

rangement which, on the well known principles of hydraulics, must greatly check the velocity of the blood conducted through them. That such is the real purpose of this structure is evident from the branches afterwards uniting into larger trunks when they have entered the brain, through the substance of which they are then distributed exactly as in other animals, where no such previous subdivision takes place.

In the *Bradypus tridactylus*, or great American Sloth, an animal remarkable for the slowness of its movements, a plan somewhat analogous to the former is adopted in the structure of the arteries of the limbs. These arteries, at their entrance into both the upper and lower extremities, suddenly divide into a great number of cylindric vessels of equal size, communicating in various places by collateral branches. These curiously subdivided arteries are exclusively distributed to the muscles of the limbs; for all the other arteries of the body branch off in the usual manner. This structure, which was discovered by Sir A. Carlisle,* is not confined to the Sloth, but is met with in other animals, as the *Lemur tardigradus*, and the *Lemur loris*, which resemble the sloth in the extreme sluggishness of their movements. It is extremely probable, therefore, that this peculiarity in the muscular power results from this remarkable structure in the arteries; or is at least in some way connected with it. In the Lion, and some other beasts of prey, a similar construction is adopted in the arteries of the head, probably with a view to confer a power of more permanent contraction in the muscles of the jaws for holding a strong animal, such as a buffalo, and carrying it to a distance.

That we may form an adequate conception of the immense power of the ventricle, or prime mover in the circulation of the blood, we have but to reflect on the numerous obstacles impeding its passage through the arterial system. There is, first, the natural elasticity of the coats of the ar-

* Phil. Trans. for 1800, p. 98, and for 1804, p. 17.