Omnis Fibra Ex Fibra: Fibre Architectures of Organic Bodies and their Agent Models from Vesal to Bonnet and Diderot

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After Giorgio Baglivi's pathology of fibre types and before Xavier Bichat's catalogue of tissue types, Bonnet's and Diderot's main objective is to explain the operative mode and the development of the entire living body through its fibre architecture. In their anatomical and physiological writings, every organic part is made out of fibres and operates through fibres. These fibres can be hard or soft, straight or bended, isolated or interwoven, and hollow or solid; they form tissues, membranes, organs, vessels, apparati of organs, and entire living beings; and they can move themselves, sense, regulate, regenerate, contract into a germ, dilate into web-like structures, and transport data through vibrations or liquids. From around 1750, the fibre thus becomes the main operative building block of organic bodies. It occupies the role that the cell takes up in the cell architectures of the second third of the nineteenth century. The bodies of plants, animals and humans are all constituted by fibres, and their differences mainly rely on different fibre types, structures and properties – plants feed through fibres, animals move through fibres, and humans think through fibres. Bonnet's and Diderot's fibre architectures are part of a long-term transformation of different fibre concepts. Debates about agency, regulation and fibre architectures shape the concept of 'organism' as an autonomous, self-organizing and self-reproducing entity. They are related to the discursive field of automata as certain kinds of machines that resemble living organic bodies. This field already emerges in the Renaissance period. I will discuss some key notions, technical analogies, and pictorial representations from Andreas Vesal to Albrecht von Haller. In the fibre architectures of Bonnet and Diderot, in which the fibre is both the most general and the most differentiated building-block of organic bodies, the paradigm of the fibre clearly becomes a unifying and order-generating principle that distinguishes living organic bodies from all other bodies.