

Medicinal Properties of Röntgen Rays.

To the Editor of *The Electrical World*:

SIR: - Thinking that some of the results we have obtained with Röntgen rays may be of interest, we submit the following.

In exhibiting at the State Fair Pavilion in September. Prof. Wilson had the fingers of his left hand in front of a fluoroscope continuously for three hours each evening for two evenings in succession. No noticeable sensation was felt at the time, but in about one week a severe burning sensation was felt in the bones, especially at the joints. The fingers swelled, the joints turned black and an intense inflammation set in, accompanied by excessive pain. By treating them as an ordinary burn immense blisters developed, extending from the nails to the knuckle and covering half the finger in circuit. They then sloughed and by using dry boracic acid he eventually healed them up.

Again, about the 10th of September, Mr. Caffrey mashed his left thumb with a hammer, and, as is the case with such bruises, it pained him excessively. Thinking that possibly the bone had been broken, we made a radiograph of it. Not having any small plates on hand, and having some gelatin films 14 years old we used one of them, and exposed the thumb 30 minutes to the rays in order to be sure of an image on the old film. At the end of that time he was surprised to find that the pain had disappeared, and up to to-day there has been no pain at all in the thumb.

Wishing to investigate this subject further, we persuaded a book-keeper to try the treatment. He was suffering from rheumatism to such an extent that a grain of morphine each night was necessary to enable him to sleep, and for five nights he had not had his clothes off. We exposed the affected hand for one half hour to the rays and that night he slept splendidly, the pain having almost entirely ceased. The next night we again treated him for 30 minutes and the following day he went to work. In a few days the swelling ceased entirely, and since then he has had no return of the rheumatism.

The next case was a lady about 50 years old, who had lost the use of the fingers on her left hand, due to rheumatism, the disease being of five months standing. We treated her in precisely the same manner and she immediately recovered the use of her fingers.

The next case was a young lady suffering intensely with rheumatism in her elbow. After two treatments she could use her arm. This case was one of inflammatory rheumatism that had existed about one month and the doctor had given it up. In three days the swelling disappeared and the use of the arm was regained. The next person to be treated was the wife of a prominent local physician, who had had rheumatism, centering in the hand, since July last. After a treatment of 30 minutes she could use her hand and has done so ever since. In all these cases except the first we noticed evidences of slight sunburn, but nothing serious resulted therefrom.

The next case was a woman about 50 years of age, weighing over 300 pounds, who had injured her knee in getting into a buggy. She had been in bed continuously for nine weeks. We undertook to make a radiograph of the knee. Owing to the immense size of the limb we were at a loss to know the exact time for exposure, but gave the plate an exposure of two hours. This we found to be an over exposure. At the end of this time the lady got up and walked around without assistance, finally walking down a flight of 15 steps to her buggy. Since then (five weeks now) she has had the use of her limb without pain, and apparently is as well as she was before the injury. Her physician was in attendance during the treatment and was nonplussed at the result.

The next case was one of bronchitis of 30 years standing. We are still treating this gentleman, and the results so far have been remarkable. For 25 years he had not slept the entire night without waking up almost choked. But after the second treatment he was enabled to sleep all night, and now the pain has ceased entirely, the cough has been reduced over one half, the expectoration is not nearly what it was, and it is quite apparent that the treatment has killed the germs of fermentation, as the expectorated matter has no taste or odor. He can now use his voice immediately upon arising where, heretofore, it was several hours before he could speak above

a whisper. His entire demeanor has changed, and he claims to his friends that he is being cured.

The next case, and one which we consider the most remarkable, is a physician who came to this town on account of the climate and altitude. He has been suffering for about four years with tubercular consumption, and has used nearly every known remedy. He wanted to try the Röntgen rays, and before treating him we had him send some of his sputum to Cooper Medical College in San Francisco for examination with the result that a large number of bacillae tuberculosis were reported present. We then treated him for five days in succession, using an eight-inch tube, the time of treatment varying from three-quarters of an hour to an hour. He again sent his sputum for examination, and the following is the answer from Cooper College: "We find bacillae still present, but they have decreased both in size and number. We congratulate you upon your improvement." After the first treatment he noticed a remarkable change in his general health, and since then he has lost that pallor which is so characteristic in this disease. He has also noticed the absence of fermentation germs since using this treatment, also a marked decrease in the cough and amount of sputum. We are still treating him. In neither of these cases have we been able to detect any indication of sunburn.

The next case was little girl brought to Reno from Washoe City, to have a hand amputated. A sore had developed on the back of her hand at the knuckle joint of the third finger, and was continually giving off pus. We made a radiograph of the hand and discovered three pieces of glass lying next to the joint. Owing to the cramped condition of the fingers we were obliged to make a second negative, using a film in the place of a glass plate. Immediately after this treatment she sat upon her father's knee and fell asleep in his arms, not having been able to sleep before for several days. At the end of two weeks her father returned and brought a piece of bone which had sloughed out and reported that the inflammation had entirely disappeared and that the sore had healed over. From the time of the making of the radiograph to the present time she has had no pain.

