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The Museum of the Department of Public Health and Infectious Diseases, Sapienza University of Rome

G.M. Fara[1], R. Del Vecchio[1], R. Montacutelli[1]

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Abstract

This paper illustrates in detail the birth of the Museum of Public Health of the Sapienza University of Rome, which has been one of the most successful achievements of Prof Carmine Melino in the last few years of his academic career. Backed by a very thin group of enthousiastic coworkers and colleagues, he recuperated all the instruments which had been used by the research groups active since 1880 at the former Institute of Hygiene, to which he added samples of the different pieces of laboratory furniture, ancient reagents, etc. The goal was not to simply collect, restore and maintain the documents of the Institute's past, but to rebuild a vintage laboratory, as it was inhabited by the hygienists of the past and to describe the kinds of research being performed during a period more than a century long.
Beginning from the days when Hygiene became a scientific discipline, he tried to demonstrate that only the transformation of Hygiene into an experimental discipline made it possible the numberless achievements, including the improvements of the environmental conditions, the reduction of infectious diseases and the successful fight against the chronic, degenerative diseases of the present times.

Introduction

In order to remind everybody of the bright person of Prof Carmine Melino, who left us forever four years ago, we wish to highlight one of his most appreciated achievements, the **Museum of Hygiene**, opened in 1996 in a dedicated space of the Institute bearing the same name at the Sapienza University of Rome, now renamed **Museum of Public Health "Carmine Melino"**.

To better explain the potential and the significance of this achievement, let us expose some brief remarks on the history of Hygiene and of Public Health, in particular at the Sapienza University of Rome.

The evolution of Hygiene – The Experimental Hygiene

When a typhoid epidemic ravaged the Upper Slesia, Virchow (1) stated: "Advancements of medicine could eventually increase the length of human life, but improvements of social and economic conditions could reach the same goal even better and faster", and this conviction is a proof of his top quality as a pathologist and, at the end, as a hygienist, who paid attention not only to the disease, but also to its environmental and socio-economic determinants and to the need of their prevention. Undoubtedly, the rapid evolution

[1] *Department of Public Health and Infectious Diseases, Sapienza University of Rome, Italy*

of microbiology and the recognition of the role of all aspects of the environment as determinant or co-determinant of diseases helped the development of the science of Hygiene.

Research and *Experiment*, the ultimate and the most important aspects of pathological physiology according to Virchow, are stressed also by Claude Bernard in his introduction to the study of experimental aspects as a standpoint in the pathological evolution of Medicine. There he states in detail: "… to my opinion, while the *hospital* is the seat of scientific medicine and the first observatory for the physician, the *laboratory* is the true sanctuary of medical science where, through the experimental analysis, the physician attempts to explain the life both when healthy and when diseased. The physician who wants to be truly such, as soon as he leaves the hospital building, must step into the laboratory to test on animals the hypotheses about the mechanism of disease born from his observations on patients…." (2).

We must remember, about this matter, the suggestions left us by Angelo Celli, a very popular hygienist of his times, that a network of scientific laboratories was to be added to the "Technical Office for Health", being at that time created in every italian city according to the national law (the so called "Crispi-Pagliani" law) of 1888; he meant, by this proposal, that not only the problems of clinical medicine, but even those of the nascent public health, could not be truly resolved without the help of experimental reserch (3).

Leaders of the new discipline were names of such a weight as Pasteur, Pettenkhofer, Koch and, in Italy, Tommasi Crudeli and Celli. Celli stated: "Before, we only studied the effects of disease, now the disease is studied thoroughly, from its determinants to its consequences". The outcome of such a way of dealing with disease was the birth, in the population, of a new attention to a kind of primitive "health education" and "hygienic behaviour" (4).

The field of hygiene moved from a inner knowledge of the microbes to the understanding of their environment, their mechanisms of diffusion, their immunology, and also the role of foods, of water, of sewage, of air, of housing etc as determinants or at least co-determinants of disease.

A century later, experimental research is still one of the foundations of *modern Public Health*, now further supported by the parallel advancements of *Epidemiology*.

