

Pioneers of Medicine

Pierre-Paul-Emile ROUX
(1853-1933)

Haunting the precincts of the Pasteur Institute in Paris was an emaciated, ascetic shadow of a man with a woollen scarf round his neck, frail, stooping and bearded. Not a figure at which the average passer-by would glance more than once. Nor did he make any obvious claim to the notice of his fellow-beings; out of doors, Roux used to go his way, deep in thought, a creature detached from the trivialities of the busy life around him. Behind this self-effacing and sombre exterior was a remarkable personality and an outstanding intellect.

Roux's father was a headmaster in a provincial town in France. Dying early the father left a family of nine children, many of them still young. In spite of straitened circumstances, young Roux received a sound education and, in 1872, he was admitted to a provincial school of medicine. In the neighbouring Faculty of Sciences was a teacher, Emile Duclaux, a chemist, whose hold on his listeners was such that not only students in chemistry but also students in medicine flocked to hear him. Among them was Roux. Being asked one day to analyse a salt, Roux told his teacher that he thought it was sulphate of copper. To which Duclaux replied: "Ah, you think so, do you? Well you must begin all over again." A few hours later, the pupil returned with the remark: "I believe that it is sulphate of copper." Whereupon Duclaux replied: "Begin again my friend." When Roux returned for the third time he was annoyed and it was with a shaking voice that he asserted: "Sir, it is sulphate of copper." "Just so, my friend," Duclaux replied "but, you see, in chemistry one must neither think nor believe, one must know."

This lesson was taken to heart, and one of the chief features of Roux's scientific work throughout his long life was its accuracy and precision. In 1874 he came to Paris and for four years was clinical assistant to Professor Behier. Duclaux having also come to Paris and being a teacher of meteorology at the

Institut Agronomique, Roux joined him there and carried out certain studies of germs. A little later he came into the orbit of Pasteur and for the rest of his life he was Pasteur's passionately devoted follower.

Many pages would be necessary for an even approximately adequate account of Roux's contributions to bacteriology between 1878 and 1933. Some of his research was conducted as team work with others, some was carried out separately. His work on diphtheria was begun at a time when comparatively little was known of the behaviour of the diphtheria bacillus. Roux was able to show that some of the most alarming manifestations of this disease were due to the poison produced by the bacillus, and he showed that this poison alone, without the bacillus which had generated it, could be rapidly fatal to laboratory animals. He was also a pioneer in the teaching that apparently quite healthy people may be the carriers of germs of disease.

September 1894 is a memorable date, not only in Roux's personal history, but also in the history of medicine. It was at the Congress of Hygiene in Budapest in the autumn of that year that Roux announced the results he had obtained, in co-operation with Louis Martin, in immunising by serum or antitoxin laboratory animals which, without this treatment, would have succumbed to diphtheria. Earlier in the same year, Roux had given his serum to 300 patients suffering from diphtheria in a hospital in Paris. Patients in another Parisian hospital were not thus treated and could therefore serve as control. The death-rate among them was 60%, whereas it was only 24% among the patients given diphtheria antitoxin.

It has been truly said of this Budapest meeting that it divided the history of diphtheria into two periods—that before and that after the introduction of serotherapy. The enthusiasm in France was so great that, with the aid of the newspaper "Figaro", a million francs were

subscribed by the public to enable the Pasteur Institute to develop its activities in this field.

Roux also undertook extensive studies of tetanus or lock-jaw in the hope that it also would prove amenable to sero-therapy. It soon transpired however that serum was practically useless when given after signs of tetanus had appeared. On the other hand, a preventive injection of tetanus serum given as soon as a severe wound has been inflicted has proved remarkably effective in preventing the development of tetanus. Roux also contributed valuable observations on cholera and experimental syphilis.

His clarity of thought and speech made Roux a wonderful teacher, and his classes were always followed with rapt attention by his many pupils. He was also a great organiser, and from 1904 till his death he not only directed the work of the Pasteur Institute in Paris, but was also responsible for the working of the daughter Pasteur Institute in the Colonies. Very reserved, he lacked the qualities of the hail-fellow-well

met type. He was masterful but at the same time sympathetic; and praise from him was praise indeed. He worked himself to death during his latter years and he took no holiday after the Great War, so engrossed was he in his countless duties. The chronic pulmonary tuberculosis from which he had suffered most of his life was the cause of haemorrhages from time to time, confining him to bed for a few days.

Roux's modesty was such that though he was awarded the ribbon of the Legion of Honour in 1881, the rosette in 1894, and the Grand Cross directly after the War, he wore no visible sign of any of these distinctions during the last 36 years of his life.

Professor Roux always showed a lively interest in the Red Cross and he was chairman of the medical conference at Cannes, which resulted in the creation, in 1914, of the League of Red Cross Societies. For two years he was a member of the Medical Board of this organization.

The Lettuce

Some of its Real and Legendary Properties

The Lettuce (*lactuca sativa*, *lactuca virosa*) which, as legend has it, once formed the shroud of the beautiful Adonis, enjoyed a great reputation in antiquity. Galien called it the herb of the sage and philosopher and frequently used it for its soothing virtues. Pliny recounted that it was "the herb of the dead", and that it was served at the funeral feast.

Antony Musa, physician to the Emperor Augustus, introduced the lettuce to the Romans. Musa cured his imperial patient of a persistent melancholia by means of the lettuce and the Emperor thereupon caused a statue to be erected in his honour near the temple of Aesculapius.

In ancient Rome lettuces were served at the end of the repast since their freshness dissipated the fumes of the wines and warded off headache. Certain families which distinguished themselves in the art of growing lettuces were given the name of "Lactucinii".

Pliny said that if a lettuce was

thrown into the sea it quickly killed all the fish in the vicinity. Moreover the lettuce, he said, is agreeable in summer, and an antidote to boredom; it stimulates the appetite. Gratevas recommends that dropsical patients should take a lettuce with a little vinegar and a glass of water. Praxagoras prescribed it for persons suffering from dysentery.

Pliny recommended that the sap of the lettuce should be pressed, mixed with vinegar and water and given to the dropsical. Lettuce chopped in vinegar and eaten dry in the morning twice a month is a remedy against toothache. Lettuce leaves, chopped and crushed, when applied to a sore are a sovereign cure. Lettuces are a styptic, cure sores of every kind and even tumours before the pus exudes. The root and leaves can be used in cases of erysipelas and diseases of the pancreas.

Galien in his old age conquered insomnia by eating lettuces. Columes recommends lettuces as a hypnotic agent for persons recovering from a