yet gradually losing in general attention as clinical medicine and basic sciences expanded.

In the medical curriculum *hygiene* was the discipline responsible for the population aspects of medicine, and the field was an important part of the medical faculty. Teaching of diseases in time and space with presentations and discussions of medical descriptive statistics as related to the general development of the society, gave the students background, overview and perspectives. This was of special interest to those who later entered positions as district physicians in rural

Norway, but also to the others.

An obviously well-meant reform was carried through in 1951, at a time when the University of Oslo still had the only faculty in Norway providing new medical doctors. Hygiene was split up. The traditional, more technical hygiene maintained its position, but the new discipline *social medicine* was introduced and was supposed to take over the population perspective. However, as time went on, this reform paradoxically proved to weaken the public health approach at the medical faculty in general. Social medicine got a twin affiliation and was also responsible for clinical rehabilitation medicine in the National Hospital. In that way social medicine tilted towards an individualistic profile, highlighting the problems of underprivileged groups also in its research. Over the years, the still existing traditional *hygiene* at the University lost many of its fields to external institutions. The understanding that a comprehensive overview of health in society was a necessity gradually faded.

In 1984 academic teaching about public health issues suffered from a severe blow from outside, as the old Sanitation Law of 1860, regulating the state employed district physicians, was abolished and replaced by a new health legislation focusing on the individualistic health care part of the doctors' work. The state employed staff of district physicians as local medical officers was discontinued. Responsibility for health on group level was blurred in the general image of a doctor.

Norwegian first line medicine traditionally relied on local general practitioners, and this system was strengthened, both in health legislation and at the universities. The new academic discipline of *general practice* (1968) had a commitment to society and public health at the onset, but this profile gradually disappeared as time went on. Handling of individual patients became the core of the images and objectives of a doctor. Therefore, teaching about medicine and health in time and space, based on old and new quantitative data about health and society, has experienced a hard time because of the general trend where medicine shifts focus from population to individuals.

Until 1946 Oslo had the only medical faculty in Norway. Since then, doctors also have been trained in Bergen, Tromsø, and Trondheim, and many have their education from universities abroad. Topics about health and medicine in time and space are covered in different ways at the different medical schools. Oslo has been the case of study here.

## HISTORY OF TEACHING AND INHERENT METHODOLOGICAL PROBLEMS

The climate for presenting the group perspective and medical overview as part of the teaching of medical students has shown fluctuations. At the University of Oslo, founded as the Royal Frederik's University in 1811, and with a medical faculty operative from 1814, these shifts in attention to the patterns of medical interest in society were due to internal and external influences.

Admittedly, to shed historical light on medical teaching shares a methodological problem with the history of education in general: Few sources are available to what was really *said* during oral presentations in the class-rooms. *Curriculums* and lists of topics may give a crude indication, but still render indirect information. For some disciplines written *students' notes* have been preserved, but such documents are exceptions. Mostly, one has to rely on the *textbooks* of the time, being aware of this historical weakness when it comes to the important impact exerted by the sifting of the information through the *teachers*. In a small country like Norway, the market for national textbooks, which could have told more about the teaching, was very limited, e.g. in the 19<sup>th</sup> century. From the early 1900s *slides* were increasingly used in teaching, but only very few of these have been preserved. In addition: If they only show tables from textbooks etc., their specific informative value is limited. Many *examinations* were oral and thus have left very little archive material.

The *profiles and interests of the teachers* may therefore be the best proxies for what is sought after.

## STATE MEDICINE AND PUBLIC HEALTH

In the eighteenth century health *on population level* attracted increasing interest. It may, however, be doubted to what extent this concern was based on considerations about humanity and welfare, as the economic and military impact of ravaging diseases, starvation periods and migration processes came clearer to the surface. A main problem was that reliable quantitative overviews including a *descriptive epidemiology* of health issues were weak or lacking (2). Health care, when available, was taken care of by the relatively larger group of *surgeons*, who often only had practical training as background, and the smaller group of *physicians*. The latter were academics with university degrees, but their field of work was often in administrative positions. Usually neither of them was in position to furnish the authorities with surveys of the health and living conditions of the population.