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[The above communication was received some two months ago, but for obvious reasons was not published. Personal inquiry has, however, led us to believe that Messrs. Wilson and Caffrey are perfectly sincere in their statements. Messrs. Wilson and Caffrey's experiments show that either Röntgen rays or some other phenomenon accompanying them has an exceedingly powerful action, or the subjects upon whom they experimented have been materially benefited, due to an equally powerful mental belief in their efficacy. The above letter is published not for the purpose of creating the hope that Röntgen rays are capable of alleviating human suffering, but with the possibility that some wheat may be sifted from the chaff with which it is considerably imbued. -ED.]

REPLICATED BY JIM MUCKERHEIDE, JANUARY 2002

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RADIATION, SCIENCE, AND HEALTH - [HTTP://CNLS.WPLEDU/RSII](http://CNLS.WPLEDU/RSII)

[Ed. Note: Contemporary reports ca. 1896+ show that low radiation doses stimulate immune response to prevent deaths by infections. Many later studies confirm that such effects prevent and treat cancers, infectious and inflammatory diseases, and improve health and increase mean lifespan, now with studies into 2002. These data are not considered by radiation protection interests - generating \$100s Billions in public funds. Challenges to federal agencies falsifying science data in making rules, and science misconduct by some "scientists," will be necessary.

Science is challenged to lead a constructive resolution to avoid damage caused by a few rogue "scientists."

*THE BIOLOGICAL EFFECTS OF RADIUM*¹

Among the first discoveries made after the production of concentrated radium salts was that radium is capable of causing intense effects upon living tissues. We were not unprepared for such a discovery in the case of radium because similar phenomena had been observed early in the study of X-rays.

(We have here, as a result of these powerful forms of radiant energy, a picture of extreme interest. The condition is in fact an exact, sometimes an exaggerated, picture of the atrophic senile skin, with its dilated blood vessels and senile keratoses. As a matter of fact the picture is so nearly that of senile skin that I was able, in the case of X-ray lesions, to predict that cancers of the skin would be found to develop in them because the keratose of old age are so frequently the starting point of cancers. ...the identity of chronic X-ray and radium changes in the skin with those of the senile skin, strongly indicate that the senile changes of the skin are in good part the result of the less powerful action over a long period of years of sunlight... Cancers develop in the keratoses of X-ray and radium dermatitis, and in them we have one form of carcinoma which is directly traceable to its exciting cause; and only by bringing in a *dues ex machina* in the form of later infection can one avoid the conclusions that at least in these lesions we have cancer which is not of microbial origin.)

The microscopic changes in tissues undergoing a radium reaction are even more interesting than the gross changes. In the early stages of radium irritation sections show evidences of proliferation of the tissue elements, such as indicate an over-stimulation of the cells by a particular irritant. These changes are most marked in the tissues of the greatest functional activity. At first there are an increased production of pigment, and an exaggerated proliferation of the germinal and younger (deeper) cells of the epidermis, especially of the cells of the follicles of the epidermis...

It is evident in this process that we are dealing with an agent whose results are produced by influencing the biological processes of the cells themselves. The effects are not produced by an immediate destructive action of the rays, as a heat burn, for example, is produced. There is no immediate effect from the application of radium; it is only after days, it may be two or three weeks, that the effects appear. The inference is that the radiations set up some process in the tissues which

itself ends in their destruction. The whole process is one of exaggerated stimulation of the activity of the cells of the tissues: a stimulation which varies in degrees with the degree of specialization or functional activity of the different types of cells. In its slightest degrees it is the ordinary protective process that occurs under exposure to sunlight, but under the unusual and extreme irritation of this artificial form of radiant energy the reaction becomes destructive.

Thus there is produced by radium: (1) A stimulation of the cells;...

These effects upon tissues suggest ... various therapeutic purposes: (1) To stimulate chronic processes. This principle has been successfully used in the treatment of some chronic inflammatory processes in the skin...

Several experiments have shown the inhibitive or, under stronger exposures, the destructive, effect of radium rays upon various bacteria in cultures... These are the only biological findings differing from those with X-rays, and are probably due to the greater superficial effect of the alpha and beta rays because of their very slight penetration as compared with the softest X-rays. They indicate a close similarity, with a difference chiefly in degree, in their biological effects between alpha and soft beta rays and ultraviolet rays.

Similar results have been obtained by several observers from exposures of numerous forms of protozoa. Their growth is at first stimulated, then inhibited, and after intense exposures they are destroyed.

In plants the results of experiments may be summarized briefly as first stimulation of growth, and under stronger applications, retardation or complete inhibition of growth.

This consideration has been directed to the effects of radium rays. As to the emanations, [Ed. Note: radon!] it may be stated briefly that experiments with the emanations with young mice, upon bacteria, and upon protozoa show results quite like those from exposure to the rays.

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¹ Address before the Illinois State Academy of Sciences, Chicago, February 18, 1911.