HEROES MARTYRS AND VICTIMS

A Translation by J. H. Vincenti
Student in the Final Course of Medicine and Surgery.

In introducing this article, I feel that I must necessarily pose as an apologist, considering the nature of the subject which I propose to bring to the critical eye of "The Chest-Piece" reader. There is nothing original here, for I have merely undertaken the task of producing a translation from an article in the "Gazzetta Sanitaria" originally contributed by G. Bruno, Director of the Institute of Anatomy of the University of Messina. Two motives have induced me to contribute this translation — the fact that this journal of ours should be supported by more student contributors, and the subject matter which is bound to be of interest to my colleagues.

The diseases, epidemic and endemic, which have so relentlessly distressed humanity throughout these last centuries have given rise, together with wars, to an opportunity for the appearance and discovery of men gifted with exceptional qualities. These exceptional individuals, scientifically and knowingly or otherwise, have frequently volunteered to sacrifice their life for the common good; they have staked their selfishness for the sake of humanity.

It was once stated that Dr. Thomas Willis, the eminent English anatomist who discovered the arterial polygon at the base of the brain, had inoculated himself in 1665 with pus from a lesion of a case of bubonic plague and that the result was his death. This narrative, although accepted by several writers, does not appear to be very correct, because Dr. Willis died a natural death ten years after the experiment. On the other hand there is documentary evidence about a certain Dr. White of the British Army in Egypt. On 2nd January 1812, Dr. White inoculated himself with pus from a plague pustule. Signor G. Carbonaro (1847), relates how Dr. White entered El-Hamed Hospital and readily rubbed the medial aspect of his thigh with the exudate taken from a bubo of a woman patient.

At his own request, the moribund doctor was carried out of the hospital on the morning of the seventh day after the experiment and died at noon of the same day at Rosetta Plague-house where he was taken and left in the hands of Arab physicians.

The effectiveness of vaccination against small-pox, invented by Edward Jenner in 1796, was accidentally proved by James Phipps, a boy of eight years, several years before Jenner had given it a trial on any human being. Renato Nicola Desgenettes, a French physician and writer from Alençon, holding a high rank in the French Army of Egypt, during the campaign of the Pyramids inoculated bubonic pus into his inguinal and axillary regions to strengthen the morale of his troops who were panic-striken by the prevalence of the plague which was raging in Egypt at that time. Desgenettes was lucky enough because infection did not develop. This dramatic exhibition apart from its value in terms of military strategy, did not save anyone; it did not throw any light on the mode of transmission of the disease or reveal the mere possibility of acquiring some immunity.

In 1810 Dussap, an Egyptian doctor, according to M. Bousquet and M. Pariset, inoculated 14 individuals with bubonic pus to sound the effectiveness of vaccination. These unfortunate volunteers, whose names have been lost to posterity, perished like the two hundred Russian soldiers who, while prisoners of the Turks, consented to be submitted to a similar trial. Another victim of the vaccination craze, this time against yellow fever, was Eurebio Valli in Havana in 1816. In Tangier,

1818, according to the records of Grabe de Homro who was an eye-witness, when there was prevalent a notion that olive oil cured and moreover immunised against plague, fourteen Spanish deserters volunteered to be inoculated with a solution of bubonic pus in olive oil. The experiment was performed by Dr. Sola — the patients suffered no ill effects.

The medical commission of the Supreme Magistracy of Health of Naples, reported in 1845 an experiment conducted by Signor Ceruti, chief pharmacist of Ciro. Ceruti on 16th April 1824 inoculated seven individuals with plague exudate. Amongst these individuals was Signor Montebello, an employee at Ceruti's pharmacy. Five of the seven volunteers succumbed to the experiment. The French Plague Commission led by Pariset reported that in 1835 in Esbekic Hospital in Cairo, bubonic exudate was scratched over the skin of four persons to determine the infectivity. One of the patients died. This incident has been testified by Lacheze. More interesting and perhaps herocial is the case of Dr. Ciot-bey, who experimented upon himself and survived. Lucky too was that unknown volunteer who persuaded Rossi in 1841 to contaminate his open wound. Pruner-bey too in Egypt underwent self-inoculation with blood and pus. It is to be noted that all of these heroical deeds did not advance one step the contemporary notion on the aetiology and mode of transmission of plague.