Sweden is regarded as one of the first countries to take this problem seriously. After having lost the Great Nordic War in 1721, Sweden had a need for monitoring the assets of the country. A healthy population was also regarded as an asset, and was therefore included in the nation-wide survey which was performed. In

1749 "Tabellväcket", the first central bureau of statistics in the world was established, collecting data on a wide range on a permanent basis.

Here, recordings of deaths and of causes of deaths were central parts. Local priests were supplied with instruction leaflets on how to fill in the most appropriate diagnosis in forms which had been provided for completion and submission. From 1749 and 25 years onwards there were 33 causes of death for the priests to choose among. In 1774 the list was revised for the first time. Other countries followed suit, but complicated administrative conditions in many societies made it difficult to set up databases fit for comparisons in time and space.

Nevertheless, a scientific basis now gradually became established for developing "state medicine" as a medical field of its own. The heyday was the great work published in six volumes with posthumously printed supplements by the Vienna based professor Johann Peter Frank (1745-1821): *System einer vollständigen medicinischen Polizey* (3).

These volumes are handbooks in governing a society with health as a key factor. Frank's system was tied to the administrative principles of an absolutistic state, so that his thinking could not be directly implemented in the young democracies which appeared in the wake of the US constitution of 1776 and of the French Revolution of 1789. But the general idea was to constitute the living conditions and the health services according to relevant scientific knowledge about the general health situation and the possibilities to influence the development. In this knowledge, *numbers* were a crucial part of the information needed.

An attempt to depict a corresponding health policy for the kingdom of Denmark and Norway was undertaken by the local medical officer of Arendal in Norway, Rasmus Frankenau (1767-1814) in his book *Det offentlige Sundhedspolitie under en oplyst Regiering, især med Hensyn paa de danske Stater og deres Hovedstad. En Haandbog for Øvrigheder og Borgere* (4). However, sufficient health monitoring and statistics were still lacking here, so that a breakthrough for medical intervention on a population scale neither could be expected nor experienced as a result of his efforts.

A contributing factor was that the still rural Norwegian society had a long standing demographic pattern with a partly extreme infant mortality (25-30%) and a high crude mortality rate fluctuating around 3%. The corresponding birth rates were also high as compared to later periods. Also birth rates were on a 3% level, thus yielding only a slight increase of the population. These levels and this pattern obviously were *regarded as a normal situation*, and therefore only exerted a weak impetus for medical and social efforts.

## AIMS AND SCOPE OF MEDICAL TEACHING

When medical teaching was taken up at the new university in Norway in 1814, the training of doctors for



**Figure 1.** This photograph captures a part of the hygienic conditions in Oslo as late as in the years 1945-50: Waggons with human waste from the old fashioned bin or bucket toilets are emptied to be used for agriculture fertilization. This system, based on countryside traditions, was a hygienic misery when transferred to a crowded city, and it was gradually replaced by modern WC's in all houses. Normally, society and life conditions change at a slow pace and are hardly noticed in everyday life. But in an individual life span perspective, such transformations in many fields may be quite profound and are important for the assessment of earlier health exposure and for the understanding of the historical developments in morbidity and in public health approach as well. (Photo by an unknown photographer. Oslo City archive OB.X1643.)

clinical practice for the civil society and for the armed forces was a standing need. It followed the traditions from the Surgical Academies of Vienna and Copenhagen with a mix of theory and practice in the curriculum. However, to be able to perform clinical work in the often harsh settings of the time was the clear objective for most of the still small group of students choosing medicine at the University in Christiania.

The demand for medical training of medical officers for the emerging national health services due to the new political situation after the separation from Denmark, called for a slightly different perspective. For the training of scientists for a national medicine a still wider scope was required, covering a range from biology to the society as such.

*State medicine* was the main discipline which dealt with the group perspective. In 1824 state medicine appeared as a topic to be tested at the medical examinations. In the same year Frederik Holst (1791-1871) was appointed professor in *hygiene*, the discipline to take over the responsibility for state medicine, now excluding *forensic medicine*, which till then had been part of it. Medical officers, especially in the Norwegian countryside had as their duty to perform on-site post mortems in suspected criminal cases and to submit

*responsa medica* on their findings. Training for this important job was given by the anatomists, but the discipline had belonged to “den legale Medicin” – state medicine (5). From now on, the group perspective was more clear-cut, as *hygiene* concentrated on this aspect.

