PART III. — On the Various Forms of Inflammation

Chapter 1. — Classification

The minute changes which characterise the process as it affects one or other organ, and the various specific forms of inflammation, will be fully described in special articles. I have only to indicate more general causes and main varieties. To give a complete classification is impossible unless each separate tissue be taken in order, for each tissue presents peculiarities either in liability to inflammation, or in the course assumed by the process. Even to attempt a classification in broad outline is beset with difficulties, for the inflammatory manifestation varies, not according to one or two series of causes, but according to four at least; the permutations are thus so numerous, and the appearances so varied, that to give an adequate scheme of classification would require a diagram in four dimensions. These four causes of variation are —

A. Nature of tissue affected. B. Position of tissue affected. C. Intensity of irritation, or more correctly ratio between resistant powers of the organism and intensity of the irritant. D. Nature of irritant.

A. Nature of Tissue affected. — As I have already shown in the first portion of this article, there is in the earlier stages of the process a difference in the reaction of vascular and non-vascular tissues, the one series exhibiting marked congestion and vascular disturbance, the other not. At a later stage, or in more chronic irritation, as new vessels invade the non-vascular areas, the changes in the two series do no doubt approximate; but in the earlier stages we may distinguish between an ordinary inflammation and "inflammatio sine inflammatione."

The relative denseness and compactness of the tissues also introduce characteristic alterations: a dense tissue, such as bone, does not show the signs of reaction to injury to nearly the same extent as does a loose tissue — such as the omentum, for example — thus, in the former there may be a process almost as atypical as in non-vascular areas. The rigid framework of a tissue like bone prevents great vascular dilatation and exudation, but at the same time may be the seat of great pain due to pressure of the confined exudate upon the nerve endings. The loose connective tissue of a structure like the omentum, on the other hand, permits great exudation with little or no pain.

The influence of structure is well seen in comparing the course of inflammation affecting cutaneous, mucous and serous surfaces respectively. Where we have to deal with cutaneous surfaces, or surfaces formed of squamous epithelium, there the increased exudation, and the resistance offered by the layers of flattened cells to the free exit of the exuded fluid, lead towards the formation of vesicles or blisters. In the case of serous surfaces, which form the walls of a moist cavity, the irritant, affecting primarily but one portion of the surface, is very likely to be borne into the cavity with the exudate and to set up an inflammation