The Institute of Experimental Hygiene at the Sapienza University and its relations with the Public Health Authorities in the XIX and XX century

Prof Corrado Tommasi Crudeli, while teaching Hygiene at the Sapienza University, opened in 1883 the "Institute of Experimental Hygiene"– the first of its kind in Italy - in the spaces of the late Saint Paul Monastery overlooking Viminale Square; his pupil Angelo Celli, in 1888, left his position at the University of Palermo and returned to Rome, where he developed and enlarged the Institute, which remained in same location until 1934, when it moved as "Institute of Hygiene" to the present Sanarelli Building at the entrance to the new University Campus in the Rome District ("Riòne", in Italian) called San Lorenzo, built to a design by Architect Marcello Piacentini and his Associates (5) .

The Institute was devoted to teaching and research of a discipline "which was to become a universal science which gives its imprinting to all modern medicine" (6). And the teaching courses were intended not only for undergraduate medical students but also for graduated Medical Doctors, Engineers, Veterinarians and Pharmacists, with the

aim to enable them to apply the hygienic principles to their own fields.

In Rome, the laboratories for hygienic research and sanitary inspection, established within the Institute of Experimental Hygiene, were made available for investigations specifically requested by the Public Health Authorities through an agreement between Prof Tommasi Crudeli and Senator Prof Luigi Pagliani - a piedmontese Professor of Hygiene at the University of Turin, who at that time had become Head of the Directorate of Public Health at the Ministry of the Interior; and that agreement was made official by the Royal Decree 27.11.1887 n 5103.

Therefore, at the moment of enforcement of the law Crispi-Pagliani of 1888, the "Central Directorate of Health" within the Ministry of the Interior could rely on a series of public health laboratories, among the best in Europe at that time, scientifically backed by the Institute of Experimental Hygiene of the University of Rome.

Simultaneously, an Institute for production of vaccines was created under the supervision of a Committee manned by the Central Director of Public Health, the Dean of the Medical School of Rome and a Major General of the Army.

Unfortunately, after the Adwa defeat of the Italian Army in Africa (March 1st 1896), the Crispi Governement fell and Senator Pagliani left the Direction of Public Health, which was relegated to a simple Division of the Ministry of the Interior, and such remained for fifty years, until 1947, when it was transformed firstly into the Office of the High Commissioner of Health and, later in 1958, into the Ministry of Health.

The public laboratories mentioned above were born with facilities in micrography, bacteriology, chemistry; they were completed in 1905 with a further section for the control of vaccines and sera and only in 1923 with a section of physics. Particularly the section of chemistry and the one on vaccines and sera worked in the capacity of laboratory of the Division of Health of the Ministry of the Interiors. In particular, the laboratory of chemistry took under control foods, water, soil, air, clothes, buildings, factories; the laboratory of physics was involved in detection and study of radioactive substances when their control switched from the responsibility of Mining and Coal Inspectorate at the Ministry of Economics to the Division of Public Health at the Ministry of the Interior.

In 1934 an independent Institute of Public Health (later denominated Istituto Superiore di Sanità - ISS) was founded, with the help of the Rockefeller Foundation. It absorbed the sections previously hosted by the Institute of Hygiene of the University, with the addition of other new sections of biology, sanitary engineering, food and nutrition, epidemiology, a library and a museum, under the leadership of the Direction of Public Health. In 1934 it was headed by Dante De Blasi, former Director of the Institute of Hygiene at the University of Rome and an Academic of Italy; De Blasi was followed by Domenico Marotta, who helped a further enlargement of the Institute which, at some of its top moments, included a few Nobel Prizes in its staff (7).

After the separation of the aforementioned laboratories from its affiliation, the University of Rome maintained the basic research in Public Health and the teaching activity both for undergraduate medical students and graduate students (the Specialty School of Hygiene, Preventive Medicine and Public Health). The same was true for all the Universities around the Country.

Even after they were separated from the university and made autonomous, the laboratories of the Istituto Superiore di Sanità went on cooperating with the university, all the Italian Universities, and the result was a community of top level scientists working on both sides at a level of capacity comparable to that of other,

more important countries in Europe (8). The quality of the cooperation was evident when the Country had to face dramatic events such as the Seveso (9, 10) and the Chernobyl (11) accidents, the cholera epidemic in 1973 (12) but also it resulted very useful for the surveillance of influenza all the year round and nationwide (13).