### LOGICAL AMBIGUITIES

In the beginning of the nineteenth century, to get an overview of the health situation in a population was not easy. Apart from the obvious difficulties in collecting reliable information from the scattered settlements of rural Norway, there were theoretical obstacles for the interpretation of available information. Eighteenth century medical science was eager to find a sensible subdivision of the different diseases, so that they could fit into a logical system. Carl von Linné (1707-1788) had successfully made up his system for the *plants*, which seemed to reveal how they were organized by Nature. Why should not the situation for the *diseases* be the same? As a logical consequence, diagnostics should focus on similarities between the appearance of the ailment of the patient, and the specific diagnostic category of the system. Then the textbooks could offer information on the expected prognosis, and propose a

treatment. No wonder that diagnostics therefore was widely based on symptoms and signs, and to a lesser degree on causation and clinical processes. As science was progressing, this also made longitudinal comparisons difficult.

It added to the complexity that there existed competing medical “systems”. At the new medical faculty in Norway the teachers in internal medicine relied upon the system launched by John Brown (1735-1788), which again was based on the theories of irritability by Albrecht von Haller (1708-1777) (1). This was a choice among different options. Comparison of diagnoses, e.g. between different medical schools, between hospitals and between countries was hampered by possibly different thinking behind.

With these logics in mind, one also understands that the idea of using *counting* of disease, a descriptive epidemiology, as an input to the understanding of *causality*, for long was relatively weak. Besides that, diseases had since antiquity been linked to notions as the four cardinal elements and their related fluids of the body, making humoral pathology to a baseline in medicine, accompanied by the miasma-, constitution-, and to a lesser degree contagion-principles for spread and development of the most common diseases.

When Frank launched his state medicine, more interest became shifted over to the setup of the society, and paved the way for social work against e.g. poverty and bad housing. But that did not help; at least not in the first place, when the disease pattern of Europe and the rest of the world changed as the nineteenth century proceeded.

## EPIDEMICS AND EPIDEMIOLOGY

The nineteenth century became the century of pandemics. Looking back it is easy to see that demographic processes, technical and economic development and political changes stirred up populations, so that the persistent balance between the human beings and those microorganisms which were the prime causes of most diseases, was jeopardized. The new situation challenged the whole range of understandings, from concepts of disease to hygienic practices.

Most important was *cholera asiatica*, which as part of its pandemics hurt Norway in the early 1830s, returned with a major attack on the capital with more than two thousand patients in 1853, and had some minor outbreaks later in the century. The dramatic appearance of the disease, often with extremely rapid development of diarrhoea and dehydration, sometimes leading to death in days or hours, called for action, but how?

To come to grip with the disease and its fluctuations in society, required to find out who the patients were, and where and how they lived. Norwegian doctors were concerned. In fact the formal foundation of The Norwegian Medical Society as an association in 1833 had as a prime rationale to create a forum for doctors who in regular meetings reported on the occurrence of

contagious disease among their patients. Cholera was the overruling problem, but the situation was unclear, because less dangerous diarrhoeas were extremely common in general, and in addition to those diseases there were also outbreaks of the severe *nervefeber*, which modern medicine recognises as salmonella infections.

Reporting to the authorities had since the beginning of the century led to irregular publishing of medical reports, describing the health situation. Reports were printed in periodicals, e.g. in the medical journal *Eyr*, which existed from 1826 to 1837. However, from 1853 onwards, the Norwegian central bureau of statistics established detailed and very systematic reporting procedures. A descriptive epidemiology had been shaped on a national level. The medical reports were published as part of the general statistics, so that additional information could be taken into the medical considerations (6).

To what extent did this increasing interest for the quantitative side of the diseases sift into the teaching of medical students? This is difficult to say, as relevant lecture notes have not been found, and national textbooks not yet had been issued. However, assumptions may be allowed, as e.g. the professor of hygiene, Frederik Holst, was particularly interested in this side of medicine.

