periodic epidemic outbreaks in large centres, and the well-known fact that the most severe cases occur at the commencement,—those least protected being necessarily more liable to be first and most seriously attacked.

While the symptoms of smallpox are essentially the same in character in all cases, they are variously modified according to the form which the disease may assume, there being certain well-marked varieties of this as of most other infectious maladies. The following descrip­tion applies to an average case. After the reception into the system of the smallpox contagion the onset of the symptoms is preceded by a period of incubation, during which the patient may or may not complain. This period is believed to be from about ten to fourteen days. In cases of direct inoculation of the virus it is considerably shorter. The invasion of the symptoms is sudden and severe, in the form of a rigor followed by fever (the *primary fever),* in which the temperature rises to 103° or 104° Fahr. or higher, notwithstanding that perspiration may be going on. A quick pulse is present, together with thirst and con­stipation, while intense headache accompanied with vomit­ing and pain in the back is among the most characteristic of the initial symptoms. Occasionally the disease is ushered in by convulsions. Some authorities hold that the more violent the invasion the more severe the attack is likely to prove. These symptoms continue with greater or less intensity throughout two entire days, and during their course there may occasionally be noticed on various parts of the body, especially on the lower part of the abdomen and inner sides of the thighs, a diffuse redness accompanied by slight spots of extravasation (*petechise),* the appearance somewhat resembling that of scarlet fever. These “prodromal rashes,” as they are termed, appear to be more frequent in some epidemics than in others, and they do not seem to have any special significance. They are probably more frequently seen in cases of the mildest form of smallpox (varioloid), referred to below. On the third day the characteristic eruption begins to make its appearance. It is almost always first seen on the face, particularly about the forehead and roots of the hair, in the form of a general redness ; but upon this surface there may be felt by the finger numerous elevated points more or less thickly set together. The eruption, which is accompanied by heat and itching, spreads over the face, trunk, and extremities in the course of a few hours,—con­tinuing, however, to come out more abundantly for one or two days. It is always most marked on the exposed parts ; but in such a case as that now described the individual “pocks” are separated from each other (discrete). On the second or third day after its appearance the eruption undergoes a change,—the pocks becoming vesicles filled with a clear fluid. These vesicles attain to about the size of a pea, and in their centre there is a slight depression, giving the characteristic umbilicated appearance to the pock. The clear contents of these vesicles gradually become turbid, and by the eighth or ninth day they are changed into pustules containing yellow matter, while at the same time they increase still further in size and lose the central depression. Accompanying this change there are great surrounding inflammation and swelling of the skin, which, where the eruption is thickly set, produce much disfigure­ment and render the features unrecognizable, while the affected parts emit an offensive odour, particularly if, as often happens, the pustules break. The eruption is present not only on the skin but on mucous membranes, that of the mouth and throat being affected at an early period ; and the swelling produced here is not only a source of great discomfort but even of danger from the obstruction thus occasioned in the upper portion of the air-passages. The voice is hoarse and a copious flow of saliva comes from

the mouth. The mucous membrane of the nostrils is simi­larly affected, while that of the eyes may also be involved, to the danger of permanent impairment of sight. The febrile symptoms which ushered in the disease undergo marked abatement on the appearance of the eruption on the third day, but on the eighth or ninth, when the vesicles become converted into pustules, there is a return of the fever (*secondary* or *suppurative fever),* often to a severe extent, and not unfrequently accompanied by pro­minent nervous phenomena, such as great restlessness, delirium, or coma. On the eleventh or twelfth day the pustules show signs of drying up (desiccation), and along with this the febrile symptoms decline. Great itching of the skin attends this stage. The scabs produced by the dried pustules gradually fall off and a reddish brown spot remains, which, according to the depth of skin in­volved in the disease, leaves a permanent white depressed scar,—this “ pitting ” so characteristic of smallpox being specially marked on the face. Convalescence in this form of the disease is as a rule uninterrupted.

There are certain varieties of smallpox depending upon the form it assumes or the intensity of the symptoms. *Confluent smallpox {variola confluens),* while essentially the same in its general characters as the form already described, differs from it in the much greater severity of all the symptoms even from the onset, and particularly in regard to the eruption, which, instead of showing itself in isolated pocks, appears in large patches run together, giving a blistered aspect to the affected skin. This confluent condi­tion is almost entirely confined to the face, and produces shocking disfigurement, while subsequently deep scars re­main and the hair may be lost. The mucous membranes suffer in a similar degree of severity, and dangerous com­plications may arise from the presence of the disease in the mouth, throat, and eyes. Both the primary and secondary fevers are extremely severe. The mortality is very high, and it is generally estimated that at least 50 per cent. of such cases prove fatal, either from the vio­lence of the disease or from one or other of the numerous complications which are specially apt to attend upon it. Convalescence is apt to be slow and interrupted. Another variety is that in which the eruption assumes the *haemor­rhagic* form owing to bleeding taking place into the pocks after their formation. This is apt to be accompanied with haemorrhages from various mucous surfaces (particularly in the case of females), occasionally to a dangerous degree and with symptoms of great prostration. Many of such cases prove fatal. A still more serious form is that termed *malignant smallpox,* in which, as in the malignant forms of other infectious diseases (see Measles and Scarlet Fever), the patient is from the onset overwhelmed with the poison and quickly succumbs,—the rash scarcely, if at all, appearing or showing the haemorrhagic or purpuric character. Such cases are, however, comparatively rare. The term *varioloid* or *modified smallpox* is applied to cases occurring in persons constitutionally but little sus­ceptible to the disease, or in whom the protective influence of vaccination or a previous attack of smallpox still to some extent exists. Cases of this mild kind are of very common occurrence where vaccination has been systematic­ally carried out. As compared with an average case of the unmodified disease as above described, this form is very marked, the differences extending to all the phenomena of the disease. (1) As regards its onset, the initial fever is much milder and the premonitory symptoms altogether less in severity. (2) As regards the eruption, the number of pocks is smaller, often only a few and mostly upon the body. They not unfrequently abort before reaching the stage of suppuration ; but should they proceed to this stage the secondary fever is extremely slight or even