

afforded marked resistance. Flesh in masses not too thick, was easily penetrated, but bone not at all so. Substances placed between the globe so evacuated and electrically—energized, and a photographic plate in its holder, cast shadows, which, after the development of the negative, could be reproduced as ordinary prints. This is the sum and substance of the discovery, and the now familiar pictures of the human hand, showing the bones as deeply shaded, and the flesh covering them in half tone, can be easily understood.

In a similar way a ball lodged in flesh can be located by the simple process of placing the limb on, or in front of, the photographic plate-holder and sending the X rays from the glass globe through the limb. The bone and the ball will appear as silhouettes on the plate, after it has been developed.

With improved apparatus giving more powerful radiations, the method may aid in the diagnosis of gall or kidney stones, but beyond the help it can give in locating foreign bodies, its advantages to surgery are as yet problematical.

The terms shadowgraph, skotograph, xograph and radiograph, have been proposed for the prints from negatives taken by this method. The first of these conveys a different meaning in a simple form, the second and third are in language not "understood of the people," while the fourth is a hybrid word, radius being Latin and graphic Greek.

At present the cost of an apparatus of the kind above referred to, suitable for use in hospitals, would approximate \$50.

ACUTE ARTICULAR RHEUMATISM.

From the days of Hippocrates, when the "humor" idea was prevalent, to the present time, the cause of the disease now known as acute articular rheumatism has frequently excited much discussion, but has so far eluded discovery.

Under the *humorists*, the idea, we can scarcely call it a belief, was that "an acrid humor was generated in the brain and distributed over the body." That was sufficiently hazy for even the most transcendental minds of the present day.

Our terminology has been, and is still extremely vague, and unsatisfactory as regards many ail-

ments coming under the general term rheumatics. All sorts of troubles take the name, either because they are painful, or are supposed to be produced by the action of cold. Thus muscular rheumatism, rheumatic gout, rheumatoid arthritis, are all misnomers, inasmuch as they have no relationship to true rheumatism, however convenient it may be to dub them rheumatic, on account of their painful nature.

But what is the essential nature of acute articular rheumatism? Fagge, writing a good many years ago, said that it presented the characteristics of an epidemic disease, though he still believed it was not due to an infective agency; but rather "to the greater or less incidence of cold upon the population in such a form as to be effective in producing chills." Which explanation is unworthy of the great Fagge, who, had he lived to the ordinary span of life, would no doubt have been in the first ranks of modern thinkers. Strümpell, as long as four years ago stated distinctly that it "is an infectious disease." Other observers in the past five years have adopted the same views, which, by the way, were first advanced by Hüber. The specific pathogenic organism or organisms which cause the disease have not yet been demonstrated, but all the clinical and anatomical peculiarities of the disease point to its being dependent upon an infective agent, though the disease is non-contagious.

From Norway and Denmark, where the disease is very common, important information has been received. In these countries notification of the authorities, of all cases treated has been carried on for some time past. The disease has certain well recognized congeners in the form of minor ailments, notably inflammatory affections of the throat, such as pharyngitis and tonsillitis; and certain cutaneous phenomena, among which the most common are, profuse perspirations, sudamina, erythema nodosum, and other forms of erythema, and urticaria.

Buss, of Bremen, showed in an elaborate paper the relationship of tonsillitis to acute rheumatism. He concludes that it is in the highest degree probable that it is in many, if not in the majority of cases due to pyogenic organisms which have lost some of their virulence, although there is evidence that the bacillus of pneumonia and the diplococcus of Fränkel have also the power of producing the disease. In his paper he has compared