## A SHIFT IN MEDICINE

The search for causation for the epidemic diseases was, not surprisingly, intense all over the world in the 19<sup>th</sup> century. Different approaches were chosen. Some of these tied up to earlier theories which admittedly had shown both effectiveness and viability, in spite of their theoretical background, as seen in retrospect. The *miasma* theory had been an impetus to improve public and private hygiene, and the practical implications of it became a story of success. The presence of a *contagion* as a disease carrier had been occasionally discussed since antiquity, but the odours and foul smells connected with miasmae were much more appalling both to the public and the scientific community. The *constitution* aspect pinned interest both to the general health and resistance in the individual, and to the qualities of places to live. So were e.g. weather observations regarded as important parts of medical monitoring.

## DISEASES, HISTORY, GEOGRAPHY, AND A SCIENTIFIC PARADOX

No wonder that *historical and geographical pathology* emerged as an important medical discipline in the nineteenth century, connecting physical and social geography with medical observations. The most important name of the time was the Berlin based professor August Hirsch (1817-1894), who published extensively on diseases in past and present. A two volume handbook from 1860-1864 (7) was followed twenty years later (1881-1886) by a new and revised three volume work



**Figure 2.** Especially in the combat of infectious diseases and for the detection of nutritional disturbances health surveys had a high standing and were a very important medical tool in the first half of the twentieth century. Here, children at the Sofienberg primary school in Oslo are waiting to be examined by the school nurse ca. 1933. (Unknown photographer. Oslo city archive A-0041/Ua/0002/135.)

(8), taking into account the recent and rapid achievements in microbiology. Medical science developed rapidly in these years. The historical and geographical approach to the understanding of diseases swiftly gained in interest. The books by Hirsch inspired other researchers also in other countries to follow suit.

Although pursued by *geographers* and further developed into modern times in the *social sciences*, this comprehensive form of epidemiology gradually lost in interest in the *medical* world. The main reason for this surprising development probably was what happened to the contagion idea in the understanding of infectious disease:

The Berlin pathologist Rudolf Virchow (1821-1902) had in his lecture series of cellular pathology of 1858, published in 1859 (9), pointed out the *cell* as the element of prime interest in the human body, and propagated the microscope as the instrument of choice for further progress in research. This was taken up by anatomists and by his fellow pathologists and altered the research in their fields.

But also others joined them. Through the microscope *living organisms* were observed and connected to a series of common diseases. Although the question of *causation* remained unanswered in many of these studies, the growing discipline of *microbiology* proved to clarify the picture of many diseases and opened up for new ways of prevention – and later on also for new ways of treatment. The “contagionists” had won.

However, search for bacteria and understanding of diseases based on microbiology left search for *other* explanations and for social and environmental causes more in the shadow. Thus there is a paradox in the success story of microbiology: Virchow himself had been on the barricades for social medicine during the uproars of 1848. Many of the sufferings of the poor populations of Europe obviously were closely connected to bad living conditions. That a general improvement in health by bettering in diet and life situation really happened, had at the time already been observed, e.g. in the Nordic countries. Virchow had argued strongly for a *political* approach to public health. Ironically, the discovery of the importance of micro-organism may be said to have had diverted the interest and efforts from the political minefields of social conditions over to the more neutral achievements of microbiologic science.

### HOW WAS THE STANDING OF NORWEGIAN MEDICAL TEACHING?

Did the important shifts in medical thinking in the middle of the nineteenth century penetrate also the teaching of Norwegian medical students? We do not know for sure. However, we know that central, international textbooks were at hand in Christiania, and that national and international scholarly journals were available. The dynamic professor in hygiene Frederik

Holst was followed in 1865-1866 by Ernst Ferdinand Lochmann (1820-1891). Lochmann had been a young and promising researcher at the University, but for still unclear reasons he left the University in 1845 and worked for twenty years as a public health officer in his native town of Christianssand, before returning to the capital, being offered the professorship in hygiene (1). As a professor, he was a prolific author in many fields, but it has been doubted to what extent his long absence from the scientific community influenced his further university work. This is one of the reasons why we do not know how the propagation of quantitative medical aspects was in his lecture room.

