

he directed special attention to the question of the occurrence of clots in the vessels of the lungs; in studying these, in order to determine whether they had arisen primarily in that situation, he was struck by the fact that when found in the lung there was almost always to be found a similar condition in some other part of the body; and finally he was able to demonstrate that a plug resting in one of the vessels of a lung fitted exactly on to a thrombus in a systemic vein; and, in fact, that this plug had broken away from the thrombus and had been carried by the blood current through the right chambers of the heart into the pulmonary vessels, passing from the larger to the smaller until ultimately it was stopped by plugging a vessel too small for its further progress. This condition of secondary plugging he called "embolism," and the plug of coagulated blood he called an "embolus," the condition of the lung tissue as the result of this cutting off of the local blood supply by the embolus we call an "infarct," or a condition of "infarction." Now, as this formation of infarcts of the lung had been one of the strong arguments of the believers in the theory of capillary phlebitis, the whole groundwork of a false hypothesis was cut away at one blow. But Virchow was not satisfied with the simple observation of conditions as found at autopsy; he followed the question up by experiment, and by introducing foreign bodies such as rubber into the circulation of dogs so as to produce artificial emboli, he was able to more fully explain the condition and effects of embolism; but especially these experiments entitle him to be considered one of the pioneers of that experimental pathology which was to do so much for the advance of our knowledge. Although much valuable work was done subsequently upon the subject of thrombosis and embolism by other men, and especially by Virchow's most celebrated pupil, Cohnheim, yet it is marvellous how complete was this first demonstration of the facts.

It is said that during the revolutionary year of 1848, when no doubt Virchow's democratic ideas were as well known and as vigorously pushed by him as his notions upon embolism, he was making an autopsy upon a patient of Schonlein's, who was supposed to have died of cerebral hemorrhage; upon opening up the brain he demonstrated to the latter an embolus plugging the middle cerebral artery, Schonlein turned away with the remark, "O! You see barricades everywhere."

But Virchow's study of emboli led him still further. Noting that sometimes the embolus gave rise to a local abscess, and that this depended upon the condition of the clot from which it had originated, he gained an insight into the whole question of metastasis, which became immensely important when he came to study the development of malignant tumors; at the same time he got a conception of the condition called infection which had immediate bearing on the disease pyemia or blood poisoning.