American Red Cross base hospital no. 38 in the world war. United States army base hospital no. 38, organized under the auspices of the Jefferson Medical College and Hospital, stationed at Nantes, France, 1918-1919, by W. M. L. Coplin.

American Red Cross Base Hospital No. 38

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American Red Cross Base Hospital No. 38 in the World War - XIII: Roentgenological Service - X-Ray

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XIII

ROENTGENOLOGICAL SERVICE

X-RAY

WHEN Roentgen, a little over a quarter of a century ago, discovered the remarkable and, even to this day, mysterious form of energy that penetrates flesh almost as readily as light rays traverse our atmosphere, and when medical men saw at once that a new method useful in diagnosis was available, none, or at most but a few of those with widest vision, grasped the immeasurable value of the new resource in its application to surgery and later to medical diagnosis. Invaluable in civilian practice and the one means without which much of war-time surgery would be impossible, roentgenology became of prime importance to every base hospital operating in the field of Mars.

For months Captain Borzell, an experienced, efficient and enthusiastic roentgenologist, had devoted tireless hours to the acquisition of, and to assembling, a complete modern X-ray outfit. It was believed that every detail had been covered, and the organization sailed confident of its preparedness. The most modern devices, the latest appliances and accessories, all apparatus tested
out, and no effort spared to assure a satisfactory result.

When the numerous boxes reached Nantes any tyro could see that our fondest expectations had "gone aglee." The manufacturer had failed beyond any conception and with infinite detail to realize what transatlantic shipment and war-time methods of handling could do to massive but delicate appliances when improperly packed. Heavy pieces had broken from insecure anchorages and rolled about in huge cases, wrecking contents and strewing disaster in extent and completeness beyond the descriptive power of man. If the reader can visualize the inevitable result of a kitchen range detached from its moorings and rolling about in a huge china closet containing glass shelves, delicate blown wine glasses, cut-glass punch bowls and mirror back, he may gain a fair idea of sequence and consequence, of cause, effect and result of bad packing and rough handling of an X-ray outfit. Virile language, expletive and invective fell impotent; the mess seemed utterly hopeless. To the enduring credit of Captain Borzell, the officers working with him, and the capable assistance of enlisted men possessing technical skill and training, out of all this chaos was born order and what appeared hopelessly beyond human endeavor was attained, utter failure was transformed into success; what looked like an inevitable routine defeat was made a splendid victory. It meant days and nights of labor, often discouragement, but in the end an able and indus-
trious organization re-assembled everything that could be used, improvised, reconstructed or pieced-out and with what looked like little more than a "shoe-string" produced the requisites to attainable efficiency. To those of us who saw the work done, saw beginning and end, the result was marvelous, almost a miracle.

In attaining this high efficiency Captain Borzell was fortunate in having the enthusiastic support of Sergeant R. R. Fahringer and Privates Thomas L. Foster, William C. Miller and Walter P. Lanagan; Foster was the "Noncom" in charge, and also looked after the records and did the "paper work" of which, as usual in the Army there was no end; Miller and Lanagan manned the dark room and all gave team co-operation.

Other departments, at least some of them, were very busy much of the time; some were greatly overworked part of the time, but the labors of the X-ray Department never ended. Most patients coming in on trains had received no X-ray study; any man with a wound, it need not be obvious, sometimes it had been overlooked, this was especially possible if the man had been found gassed, must be regarded as probably having a foreign body somewhere in his tissues. If a bullet, shell fragment or other body practically impermeable to X-ray, there was no difficulty; if, on the other hand, it was a fragment of clothing, a piece of leather belt or leather from foot-gear, it might be quite as unobtrusive to the ray as surrounding structures, and require many exami-
nations and even then could escape most careful search.

Aside from this endless seeking after foreign bodies many other equally important duties fell to the roentgenologist. Broken bones, worst of all those compound, complicated, multiple fractures due to machine-gun and other bullets, fragments of explosive shells and other vulnerating bodies were always demanding study. Fragments of broken bones were occasionally carried or thrust some distance from the point of origin; pieces of fractured ribs buried in a lung, a spicule of bone free in some cavity and demonstrable at different places on successive examinations, were some of the confusing problems.

Hemorrhage and suppuration in the chest, free air in the thorax, tuberculous areas in the lungs, patches of pneumonia, recent or unresolved, possible gastric ulcer, were among the conditions sometimes largely medical, that required study; a fragment of steel or other metal in an eye, skull fractures and sources of pressure on the brain, brain injuries, displaced organs, for example a kidney, joints, injured or inflamed or both, detached cartilages, sprains, flat feet, the occasional malingerer, and all sorts of matters not solvable by other means, often came to this review, this court of last resort. At times even gas-gangrene was detected during an X-ray examination.

An account of the work of the X-ray Department would not be complete without some mention of the
“machine-gun squad”—the name given to the portable bedside outfit and its accompanying personnel. The necessities of war with its numberless fractures virtually all comminuted and compound, called for the development of some means by which X-ray examinations could be made at the bedside. This very valuable auxiliary outfit soon was put to other uses, such as fluoroscopic examination of chest cases too ill to be moved. Base 38 perhaps has the distinction of being the first to make fluoroscopic observations without disturbing the patient, by the simple process of raising the bed on stilts and placing the tube beneath the bed.

It was a busy service, a responsible assignment that gave generously in time and labor, in experience and skill to the welfare of our charges. The giving was unostentatious, usually the recipient did not know what had been bestowed, so that here, as in other parts of the laboratory division, the unobtrusive worker “did his bit” without a herald, often unseen and usually unknown to the man whose limb or life was thereby saved, whose suffering was lessened, or whose future crippling was rendered less sure. Beneficiaries usually knew their medical officer or surgeon and his ward assistant; the roentgenologist and the laboratory investigator to him were strangers in realms he knew not of. These departments were sometimes blamed if the attending officer did not obtain desired information; acclaim rarely came to them, no matter what their deserts.
I went into the British army believing that if you want peace you must prepare for war. I believe now that if you prepare for war you will get war.

Gen. F. B. Maurice.