### NEW HOLSTS, MORBIDITY STUDIES, AND THE HEYDAY OF SOCIAL HYGIENE

Frederik Holst had a grandson, Axel Holst (1860-1931), who took over as professor in hygiene in 1893, the same year as a separate institute of hygiene was founded, and the previous linkage to pharmacology was discontinued. Topics of the time were taken up by the broad-minded Holst and his staff, such as housing, schooling and sewage disposal, from a public health point of view. However, Holst was a laboratory man, trained in pathology, and microbiology may be seen as his ideological basis and point of origin for many of his studies, even if it was nutrition and vitamin research that made him world famous. He wrote a textbook for students in 1890 (10) (German edition 1891), dealing with bacteriology, but late in his career, in 1928, he also published a textbook of hygiene, obviously an edition of his lecture manuscripts (11). Here, traditional hygienic topics, technical issues and information aiming at the practical work of e.g. a district physician, take up most of the 121 pages.

In continental Europe, the large scale interplay between health, medicine and social conditions was reintroduced into academic medicine around 1900, mostly due to the German physician Alfred Grotjahn (1869-1931). As did Johann Peter Frank at the end of the 18<sup>th</sup> century, Grotjahn launched a comprehensive *social hygiene* and was appointed professor of this discipline in Berlin in 1920. This medical direction required statistics and quantitative information as its base and boosted descriptive epidemiology in order to document and analyse health problems to be addressed mainly with preventive measures.

The "Sozialhygiene" was in its nature *descriptive and practice oriented*, but it was also *normative*, yet stirring up political issues with scientific arguments. In Germany of the 1920s and 1930s this aspect became politically misused, e.g. in the racial hygiene of the time. Nevertheless, the basic ideas of Grotjahn's social hygiene became a role model for social medicine in many countries, so also in contemporary Norway, extending into the years 1938-1972 when Karl Evang (1902-1981) was head of the health services, and the system of the welfare state was settled.

In Norway, the development of descriptive epidemiology according to the new ideas mostly took place outside of the university arena. Apart from the Central Bureau of Statistics, which took care of the hard data of demography, health services etc. (6), and admittedly had collected data on communicable and other important diseases by means of the reports from the district physicians for decades, the early interest in systematic medical use of morbidity data can be assigned to one person. That was the young general practitioner Carl Schiøtz (1877-1938). During his work in a rural area in Norway he had collected health data from a material of 10 000 school children and defended his doctoral thesis on this study in 1918. Undiscovered diseases, failing nutrition, etc. called for attention. His findings strengthened the preventive school health services, where he got a leading position in the capital after having left the countryside in 1914. His medical approach underpinned the importance of social hygiene in general. Schiøtz introduced through his work the *population survey* as a method; a systematic monitoring of health suitable for analytic and planning purposes. He was fathering the Norwegian industrial health services, introduced in 1917 and growing to a nationwide system. The industrial health services were working according to standardised methods, which gave important openings for descriptive and analytic epidemiology.

When Axel Holst resigned in 1930, Carl Schiøtz was the obvious successor. Schiøtz took over Holst's chair, which he held until his own untimely death of tuberculosis in 1938. In 1937 Schiøtz launched his comprehensive textbook of hygiene, which put health into a wide perspective, ranging from climatic factors to sexual life. It had many tables and diagrams illustrating health situation and health development, and stressed to the students that diseases were something more than individual problems. Sales took off at an astonishing pace, and a new and revised edition had to be published already in 1938 (12).

In the inter-war period also the anatomists joined in with the quantitative approach to health through extensive works in *physical anthropology*, based on materials ranging from medieval burials to living populations in different parts of Norway. The ties to *cultural geography* were tight.

*Demography* had lots of information to offer the medical world. E.g. were data on mortality crucial to the understanding of the development of the health situation, but the relationship between hard core demography and health statistics could have been better. Health is much more than deaths. Procreative behaviour is much more than can be measured by birth rates. Migration is more than moving to a new address. In demography, a general impression is that the interest in morbidity for long was weak, in spite of long traditions of collecting data, and in spite of the impact of in-depth studies like those by Carl Schiøtz.