The Museum – The Vintage Laboratory

Beginning 1996, Prof Carmine Melino, together with the three Authors of the present paper, proposed that all the ancient scientific apparatuses of the former Institute of Experimental Hygiene, after adequate restoration, be collected in a Museum of Hygiene (14), for which a space was granted. Unfortunately, part of such materials had been lost forever during the move from the original to the new Campus in the years 1932-34, and an additional part also under the bombs of July 1943, during the Second World War. To the surviving objects, more modern but already obsolete instruments were added, and also pieces of the original furniture of the more modern Institute opened in 1934, which were designed by Architect Piacentini and Associates, especially for the new Sapienza University (5).

When in 2002 the Institutes of Hygiene, Microbiology and Parasitology, all housed in the building dedicated to the late Hygienist Giuseppe Sanarelli, merged to form the new "Department of Public Health Sciences" and later the "Department of Public Health and Infectious Diseases", additional materials were added to the Museum, which was renamed Museum of Public Health.

The intention was not to simply save, restore, classify and exhibit the objects belonging to an era when Public Health was beginning to be considered a scientific discipline to be taught in the university in order to be practiced, by the civil organization of the state, to preserve and improve the population health; but also to transmit all the historical heritage, explaining the difficult path of research and experimentation in this field, as practiced by the different scientists who contributed to create the discipline. All that knowledge and experiences were employed during the last one hundred and thirty years by the scientists who worked in the Institute of Hygiene and contributed to develop the discipline, to teach the basis of Hygiene to generations of medical students, to practice new methods of epidemiological investigation, to control and prevent both infectious and non-infectious diseases, and to educate the population toward the promotion of their health. Therefore, in the spirit of the modern museal science, this museum was not intended to be a statical exhibit, but a living instrument to help people to understand, under philological bases, which had been the history of human thought devoted to the prevention of diseases, the improvement of human health and the growth of population's knowledge, attitudes and behaviour to promote own's health.

Conclusions

Hygiene, as a general concept, goes back to the times of Hyppocrates who, in his books "Waters, air and places" (15) and "About epidemics"(16), illustrated the first body of rules for a healthy life; but only a little more than a century ago Hygiene became a modern social and humanitarian discipline, which promotes health and welfare for all. According to what Hueppe (17) wrote a century ago, "Hygiene is a social art risen from social necessities", and has progressively become – as a roman leading hygienist (18) stated – "the basis of the legislative action and the instrument to organize social forces, of fight and defense, intervening with its tutelage on every form of human life and activity: Hygiene is a product

of modern civilization thanks to its scientific contents and its practical action".

We, hygienists of today, should carefully remember the different phases of growth of our discipline and preserve their memory, as a precious legacy, for the hygienists of tomorrow. In short, this is the reason why Prof Carmine Melino, with our help, decided to link his name to the creation of the "Museum of Public Health – Vintage Laboratory". He was impressed when one of us reminded the aphorism of a well known hispanic-american philosopher and poet, who spent the last years of his life in Rome, where he died in 1952 and is buried in the spanish sector of the Verano Cemetery, George Santayana:

"Remember the past to understand the present and to plan the future.

Those who do not remember the past are condemned to repeat it"

And he wanted this sentence be written on a plaque at the entrance of the Museum.

Riassunto

Il Museo del Dipartimento di Sanità Pubblica e Malattie Infettive di Sapienza Università di Roma

Questa Nota illustra in dettaglio la nascita del Museo di Sanità Pubblica della Sapienza Università di Roma, così come l'ha realizzata il Prof Carmine Melino negli ultimi anni della sua carriera, con l'aiuto di pochi entusiasti colleghi e collaboratori. Egli ha potuto recuperare almeno una parte degli strumenti ormai obsoleti ma intensamente utilizzati nell'Istituto di Igiene di Roma nella sua vita ultracentenaria, cui ha unito esemplari degli arredi di laboratorio e campioni di vecchi reagenti chimici e microbiologici. Lo scopo non era solo quello di salvare e conservare oggetti come freddi documenti della vita dell'Istituto, bensì di ricostruire un museo-laboratorio d'epoca che documentasse le ricerche sperimentali che vi erano state effettuate. Iniziando dagli anni della fondazione nel 1880, quando l'Igiene si andò trasformando in una disciplina scientifica in quanto sperimentale, questo museo cerca di dimostrare che solo l'aderenza ai principi della sperimentazione scientifica ha permesso all'Igiene di raggiungere successi insperati nel miglioramento ambientale, nella riduzione del peso delle malattie infettive e nel controllo delle patologie cronico degenerative, così da rendere la vita delle comunità umane più lunga, più sana e più degna.

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