

MARSHLANDS.

as the latter have been. Already, in the few weeks since Rontgen's announcement, the results of surgical operations under the new system are growing voluminous. In Berlin, not only new bone fractures are being immediately photographed, but joined fractures, as well, in order to examine the results of recent surgical work. In Vienna, imbedded bullets are being photographed, instead of being probed for, and extracted with comparative ease. In London, a wounded sailor, completely paralyzed, whose injury was a mystery, has been saved by the photographing of an object imbedded in the spine, which upon extraction, proved to be a small knife-blade. Operations for malformations, hitherto obscure, but now clearly revealed by the new photography, are already becoming common, and are being reported from all directions. Professor Czermak of Graz has photographed the living skull, denuded of flesh and hair, and has begun the adaptation of the new photography to brain study.

Professor Neusses in Vienna has photographed gall-stones in the liver of one patient (the stone showing snow white in the negative,) and a stone in the bladder of another patient. His results so far induce him to announce that all the organs of the human body can, and will shortly, be photographed. Lannelongue of Paris has exhibited to the Academy of Science photographs of bones showing inherited tuberculosis which had not otherwise revealed itself.

In the great march of science it is

the genius of man, and not the perfection of appliances, that breaks new ground in the great territory of the unknown.

"Is it light?"

"No."

"Is it electricity?"

"Not in any known form."

"What is it?"

"I don't know."

And the discoverer of the X rays thus stated as calmly his ignorance of their essence as has everybody else who has written on the phenomena thus far.

A photograph of a compass showed the needle and dial taken through the closed brass cover. The marking of the dial were in red metallic paint, and thus interfered with the rays, and were reproduced. "Since the rays had this great penetrative power, it seemed natural that they should penetrate flesh, and so it proved in photographing the hand, as I showed you."

A detailed discussion of the characteristics of his rays the professor considered unprofitable and unnecessary. He believes though, that these mysterious radiations are not light, because their behaviour is essentially different from that of light rays, even those light rays which are themselves invisible. The Rontgen rays cannot be reflected by reflecting surfaces, concentrated by lenses, or refracted or diffracted.

The professor's exposures were comparatively long—an average of fifteen minutes in easily penetrable media, and half an hour or more in photographing the bones of the hand.