While mortality, and to a certain extent morbidity, for long had been covered in a systematic way, only



**Figure 3.** Group oriented medical studies had group oriented preventive interventions as a logical consequence. This photograph from the Sofienberg primary school (probably in the early 1930's) shows children at the school breakfast table, a system introduced by the head of the school medical services Carl Schiøtz. (Photographer: Severin Worm-Petersen. Oslo city archive A-10000/Ua/0009/393 in the Schiøtz collection.)

little information was at hand when it came to the *problems presented* to the first line medicine, i.e. *health as experienced* by the population. It was not until Bent Guttorm Bentsen (1926-2008) published his data from a vast rural general practice in the 1950s, that this important side of the health situation came to sight in a quantitative way in a series of 14 articles in *The Journal of the Norwegian Medical Association*, later translated into English and published as a book (13). His study sparked a series of others and stimulated the interest for the important soft sides of epidemiology.

However, because of the increased interest in social hygiene by the health authorities in the 1930s and 1940s, prospects for teaching of public health seemed favourable. And Axel Strøm (1901-1985), who succeeded Schiøtz in 1940, followed suit. His textbook in hygiene (1948) was a revised version of the book by Schiøtz (14).

At the University of Oslo, descriptive epidemiology also was taught in another setting: The son of Axel Holst, Peter Midelfart Holst (1892-1961) was professor of infectious diseases at what now is called Ullevål University Hospital in Oslo. His lectures on ravaging epidemics of the past were legendary, and the topics were also found in his textbook of epidemic diseases (1954) (15).

## OVERVIEW AS A FADING HALLMARK

After the Second World War the University of Oslo expanded. Disciplines proliferated as a reflection of increased demand, but also because of specialization and increased scientific depth. Besides that, reductionism was a trend of the time. From 1952 onwards the old *hygiene* had split off *social medicine*, under leadership of the former professor of hygiene Axel Strøm, concentrating on population and social issues, while the seasoned hygienist Haakon Natvig (1905-2003) was appointed new professor of hygiene and led the Institute for Hygiene further on, and highlighting technical and microbiological topics in his teaching. However, his textbook of hygiene (first edition 1958) (16), followed in the footsteps of Schiøtz and Strøm, with a comprehensive view on *health in context* as the leading star.

In the 1950s onwards, the teachers in social medicine were responsible for conveying knowledge about descriptive epidemiology and social impact on health. For some years a special series of lectures was devoted to this topic. This was also reflected in the textbook by Axel Strøm *Lærebok i sosialmedisin* (first edition 1956) (17).

At the same time social security issues became a more and more important part of a physicians' work. Handling of social laws, bylaws and social insurance problems had now become everyday medical work. The teaching in social medicine had to emphasize this to reflect the realm of the students in their future vocational life. The University institute for social medicine was linked to the Department for social medicine at the National Hospital. Over the years, this fact probably was one of the reasons that also the scientific profile shifted towards the health problems of underprivileged groups in the society, with a special weight on psychiatric issues.

Looking back on what happened, it seems clear that through the subdivision and specialization which medicine shared with most other academic fields, one lost the understanding that the *scientifically qualified overview* had *main virtues by itself*, and that this was a most important tool for the old context-dependent discipline of hygiene.

The transformation process went on. The rearranged institute of hygiene outsourced over the years more and more of its special fields to others, and also to external institutions outside medicine and independent of the University. Therefore some traditional topics also got less attention in the students' curriculum, e.g. air pollution and nutritional hygiene. In the name of the institute the term "hygiene" was replaced by the narrower "preventive medicine". New and shortened editions of the textbook followed suit and were more and more concerned with issues on the individual level.

When the new professor of hygiene, Tor Bjerkedal (1926-2015) took on leadership after Natvig in 1975, *epidemiology* was his direction of choice in research. His vast experiences in the field secured quality and

scientific progress in this discipline. But still the *overview* was at stake. Concentration on epidemiology as a tool in research, for the evaluation of scientific literature, and analytic methods for use in own scientific work, met an increasing need by the students. But was then something important left out? Transformation of the broad *state medicine* through *hygiene* and *preventive medicine* to *epidemiology* could be seen as a progressive narrowing of the scope, in spite of its benefits for the scientific activity.

