

for claiming an impossible thing as an American swindler, in as high-toned a German magazine as the sixth volume of Virchow's Archiv.

The velocity of nerve irritation was measured by Helmholtz.

J. Walker proved the infectious character of secondary syphilis.

In 1851 Helmholtz invented the ophthalmoscope and studied the duration and course of the induced current.

Virchow discovered the sheath of the cerebral vessels.

Bernard explained the vasomotor function of the sympathetic nerve.

Romberg (1795-1873) published his studies on *Tabes dorsalis*.

All this happened while I was a student.

You recognize in my fragmentary enumeration facts of crucial import.

Very soon after my graduation, in 1851, however, I was no longer in a position to follow the rapid current of events. So when after years I returned to the world I learned that within two years Helmholtz had measured accommodation, Cohn proved the vegetable nature of bacteria, Schroeder demonstrated the bacterial nature of fermentation, Pravaz invented subcutaneous injection, Bernard recognized the liver as the glycogenic organ, Vierordt constructed his sphygmograph, Wagner and Meissner discovered the tactile corpuscles, Küchenmeister the connection of the taenia with the scolex found in pork, Bigelow performed the first resection of the neck of the femur, John Hughes Bennet coined the term leucocythaemia, and Moleschott had written his "Circle of Life" (*Kreislauf des Lebens*), for a long time the bible of Materialists. One of the most important discoveries was that of Funke (1852) and Lehmann (1853) who proved hemoglobin to be a crystallizable unit capable both of binding and of eliminating oxygen.

Thus I found the world was progressing. Medicine had contrived to throw off the fetters of transcendentalism and had embarked irrevocably in its development as a part of biology with only one goal—to seek truth wherever it was, and with one ideal purpose—the benefaction it could bestow on mankind by curing or preventing disease.

There is a trinity of doctrines which have redeemed medicine and made it part of biology; 1st, *Experimental Physiology*. It was founded by the French, mainly Magendie, Flourens, Bernard, Fourget and Paul Broca. England furnished Charles Bell, Marshall Hall, and William Bowman; and Germany, Johannes Müller. 2nd, *Clinical Diagnosis based on Pathological Anatomy*, as developed by the Vienna school. It is represented by Rokitansky and Skoda. 3rd, *Experimental Pathology*, which found its spokesmen in Virchow and Traube, of Berlin. That is why the names of Paris, Vienna, and Berlin are immortal in our science and art. I say, *science and art*. What I want you always to remember