

REPRODUCTION OF DISEASE GERMS.

Read before the Michigan State Board of Health, by H. B. BAKER, M.D.,
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At the late meeting of the British Medical Association, held at Edinburgh, Aug. 5, 1875, Dr. Lyon Playfair, President of the Public Health Department, is reported to have said that he thought modern research has given little support to the *chemical* theory of contagion, and that the "power of reproduction" is an argument in favor of the "germ theory." He is reported to have said. They were as certain that whatever produced scarlet fever would produce scarlet fever as that a dog would produce a puppy, or a rose tree would produce a rose tree." I believe this last proposition is true, but in a sufficiently saturated solution of glauher's salt, a crystal of glauher's salt is as certain to produce a vast number of crystals of glauher's salt, as a dog is to produce a puppy, and more so, for it takes two dogs to produce a puppy, while only one crystal will suffice to produce a large number of others. It has been abundantly proved, too, that without the entrance of a crystal or of something which will act as a nucleus, saturated solutions of crystallizable substances may be kept for a long period of time without the formation of crystals. There is, then, a mode of reproduction which may as certainly be stated of crystals as of living organisms, and unless crystals are considered as not only organized but living, then reproduction of bodies having similar forms and properties is not proof of the presence of life. Chemical solutions may be prepared in which the character of the crystals which form shall be determined by the character of the crystal which is placed therein. I see no reason to doubt, indeed it has been proved, that the blood in a living person may under certain circumstances be so constituted as to permit the reproduction of definitely constituted particles of matter, in vast numbers; and these particles may not be endowed with a much higher grade of life than a crystal of glauher's salt; or they may be, as Dr. Cohn states of the active virus of vaccine, "living and independent organisms which multiply by cell-division," being "single cells of a spherical form, and forming chains and groups of associated articulations." Whether these particles are living or not, their reproduction must cease as soon as sufficient material for their formation is, through their rapid reproduction, withdrawn from the blood or particular tissue involved, unless the body is capable of maintaining the supply, in which case the disease is continuous, otherwise it must be self-limited as well as contagious, and protective