When time was due to publish a revised textbook again, different internal opinions in the institute as to the overruling objectives in teaching of public health came to surface. Therefore, two different textbooks appeared in 1992, one by Bjerkedal and colleagues concentrating on preventive medicine (18), the other by a wider group of authors from the universities and the health services who aimed at reopening the broader landscape of public health. Three subsequently revised editions (19-21) have carried further on the Grotjahn legacy and the Schiøtz, Strøm, and Natvig line in textbook writing.

Also for the further development of relevant medical knowledge and for defining the borders of medical work, the weight laid on *overview* in social hygiene is felt as a necessity (22,23).

## PROTESTS AND PARADOXES

A historical phenomenon which has not been sufficiently studied, is what happened to medical teaching in the turbulent 1960s and 1970s (1). Society as such was shaken up by student protests and political radicalism. But at the same time as ideas of collectiveness and responsibility for the society were propagated also by medical students and doctors, medicine turned towards the individual patients. In the new and emerging discipline of those years named *social sciences in medicine* (medisinsk atferdsvitenskap), the *patient encounter* became a prime issue. In fact the medical community of those days even stigmatized colleagues who had *society* as their main concern and entered barricades against environmental health hazards and socially unjust living conditions.

But still the Sanitation Law of 1860 was in charge, leaving at least the respected district physicians with responsibility and obligations for the society they were serving. They required knowledge and skills not only in medicine, but also about the society in time and space.

First line medicine, i.e. *general practice*, was for a series of reasons in crisis in the 1960s. A group of dedicated doctors, sponsored by The Norwegian Medical Association, succeeded in converting general practice into an academic discipline of its own, crowned in 1968 with the opening of a separate Institute of general practice at the University of Oslo. At the onset, the

public health aspect and the social responsibility were prominent traits of the teaching in general practice, and presented as important elements in the ideology and self-image of the redefined sub-profession of general practitioners. However, gradually this aspect faded out. The serving of individual patients and their complaints dominated the discipline. To learn general practice became more and more to learn how to run a general practice.

The great paradox lies in the fact that while the influence on health exerted by the environment became increasingly obvious for the outside society, medical teaching gradually pulled out and changed the role and image of the physician even more in a biomedical and individualistic direction.

## A PLEA FOR PERSPECTIVE

The “bottom line” for all discussions about medical teaching is what is taken into the curriculum and finally what appears in the examinations. At the University of Oslo, recently several revisions of the study setup have been undertaken. The most thorough ones were launched in 1996 and 2014 (1). Even if proposed changes in the curriculum always had been preceded by vivid theory vs. practice discussions, also now strong voices from students and younger clinicians arguing for more practice-oriented and hands-on teaching were heard. The *problem-based* approach came to the forefront, giving the study of medicine a profile of abilities to solve a consecutive series of medical problems. In order to prepare the students for a future life as doctors in the health services, this might be a good entry. However, a discussion of the *overruling aims of the teaching* offered by the faculty never took off. Should the profile be an academic approach to general principles, or a vocational training for everyday work? For the teachers giving lectures and supervising group work this choice of style by far decided what topics should be served as the main dish, and what should be the garniture on the plate.

For the subjects discussed here, a common denominator in the curriculum revisions in Oslo seems to have been a cut-down in conveying knowledge from descriptive epidemiology, sociology, geography, and history, even if such insights are felt to be of instrumental value both in the work with patients and to secure medical insights also outside the clinically oriented health services. For a health worker with eyes open, the encounter with a patient in the consultation room, in the home of the patient, or in a hospital bed, also is an encounter with epidemiology, sociology, geography, and history.

Strengthening of *descriptive epidemiology, history, and topics from social sciences* in medical teaching is part of what is felt necessary for giving new doctors a sense of time and space.