Gosse wrote that on 3rd October 1842, Dr. Calosi, director of public vaccination of Florence, suspecting that the virus of vaccinia lost its power of reproduction if subjected to very high pressure, persuaded a chemist, Gaetano Cioni, to treat an exudate from a pustule of Signor Raffaele Vichi. Calosi injected the finished product into the right arm of Marziale, an illegitimate boy of eleven years. A "regular pustule" developed immediately, but what befell subsequently to poor Marziale has not been recorded. This experiment like all the others, did not clear up the biological significance of vaccinia pus and the aetiology of infectious diseases which struck in epidemic form and periodically decimated whole populations. The learned continued to discuss infection, contagium, constitution and epidemic tendencies; Hippocrates, Galen, Dimoerbroek, Boerhave and Samoilovitz were invariably invoked to defend or refute the contagion of air and winds, the patient and the pus, apparel and food. Discussions were lengthy, fiery and not lacking in the documentation of proofs and controls. Happily they did not last long, for, with the high power immersion microscope, man was favoured with a peep at the world of microrganisms, the stealthy beings which ensnare the living cells of man, beast and plant.

Despite this momentous invention, the aetiology of many diseases remained unaccounted for. Victims continued to be claimed in their daily thousands. However, such giants as Pasteur, Koch, Roux, Behring, Smith, Bruce, Roso, Grassi, Castellani, Reed and many others did not fail to enter their talent in the lists against the unknown. On 6th June 1885, a rabid dog bit Joseph Meister, a farmer. Meister was given the first treatment against rabies and was cured — Pasteur proved that rabies was curable. Meanwhile the taciturn Koch faced Cholera in Egypt after an encounter in Alexandria. Robert Koch discovered the vibrio after that illustrious chemist and hygienist, Maximillian Pettenkofer, swallowed an enormous quantity of living cultured microrganisms to prove that bacteria are not the sole cause of disease. The heroic experiment proved the existence of a defence mechanism.

At that time four individuals who were victims of cancer, voluntarily underwent a subcutaneous injection of streptococcus by Fehleinsen: a generalised erysipelas developed and shortened their mournful spell of life. Dr. Gassè of Basilea, a student of Koch, rubbed a suspension of

staphylococci into his skin to prove that they were the cause of furuncles and carbuncles. Hussein Khan, in 1807, consented to act as subject of an experiment by Dr. Walter Reed in his research work on the causative agent of yellow fever. Khan's example was followed by many others unknown by name. Similar is the feat of Jesse Lazear, an assistant sanitarian attached to the American forces, and James Carrol, assistant surgeon, as well as Aristide Agramonte, and the three soldiers William Dean, Kissinger of Ohio, and John J. Moran, all of whom exposed their bodies to the stings of mosquitoes. Three other American soldiers Cooke, L.E. Folk, and W.G. Jermegan followed suit. Of these, Jesse Lazear along with Walter Reed, the conqueror of yellow fever and James Carrol, the real hero of the drama, were not spared.

During our own epoch, G.B. Grassi, the Italian scientist, discoverer of the malaria vector, studied upon himself the effect upon the human organism of the plasmodium. Several of his collaborators repeated this feat. Signor Sola, in 1898, exposed himself to insect bites under the supervision of Grassi. David Bruce, discoverer of the causative agent of undulant fever, with his wife and like Aldo Castellani, defied the tropics and suffered the hardships of privation to carry on his research on sleeping sickness which was striking down the negroes in their thousands.

The list of these heroes, men of extraordinary fibre, would be endless if only their modesty had not deprived us of their identity. To those that are unknown to us and to those whom we have mentioned above we do not hesitate to pay due homage, tender our respectful admiration and bow our head with reverence and gratitude. We pass on the record of their deeds to subsequent generations amongst whom goodness will prevail and love be the bond uniting all manual and mental workers from every quarter of the earth.