

that the circulation of the blood can be performed according to the laws which govern the flow of water in dead tubes. The artery is dilatable; it contracts with a vital force; and both the dilatability and the contractility of arteries are subject to the influence of the living principle. When, therefore, the artery of a limb is divided into four or five vessels, and these are tortuous, as in the sloths, the result is a greater capacity of dilatation, and a greater power of contraction; and these being vital operations, are subject to be influenced and adjusted according to the necessity for the increase or diminution of the circulation. If such a peculiarity in the form of the vessels in the extremities of these animals, retards the blood, it can only be during repose; for, on excitement, so far from retarding, it must bestow a remarkable power of acceleration. I conclude, therefore, that this variety of distribution in the arteries is a provision for occasional great activity in the muscles of the limb, and for forcing the blood into contact with the fibres, notwithstanding their long continued action and rigidity.

We have seen, in the preceding chapter, that the same organ, which moves at one time as slowly as the hand of a watch, at another acts with extreme rapidity: consequently, we can not admit the inference that the tortuous and subdivided artery is a provision for languid motions.