## REFERENCES

1. Larsen Ø. Doktorskole og medisinstudium. Det medisinske fakultet ved Universitetet i Oslo gjennom 200 år. *Michael* 2014; **11**: Supplement 15.
2. Imhof AE, Larsen Ø. *Sozialgeschichte und Medizin. Probleme der quantifizierenden Quellenbearbeitung in der Sozial- und Medizingeschichte*. Oslo: Universitetsforlaget, Stuttgart: Gustav Fischer Verlag, 1975.
3. Frank JP. *System einer vollständigen medicinischen Polizey*. I: Mannheim: Schwan, 1779, II: Mannheim: Schwan, 1780, III: Mannheim: Schwan, 1783, IV: Mannheim: Schwan, 1788, V: Tübingen: Cotta, 1813, VI: 1-2 Wien: Schaumburg, 1817, 3 Wien: Schaumburg, 1819, Suppl. Bd. 1: Tübingen: Cotta, 1812, Suppl. Bd. 2: (Voigt GCG (ed.)) Leipzig: Kühn, 1825, Suppl. Bd. 3 (Voigt GCG (ed.)): Leipzig: Kühn, 1827.
4. Frankenau R. *Det offentlige Sundhedspolitie under en oplyst Regiering, især med Hensyn paa de danske Stater og deres Hovedstad. En Haandbog for Øvrigheder og Borgere*. København: S. Poulsen, 1801.
5. Skjelderup M. *Forelæsninger over den legale Medicin*. Christiania: Johan Dahl, 1838.
6. Lie E, Roll-Hansen H. *Faktisk talt. Statistikkens historie i Norge*. Oslo: Universitetsforlaget, 2001.
7. Hirsch A. *Handbuch der historisch-geographischen Pathologie*. 1-2. Erlangen: Enke, 1860-1864.
8. Hirsch A. *Handbuch der historisch-geographischen Pathologie*. 2. vollständig neue Bearbeitung. I-III. Stuttgart: Ferdinand Enke, 1881-1886.
9. Virchow R. *Die Cellularpathologie in ihrer Begründung auf physiologische und pathologische Gewebelehre*. Berlin: Hirschwald, 1859.
10. Holst A. *Oversikt over Bakteriologien for Læger og Studerende*. Kristiania: Aschehoug, 1890.
11. Holst A. *Hygiene*. Oslo: Aschehoug, 1928.
12. Schiøtz C. *Lærebok i hygiene*. Annen reviderte utgave. Oslo: Fabritius, 1938.
13. Bentsen BG. *Illness and general practice – a survey of medical care in an innland population in South-East Norway*. Oslo: Universitetsforlaget, 1970.
14. Strøm A (ed.). Schiøtz C. *Lærebok i hygiene*. Tredje omarbeidede utgave. Oslo: Fabritius, 1948.
15. Holst PM. *Våre akute folkesykdommers epidemiologi og klinikk*. Ny utgave. Oslo: Aschehoug, 1954.
16. Natvig H. *Lærebok i hygiene*. Oslo: Liv og Helses forlag, 1958.
17. Strøm A. *Lærebok i sosialmedisin*. Oslo: Liv og Helses forlag, 1956.
18. Bjerkedal T. *Forebyggende medisin*. Oslo: Ad Notam Gyldendal, 1992.
19. Larsen Ø, Brekke D, Hagestad K, Høstmark A, Vellar OD (eds.). *Samfunnsmedisin i Norge – teori og anvendelse*. Oslo: Universitetsforlaget, 1992.
20. Larsen Ø, Alvik A, Hagestad K, Nylenna M (eds.). *Helse for de mange – samfunnsmedisin i Norge*. Oslo: Gyldendal Akademisk, 2003.
21. Larsen Ø, Alvik A, Hagestad K, Nylenna M. *Samfunnsmedisin*. Oslo: Gyldendal Akademisk, 2008.
22. Larsen Ø, Fretheim A, Larsen IF, Westin S (eds.). *Medisinsk kunnskap. Hvor kommer den fra og hva brukes den til?* Oslo: Gyldendal Akademisk, 2012.
23. Larsen Ø, Nylenna M (eds.). Medisinens randsoner. *Michael* 2009; **6**: 366-542.