

By means of inoculation experiments, using the streptococcus, pneumococcus and staphylococcus, he repeated the work of Loxor. He was then able to produce arthritis in various grades of intensity. In his experimental work the acute non-suppurative lesions were readily obtained, but the animals were not permitted to survive sufficiently long periods of time to attain the chronic proliferative stages or the atrophic changes observed in man. He believes that it is not the specificity of the microorganism but its virulence, the resistance of the host and its location, which determine the variations of the morbid process. In man the local clinical phenomenon of the articular disease corresponds to the experimental arthritis in animals, including the decalcification and rarefaction of bone caused by the vascularization of the periosteum and marrow. He believes that it is fairly certain that the various forms of polyarthritis are caused by infection, and that, therefore, the classification of the so-called arthritis deformans into the infectious and metabolic types is no longer necessary so far as the joint diseases are concerned.

## HYGIENE AND PUBLIC HEALTH

UNDER THE CHARGE OF

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**Epidemiology of Pellagra in Nashville, Tennessee.**—JORLING and PETERSEN (*Jour. Infect. Dis.*, August, 1917) in a previous report (*Ibid.*, 1916, xviii, 501) noted the epidemiology of pellagra based on a partial survey of the city of Nashville. In this report the physical aspects of the city, the relation of pellagra to the method of sewage disposal, the diet, as well as the evidence of the occurrence of contact in the development of new cases were fully entered into. The present paper concludes the field work connected with this survey which was amplified and completed during the summer of 1916. The authors conclude that so far as the epidemiology of pellagra is concerned, as studied under the conditions existing in Nashville, they cannot ignore the fact that the disease presents all the evidences of being in some way conveyed from one patient to another. It is practically a disease of the unsewered city areas, a family disease or almost as frequently a disease "of the house next door," and not only a family disease in the sense that the members live in the same house and eat the same food, but most frequently they found that relatives, not living under the same conditions, but frequently associating, have one after the other succumbed to the disease. The fact, too, that cases develop in houses adjoining pellagrins, previously emphasized in the report of the

Thompson-McFadden Commission, is of great importance, because the chances for the wider contact, "same block," to prevail are naturally much greater than for the lesser number dwelling in adjacent houses. The mode of occurrence of pellagra among the segregated negro colonies of the city is also of interest in this connection. To all intents and purposes the various groups live under identical economical conditions, and any variations in diet would be negligible. Pellagra occurs frequently in all except one of the groups. The only explanation possible is that there is little pellagrous contact for this group. The other negroes live surrounded on all sides by pellagrous whites; this particular group is, however, cut off from the adjacent white pellagrous population by a wide railroad trackage and on the other side is adjacent to a well-sewered non-pellagrous white zone.

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**Gas Production in Raw and Pasteurized Milk.** — ALLEN (*Jour. Infect. Dis.*, August, 1917) states that pasteurization causes milk to become more favorable to the attack of the gas-forming colon bacillus and *Bacillus nterogaeus*. These results seem to reinforce the impression long held by many milkmen that pure raw milk has a power of resisting changes which the same milk does not possess when pasteurized. Between raw and pasteurized milk there may be important differences, although chemical analyses may show no appreciable differences. In view of the fact that milk has its value strictly because of its relation to growth, in studying raw and heated milk, due consideration should be given to delicate biological tests which utilize growth as the means of producing comparative data. It should be more generally recognized that pasteurized milk, instead of receiving less care than raw milk, should receive greater care because of its lessened resistance to many detrimental changes which the appearance of the milk does not indicate. This is especially significant in that, in general, pasteurization has lengthened the period between production and consumption.

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**Studies of *Bacillus Welchii*, with Special Reference to Gas Gangrene.** — SIMONDS (*Jour. Exper. Med.*, June 1, 1917, p. 819) states that gas gangrene develops much more frequently in wounds received on the battlefield than in those incident to accidents in civil life. This is probably due to differences in the character of the wounds in the two conditions rather than to differences in opportunity for infection with the group of organisms responsible for the disease. An examination of the uniforms of Belgian soldiers for spores of anaerobic bacteria of the group capable of causing gas gangrene showed that 90 per cent. of the uniforms of men from the trenches carried spores of organisms belonging to the group of *B. welchii*; and that the new uniforms as received by the Belgian soldiers, and the cloth from which these garments were made, contained spores of this group of organisms in the meshes of the goods in all samples examined. Material consisting of fragments of shells, bits of clothing and other debris, and pieces of lacerated tissues and blood clot removed from recent wounds (*i. e.*, two to eight hours old) of 20 soldiers was examined for the presence of organisms capable of causing gas gangrene. Of these, 15 contained either spores or vegetative forms of bacilli having the morphological and