

B, which immediately recovers its natural diameter; but the engorgement of the vessels C and D preventing the free transmission of the amount of fluid which arrives at the trunk A, an unusual quantity now awaits transmission through the capillary B. This vessel, in consequence, becomes unnaturally distended, having given in its turn admission to red-particles. The presence of these particles in the capillaries is similar to that of extraneous matter; they act on them as a stimulus, and produce a contracted effort on their part to rid themselves of their presence. The nervous system partakes of the local excitement; the transmission of red-blood through parts unused to its presence, brings with it a larger amount of caloric in a given space of time than is habitual to it, and the tituration which its particles undergo in the laboured action of the capillaries combines by rendering it *free*, to make its accumulated presence *sensible* to the nervous system. The undue excitement of this (the nervous) system, produces the sensation of pain; and the engorgement of the capillaries, the swelling attendant on the disease; and the moment these symptoms are altogether present, that moment does the disease exist in its various characteristics, let its extent be greater or less.

To be as concise as possible in the explanation of my ideas concerning the subject under discussion, I have supposed only one trunk and three capillaries to be affected, and the stimulus, or remote cause, to be the slightest possible, but the intelligent reader will easily perceive that the same theory will apply where the primary vessels stimulated are hundreds or thousands, and those primarily preorged ten times the number.

Cold (topically applied) is another cause of Inflammation. Let us consider it under the action of this agent. It might operate in two ways; either producing its effect (*contraction of a part*) by the rapid evolution of caloric, which in its passage acts as a stimulus, in a similar way to the remote cause of action considered in the former paragraph, or its effect might depend on its astringent or contracted powers. Be it which it may, the consequence when applied (say to the capillary B) will be the same as in the former case, contraction—that is, diminution of its calibre. The capillaries C and D will become engorged as before; the *vis-a-tergo* by this means being much increased, will overcome (if not previously effected by the withdrawal of the cause) the contracted state of the capillary A, which in its turn becoming ingorged with red-particles, the whole phenomena of the disease, as in the former case (when a stimulus was applied), will follow.

It will here be seen that I differ to a certain extent from Mr Burns, in the explanation he gives on the operation of cold, as a remote cause of producing Inflammation. He says, "Cold may be applied in such a degree, and for such a length of time, as to destroy the vitality of the part directly, in which case sloughs are found. Secondly, it may be applied in a less degree, or for a shorter time; and afterwards a stimulant, such as heat, may be applied, which will excite Inflammation (and this he has endeavored to explain the rise of, by suggesting cold, as the remote cause), thereby the vitality of the part being diminished, and giving a better chance to the stimulus, heat, to exert its deleterious influence." But this explanation cannot